

UNIVERSITY OF EDUCATION, WINNEBA

**EFFECTIVENESS OF TAX COLLECTION IN GHANA; IS THE
DIGITALISATION A GAME CHANGER?**



LORD ACQUAH

MASTER OF BUSINESS ADMINISTRATION

UNIVERSITY OF EDUCATION, WINNEBA

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DIGITALISATION A GAME CHANGER?**



**A dissertation in the Department of Accounting, School of Business, submitted to
the School of Graduate Studies in partial fulfillment
of the requirements for the award of degree of
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NOVEMBER, 2022

DECLARATION

STUDENT'S DECLARATION

I, Lord Acquah, declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

Signature:

Date:

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of dissertation as laid down by the University of Education, Winneba.

Supervisor: Mr. Samuel Kofi Asiamah

Signature:

Date:

DEDICATION

To my parents, Mr. and Mrs. Acquah



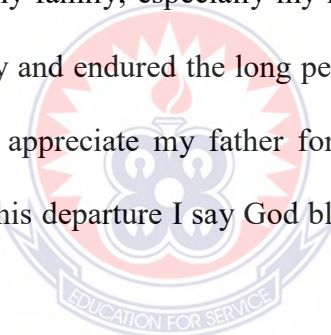
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First of all, I give glory to the Almighty God for his protection in health, knowledge, wisdom and determination to cover this journey.

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May God bless you all!

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LIST OF ABBREVIATIONS

ATU - Attitude Towards Usage

CEPS - Customs Excise and Preventive Service

DTRD - Domestic Tax Revenue Division

ERP - Economic Recovery Programs

GRA - Ghana Revenue Authority

IMF - International Monetary Fund

IRS - Internal Revenue Service

IT - Information Technology

OECD - Organization for Economic Co-operation and Development

PAYE - Pay As You Earn

PEOU - Perceived Ease of Use

PU - perceived usefulness

PwC - Price Waterhouse and Coopers & Lybrand

SAP - Structural Adjustment Program

TAM - Technology Acceptance Model

TCC - Tax Clearance Certificate

TRA - Theory of Reasoned Action

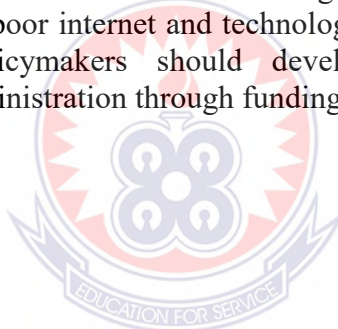
UTAUT - Unified Theory of Acceptance and Use of Technology

VATS - Value Added Tax Service



ABSTRACT

This study examined the effect of digitalisation on tax collection in Ghana using primary data which was sourced from Ghana Revenue Authority office in Agona Swedru. To achieve this, the study employed the quantitative approach, with the descriptive and longitudinal study being the design adopted for the study. The study also adopted the Unified Theory of Acceptance and Use of Technology, Activity Theory and Fiscal Exchange Theory in explaining the concept of digitalisation in tax administration in Ghana. Further, in handling a sample size of one hundred and twenty-four respondents, the primary data was imputed into Statistical Package for the Social Sciences for descriptive statistics to be done. The study further employed the regression analysis as the estimation of the conditional expectation of the dependent variable given the predictive variables. The analytical results revealed that digitalization has effects on tax collection. Also, there was an early indication from the correlation analysis that, Electronic Payment System, Electronic Tax Registration and Electronic Filing System are strongly and favourably correlated to Tax Collection. The relationship between Tax Identification Number and Tax Collection is significant but adverse due to poor electronic management system in Ghana by GRA. Hence the study concluded that, digitalisation as indicated by the regression analysis support that electronic registration, Electronic Filing of Tax Returns and TIN System has strong association with Tax Collection although Electronic Payment System has small association due to poor internet and technological system. Therefore, the study recommended that policymakers should develop an interest in promoting digitalisation in Tax Administration through funding and public education.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Agencies' performance can be measured base on their objectives, goals and results as compared to technological innovations employed (Aguti, 2019). It is impossible to think of any entity without the need of information system in their entities. Information system contributes to efficiency and competitiveness of entities; therefore, information system is widely used in public and private sectors (Taylor & Todd, 1995; Gupta, 2019). Entities invest in information system for many reasons. Entities for example, may invest in information system in order to reduce operating costs and to be able to stay competitive in the market (Agrawal, 2019). Many Agencies have shifted from traditional ways of doing business to modern technologies which offer more convenience and faster processing activities (Mlitwa, 2019).

Indeed, revenue agencies by law are given the responsibility to generate revenue for provision of infrastructural facilities like schools and hospitals as well as other essential services to citizens (Mungai, 2020). Expectedly, tax administrators are to be enhanced through deployment of tax digital tools to ease collection of tax revenue to reduce or eliminate loopholes and other challenges that come with manual tax collection (Sandmo, 2019). Revenue agencies can be said to be efficient due to the amounts of revenue generated for the state. For this reason, performance of tax revenue agencies can be measured in terms of revenue generated, tax compliance rate, quality of electronic service delivery, elimination of tax evasion and tax fraudulent activities, (Geetha & Sekar, 2018; Muwonge, 2021). The rapid growth of technological change has a significant impact on revenue performance. Digital technology, which includes but not limited to computerized systems, set to increase

tax processes substantially with savings in time and money, while at the same time providing customers with a better service (OECD, 2020). Again, digital technology changes affect human activities in various ways, by making jobs more important for some, while posing a threat to others (Davis, 1989; Daniel, 2019). All tax technological tools should be integrated and have available tools required combating tax leakages and tax frauds; facilitating tax compliance and satisfactory information requirements at internal control levels for the effective management Tax Administration (OECD, 2020). Again, this will also help to reduce human intervention in the payment of taxes and checks the possibility of connivance of tax officials with fraudulent taxpayers to evade tax (Agrawal, 2019).

A study has proven that nations that are developed and those that are developing around the globe cannot increase revenue base through taxation without digitalizing its tax administration system therefore, an effective tax administration system must be efficient enough to generate enough tax revenue needed for provision of essential infrastructure for the country (Geetha & Sekar, 2018). However, Ghana Revenue Authorities are not left out in this regard. According to the Organization for Economic Co-operation and Development (2020) report, in 2019 the government of Denmark recorded a tax-to-GDP ratio of 46.3% over that of United State government revenue with tax-to-GDP ratio of 20% in 2018 as a result of series of tax administration restructuring and constant deployment of digital tools to cause the increase of revenues and decreasing the challenges of tax evasions.

However, revenue generation has become a huge challenge in developing countries resulting in a reduction of revenue collection. This is supported by the report from the Revenue Statistics in Africa (2021) stating that Ghana's tax-to-GDP ratio

was 13.5% as at 2019 was lower compared with the average of the 30 African countries in Revenue Statistics in Africa 2021 (16.6%) by 3.1 %. This implies that tax performance in Ghana has not been encouraging compared with other African countries (Obafemi & Ajayi, 2021). It is depressing to be in the known that tax administrators have not contributed meaningfully towards economic growth (Onyango, 2020).

Although, some Internal Revenue Services in Ghana have been doing well in the area of revenue generation for the state, this stance was supported by the report from Organization for Economic Co-operation and Development (2020) which showed that revenue generation in Ghana has been on the increase from ₵42 billion in 2019, ₵47 billion in 2020 and ₵57 billion in 2021. These figures are the highest ever collected by the agency since its establishment and it reflects their relentless efforts of the service in bringing seamless to tax administration through digitalization. Ghana Revenue Authority report (2021) showed that the authority beats its target by 265.39 million in the year 2021, a total amount of ₵57.32 billion was collected as against ₵57.55 billion target. The deployment of technology in the registration of taxpayers, filing of tax return and payment of taxes will increase the capacity of the State Internal Revenue Service to deliver on its mandate (Cheboi & Bruce, 2021). Again, there is a reduction of human intervention in the payment of taxes and also checks the possibility of connivance of tax officials with fraudulent taxpayers to evade tax (Cheboi & Bruce, 2021). Currently, the world is a global village and the interconnection between Africa and the rest of the world is the use of tax information technology in almost every sector (PWC, 2019).

According to Mlitwa (2019) digitalization in tax administration system was initiated about 30 years ago. Furthermore, filing of tax return electronically was first introduced in the year 1986 in United States of America by the USA Internal Revenue Services (IRS) in three cities which include: Cincinnati, Raleigh-Durham and Phoenix, where only five taxpayers from these cities prepared and filed tax returns electronically (Nwaobia, & Jayeoba, 2020). This idea has now grown to the level that approximately two out of every six individual taxpayers are now filing electronically. This however, has been subjected to numerous enhancements and features being added to the program over the years. Currently, electronic tax services which includes but not limited to electronic tax registration, electronic filing of tax returns and electronic tax payment have been extended to other developed nations like Australia, Chile, Germany, France, Netherlands, Finland, Norway, Singapore, Brazil, Mexico, India, China, Malaysia and Turkey (Sandmo, 2019). Countries in African such as Malaysia implemented a new tax system in 2005 through the internet, where a multi-stage tax is imposed on goods and services at every delivery point to the end user (Muhumuza, & Kempaka, 2019). Also, developing nations like Nigeria, Rwanda, Tanzania, and Uganda have also welcomed the automated electronic filing of tax documents and tax returns and some other electronic tax services (Nwaobia, & Jayeoba, 2020). The objective of tax automation in South Africa, Zambia, and Ghana was mainly to increase effectiveness and efficiency, increase tax collection and tax equality in the country (Afuberoh & Okoye, 2014; Sandmo, 2019), this reduce delays in filing of tax returns and minimize operational costs to its barest minimum (Abdul & Idris, 2020).

Notwithstanding, there have been many attempts by the Ghana government through many reforms to increase revenue collection through digitalization. The

Commissioner-General of the Ghana Revenue Authority (2021) reported that as part of their reforms tax-payers are encouraged to file their tax returns electronically from April, 2022. Also, the Government of Ghana has a strong focus, seeking to digitalise fiscal revenue collection and support a cashless society (Ghana Digital Economy, 2021).

Most importantly, in a bid to improve on tax revenue, the Ghana Revenue Authority in line with the Government of Ghana adopted digitalization of tax system. The digitalisation of tax system is mainly to take care of the leakages, weaknesses and challenges that comes with the manual system of taxation, thereby eliminating physical contacts between the taxpayers and tax officials to increase revenue base (Bruce, 2021). Electronic tax registrations, electronic tax identification number, electronic filing of tax returns and electronic tax payments provide convenience to taxpayers for tax assessment and payment (Muhumuza & Kempaka, 2019), provide adequate tax records for easy communication of information and efficiently minimize cost of administration so as to enhance internal revenue generation (Geetha & Sekar, 2018).

Despite all reforms and improvement in tax revenue mechanisms adopted by tax administrators in Africa, the challenges of tax evasions, corruptions and technological attacks are alarming (Mungai, 2020), attributed to lack of accountability on the side of the government ineffectiveness, extortion of money by tax authorities, and unethical behaviours by tax collectors. This discourages citizens perceptions on electronic tax services provided by revenue agencies, as the internally generated revenue by the government has no meaningful contribution to the standard of living of the citizens (Nakiwala, 2020), no quality infrastructure, security, quality health care,

education and economic growth as identified by Cheboi and Bruce (2021). As such, this study assesses the effect of digitalization of tax administration on performance of revenue agency in Ghana.

1.2 Statement of the Problem

Governments in many nations, especially those in developing nations, rely heavily on taxes for revenue (Abiahu & Amahalu, 2019). However, one of the biggest challenges these governments face is the effectiveness and efficiency in relation to revenue mobilization for the state (Nwaobia & Jayeoba, 2020). Tax management has been a major challenge in most developing countries where Ghana is inclusive (Dabuo, 2019). Therefore, the need for improved performance in tax system has heightened the clamor for modernisation of tax systems across the globe, hence the increased adoption of digitalisation of tax administration practices (Gupta, 2019).

Over time, the Ghanaian government has come to terms with the fact that to increase revenue generation it is significant to put measures in place to mobilise revenue which taxes are of no exception (Usman & Abubakr, 2019). This necessitate agencies to employ digitalized system which avoid manual filing of tax returns and payments of taxes (Appiah, 2019). The Ghana Revenue Authority Act, 2009 Act 791 task GRA to assess, collect and account for tax revenue in Ghana. The core mandate of revenue agencies is to tighten grip on revenue source by introducing mechanisms that will help minimize cost of tax collection but to increase tax base. All efforts put in place by Revenue Agencies in Ghana proved abortive as empirical evidence through recent literatures indicates that the manual tax administration is ineffective in tax evasion and cannot guarantee prevention of taxpayers to declare under tax due (Andoh, 2020).

Furthermore, the manual way of collecting taxes has not been effective over the years as argued by Prichard (2019), that the manual tax administration practices have imperfections in preventing tax fraud and evasion. This result in low revenue collection and weak tax administration and this was believed to be due to manual system of tax administration characterized by delays and poor record keeping, this counter mount to failures in meeting targeted budgets (Usman & Abubakr, 2019). According to Kagan (2019) the digitalised system has the prospect to prevent the imperfections in the manual tax administration.

In addition, Mantey, (2019) noted that despite the government effort to increase revenue in the country there are some activities of tax evaders that are recorded every year with the manual tax collection system. This translates that digitalisation system of tax administration can help prevent tax fraud and guarantee elimination of tax evasion (Jahirul, 2019). Digitalised system maintains and ensures tax compliance and quality of service delivery to taxpayers (Gupta, 2020). Researchers such as Appah (2020) have stressed on the fact that there are numerous teething problems with the manual filing of tax posing huge challenges to revenue agencies. Nonetheless, challenges other than electronic were incomplete financial reports, a lot of paperwork conflicts between the taxpayers and revenue officers and delayed audit reports among others (Daniel, 2019). As a result, the authority was losing revenue previously as the manual way of revenue collection were prone to falsification (Abdul A & Idris, 2020).

On the other hand, the electronic tax system, like any other technological systems have problems attributed to it usage as identified by Abiahu and Amahalu (2018) in their study, that there is a lack of positive influence of digitalization in tax

administration. In addition, the fundamental challenge of the uneasy nature of paying taxes through the electronic means is as a result of poor access to the internet, low computer literacy level, and perception to change since the system is new in the continent (Geetha & Sekar, 2018)

However, with all the literature that exist on digitalizing the tax administrative system, most of the available literature have been done in countries like Nigeria, Kenya, South Africa and a host of other African countries which had introduced the electronic taxation system in their countries some years back (Abiahu & Amahalu, 2019). Since electronic system of tax administration is a new area of research in Ghana with little empirical evidence. As to whether electronic tax system has achieved its objectives by improving the level of tax collection when introduced is a matter to be addressed. It is for this reason; the study was conducted to assess the effectiveness of tax collection in Ghana; Is the digitalisation a game changer?

1.3 Objective of the Study

The main objective of the study was to assess the effectiveness of tax collection in Ghana with the introduction of digitalised system.

To achieve this objective, the following specific objectives are:

1. To assess the effect of electronic tax payment on the performance of tax administration in Ghana.
2. To evaluate the effect of electronic filing of tax returns on the performance of tax administration in Ghana.
3. To find the association between electronic tax registration and performance of tax administration in Ghana.
4. To examine the relationship between electronic tax identification number and

performance of tax administration in Ghana.

1.4 Research Questions

The study addressed the following questions that enabled the researchers to come up with the solution basing on the specific objective described above;

1. To what extent does electronic payment of tax affect the performance of tax administration in Ghana?
2. To what extent does electronic filing of tax affect the performance of tax administration in Ghana?
3. What is the association between electronic tax registration and the performance of tax administration in Ghana?
4. What is the relationship between tax identification number and the performance of tax administration in Ghana?

1.5 Scope and Delimitation of the Study

The primary goal of the study was to assess the effectiveness of tax collection in Ghana with the introduction of digitalised system. The study was limited to only GRA staffs and taxpayers registered under the revenue Agency. Again, all the data used for the investigation was strictly from GRA and registered tax payers. The investigation was done in Agona Swedru division under Central region area of GRA but not in all the ten areas under GRA due to the large population.

Also, due to stringent guidelines required from the researcher, the data gathering was delimited to the departments within GRA responsible for the collection of tax only. Other departments and units within GRA responsible for human resource functions were excluded. The participant were staff of all age and gender from Ghana Revenue Authority and few selected taxpayers' only. Collation of figures from GRA

and the limiting factor this posed was resources, such as time and money. Another limitation was that, the data used for the study was from the year 2010 to 2022. Therefore, the research did not include figures before 2010 for the purposes of presenting information that is relevant and reliable.

In conclusion, the independent variable for this study was the use of digitalised system and the dependent variable was the performance of tax administration in Ghana. This is obvious in the conceptual framework of the study which may be insignificant to apply the result of this study to other variables. Again, the study was conducted in Ghana and variables used were which may be inappropriate to use its findings in other geographical areas.

1.6 Significance of the Study

The findings for the study add value to the theoretical discussion by testing the correlation between digitalization of tax system and tax administration in Ghana. The study findings are significant to both domestic and foreign industry players required by law to file tax electronically. The study inform and instruct industry payers such managers of companies about the importance of adhering to tax policies in a stringent and proper manner.

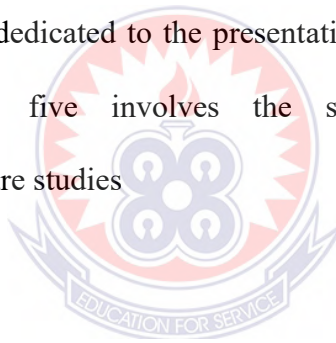
In addition, policy makers such the Government and other relevant Authorities and Agencies may use these research findings to implement new laws or maintain current policies regarding taxation. The policy makers may also use the information to set up desirable tax rates in order to realize improved performance of tax administration in the country. In academia, this research will enrich the existing literature under electronic taxation in Ghana which will be of great importance to

those who wish to carry out research on the topic under study. Furthermore, it stands in as a motivator to spur the desires for further research in this vital topic of study.

1.7 Organisation of the Study

The study is organized as follows:

Chapter two identifies relevant theories and concepts that were used in the study as a guide to gain better understanding of the matter under study then presents a synthesis of relevant literature that had been reviewed and also focuses on the conceptual framework while providing explanation of the variables. Chapter three presents the methodology of the study; which comprises of the research design, study population, sampling, research instruments, analysis strategies and credibility of the study. Chapter four was dedicated to the presentation of data and analysis of results and findings. Chapter five involves the summarization, conclusion and recommendations for future studies



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The outline of this chapter is the conceptual model consisting of the historical perspective of taxation, history of taxation in Ghana, tax laws and agencies in Ghana, the meaning and importance of taxation, characteristics of taxes, structure and tax system, principles of taxation, tax reforms in Ghana and digitalization of tax system. It also includes theoretical review of existing literature, and a review of international and local studies under the empirical review section, and finally a conclusion of reviewed literature.

2.1. Theoretical Review

2.1.1. *Unified Theory of Acceptance and Use of Technology (UTAUT)*

Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh et al (2003) based on social cognition theory to explain a user's intention to use an information system and subsequent usage behaviour. UTAUT's purpose is to comprehend the difference between one's intention to use an information system and one's actual use of the system. The theoretical model of UTAUT suggests that the actual use of technology is determined by behavioural intention. The perceived likelihood of adopting the technology is dependent on the direct effect of four key constructs, namely performance expectancy, effort expectancy, social influence, and facilitating conditions. The effect of predictors is moderated by age, gender, experience and voluntariness of use (Venkatesh et al., 2003). Further, performance expectancy explains the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al., 2003). Performance expectancy is based on the constructs from

Technology Acceptance Model (TAM), TAM2, Combined TAM and the Theory of Planned Behaviour (CTAMTPB), Motivational Model (MM), the model of PC utilisation (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT). It is the strongest predictor of use intention and is significant in both voluntary and mandatory settings (Zhou, Lu & Wang, 2010; Venkatesh, Thong & Xu, 2016).

Again, effort expectancy helps to explain the degree of ease associated with the use of the system (Venkatesh et al., 2003). Effort Expectancy is constructed from perceived ease of use and complexity driven from TAM, MPCU, and IDT, which share a similarity in definition. The effect of the construct becomes nonsignificant after extended usage of technology (Gupta, 2008; Chauhan & Jaiswal, 2016). Also, the Social Influence construct aspect of UTAUT defines the degree to which an individual perceives that important others believe he or she should use the new system (Venkatesh et al., 2003). Social influence is similar to the subjective norms, social factors and image constructs used in TRA, TAM2, TPB, CTAMTPB, MPCU, IDT in the way that they denote that the behaviour of people is adjusted to the perception of others about them. The effect of social influence is significant when the use of technology is mandated (Venkatesh et al., 2003). In the mandatory context, individuals might use technology due to compliance requirement, but not personal preferences (Venkatesh & Davis, 2000). This might explain the inconsistent effect that the construct demonstrated across further studies validating the model (Zhou, Lu & Wang, 2010; Chauhan & Jaiswal, 2016).

However, the construct of facilitating conditions explains the degree to which an individual believes that an organisation's and technical infrastructure exists to support the use of the system (Venkatesh et al., 2003). The facilitating conditions

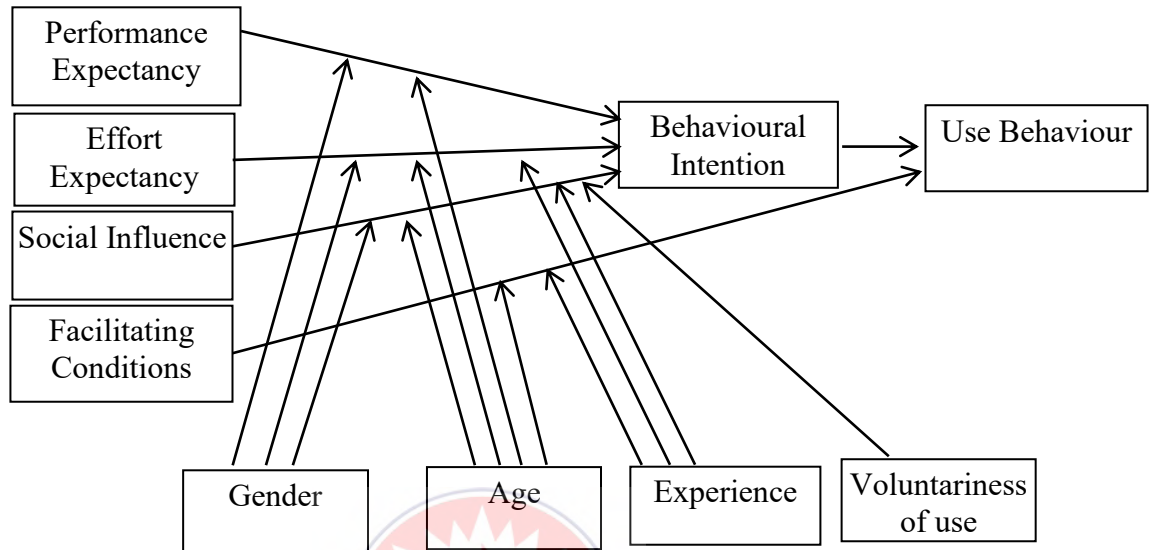
construct is formed from compatibility, perceived behavioural control and facilitating conditions constructs drawn from TPB, CTAMTPB, MPCU and IDT. Facilitating conditions have a direct positive effect on intention to use, but after initial use, the effect becomes nonsignificant. Therefore, the model proposes that facilitating conditions have a direct significant effect on use behaviour (Venkatesh et al., 2003).

In addition, the moderation effects of age, gender, experience and voluntariness of use define the strength of predictors on intention. Age moderates the effect of all four predictors. Gender effects the relationships between effort expectancy, performance expectancy and social influence. Experience moderates the strength of the relationships between effort expectancy, social influence and facilitating conditions. Voluntariness of use has a moderating effect only on the relationship between social influence and behavioural intention (Venkatesh et al., 2003).

In conclusion, the Unified Theory of Acceptance and Use of Technology (UTAUT) model was useful in the study because it shows how variables such as electronic tax payment, electronic filings of tax returns, electronic registration, and tax identification number influence the adoption and use of new technology for tax collection. The Performance Expectancy construct of UTAUT model assisted in explaining the degree to which GRA can use the system to help attain job performance whilst Social Influence construct of UTAUT helped in explaining the use of technology when made mandatory by policy makers such as government and GRA. Facilitating Conditions construct was used to explain the fact that digitalized system needs to be supported by technical infrastructures to support the use of the

system and the Effort Expectancy construct of UTAUT was used to explain the ease associated with the use of digitalized system by tax payers’

Figure 1 Showing Unified Theory of Acceptance and Use of Technology (UTAUT) Model



Source: (Venkatesh et al., 2003)

2.1.2 Activity Theory

Activity Theory is used as a model to study and transforming networks of interacting activity systems (Hardman, 2005). The activity systems transform one data to another, hence are considered to be the instruments of reorganization of activities (Engeström, 2001). The main components of an activity system comprise of the subject, object, mediating artefacts (i.e. tools), rules, community and division of labour (ibid). The subject is an individual or an organization from whose perspective an object is to be viewed (Daniels, 2004). In the case of this study, actors are the Government and Revenue Authority, providing digitalized system hence IT serves as mediation between GRA and tax payers. Mediation refers to the use of tools to mediate human activity (Vygotsky, 1978). The tool is the artefact to be created and transformed during the development of the activity itself (Uden & Damiani, 2007). Rules are the norms and regulations that have influence on the activities that take

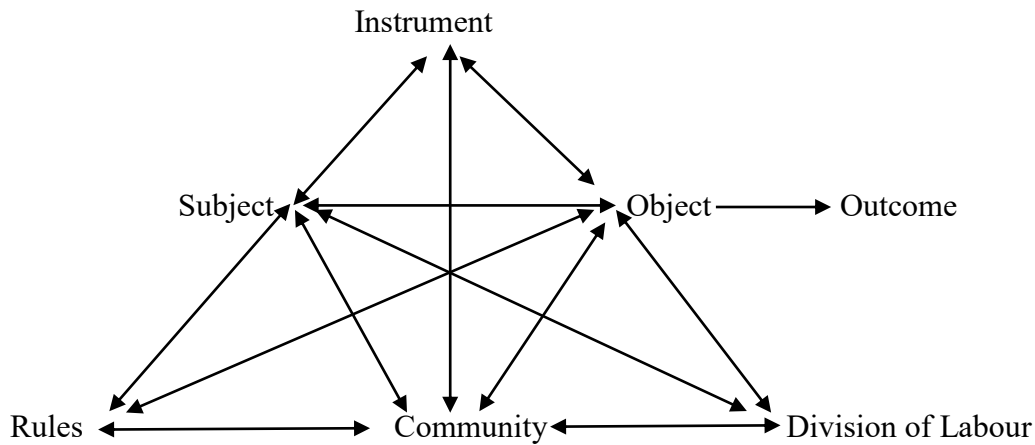
place (Engeström, 2001). The community represents groups and arrangements such as the division of labor (Owen, 2008). The problem with goal implementations in a multi-level and complex activity system such as the digitalized system in Tax Administration process is that, it needs clear rules and guidelines across different actors if it must succeed. The rules can be implicit guidelines that maybe ambiguous, subject to misinterpretation and manipulation, the worst situation would a complete lack of rules or guidelines and enforcement procedures.

Rather than a predictive theory, Activity Theory is a descriptive framework, a concept and a theoretical approach or a viewpoint (Mursuet al., 2007). In most instances Activity Theory is used to analyze human activity from a needs-based and goal-oriented viewpoint (i.e. people are driven by needs and therefore have specific goals to achieve) (Mlitwa, 2019). Consequently, it is used to understand human interaction through mediated tools and artefacts (Compeau & Huff, 1999). An activity is seen as a factor that ties the actions to the context, hence an activity is a basic unit of analysis in Activity Theory (Engeström, 2001). Since human actions derive their meaning from the context, “actions without context are meaningless” (Mursuet, et al., 2007), hence actions must be viewed within a context (Laukkanen & Lauronen, 2017).

This model was adopted because it helped in explaining how GRA can track the payment of taxes by use of internet, and how tax payers can electronically file tax returns which can reduce tax evasion. Again, the theory assisted in explaining how GRA can electronically generate Tax Identification Number as well as registering Tax Payers’ by the use of the digitalized system. In addition, it helped in explaining how GRA can track the activity network especially indicating where the taxes were paid from and the amount paid in comparison to the total amount expected to be paid. The

network also allows GRA to track defaulters by using sophisticated decision support system which sends warnings and penalties to the clients.

Figure 2 Showing Activity Theory Model



Source: (Engeström, 2001)

2.1.3. Fiscal Exchange Theory

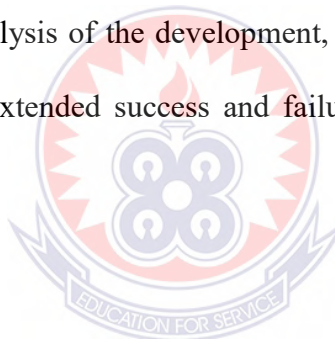
The fiscal exchange theory is a theory that evolved from the economic deterrence and the social psychology models (McKerchar & Evans, 2009), and is premised upon the existence of a social, relational or psychological contract between the government and the taxpayers (Fjeldstad, et al., 2012). The theory suggests that the presence of government expenditures may encourage tax compliance from the tax payers (Moore, 1998). According to Moore (1998) tax revenue among society increases with perception of the availability of public goods and services being developed in relation to the tax paid. They suggested that government can increase tax revenue by providing goods and services that citizens prefer in a more efficient and accessible manner, emphasizing that taxes are necessary for the receipt of government services.

In addition, fiscal exchange theory views taxation as a bargained exchange between governments and taxpayers; That is, payment of taxes highly depends on return for both tangible public goods such as schools and hospital and intangible public goods such as political representation, and law and order (Cowell & Gordon, 1988; Moore, 2004). Moore (2004) noted that, tax compliance is likely to increase when taxpayers perceive that they receive corresponding benefits from government. Cooperate bodies and individuals may pay taxes because they value the goods provided by the government, and they recognize that their payments are necessary both to help finance the goods and services and to get others to contribute (Fjeldstad & Semboja, 2001).

However, the existence of positive benefits may increase the probability that taxpayers will comply voluntarily without direct coercion (Bodea & LeBas, 2013). Although most taxpayers cannot assess the exact value of what they receive in return for taxes paid, it can be argued that they have general impressions and attitudes concerning their own and others' terms of trade with the government (Richupan, 1987; Agrawal, 2019). It is then reasonable to assume that a taxpayer's behavior is affected by his/her satisfaction or lack of satisfaction with his/her terms of trade with the government. Thus, if the system of taxes is perceived to be unjust, tax evasion may, at least partly, be considered as an attempt by the taxpayer to adjust his/her terms of trade with the government. Also, taxpayers are concerning with what they are getting in return for their tax payments in the form of public services. In this perspective, taxation and the provision of public goods/services become catalysts to taxpayer in compliant to the tax paid (Fjeldstad & Semboja, 2013). This theory is more practical and acceptable because, it advocates individual willingness to comply

without direct coercion. Furthermore, it serves the government from high collection costs resulting from enforcement measures.

In conclusion, according to this theory it can be said that whatever much the government or administrative authority adopt modern systems of collecting tax. The effectiveness of tax collection depends on the public services provided by the government to the tax payers. Therefore, it can be argued that introduction of digitalisation in tax administration in Ghana cannot improve revenue collection if services offered to the public are not equivalent to the tax revenue collected. This theory was adopted because it helped explain the effectiveness of tax collection from the perspective of tax payer's willingness to pay tax without complaints. Again, the theory assisted in the analysis of the development, implementation, and enforcement of tax reforms and the extended success and failure of manual tax collection over time.



2.2 Conceptual Review

2.2.1 Historical Perspective of Taxation

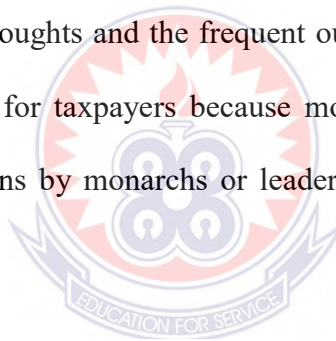
Tax is not something of a modern nature. It has been in existence since time immemorial and has served similar purposes as it is used today. Leaders of towns, kingdoms, and vast empires relied on collecting taxes to embark on development projects in their territories as well as providing protection to their citizens through embarking on military campaigns (Abiahu & Amahalu, 2019). Taxes were collected in ancient times to help sustain resources such as vessels, passageways, palaces, building projects, and possibly the most common purpose, to finance wars, and all this tax has developed and evolved as societies evolved themselves (Ameyaw, 2016; Dabuo, 2019).

Tax is a Latin word that means "I estimate" (Gulch, 2020). Although many individuals would agree that the tax system is so convoluted that some estimation is definitely necessary, modern use has drifted away from this concept (Franklin, 2020). Tax is the amount of money paid by artificial and non-artificial persons to government in order for it to deal with its expenses for performing various public responsibilities (Ameyaw, 2019). Alternatively put, the taxpayer is not directly benefiting from the tax he pays (Mantey, 2019). However, as a result of paying taxes, he benefits from the government's infrastructure and social amenities. Governments can strive to redistribute wealth through a variety of social programs and bring about social change mostly through taxation (Dabuo, 2019).

Taxes have been collected in ancient civilizations as it is today to address societal problems (Panah & Rafat, (2019). Direct taxes were charged to all citizens that own Farmlands, livestock and farm produce (Antwi, & Mills, 2019). When matters of pressing need arose such as war or famine, some taxes were levied on the citizens to cater for such problems. These types of taxes came in the form of food, horses, and soldiers for war. As is the case of governments today imposing taxes on its citizens, these types of taxes were collected to solve problems common to the citizens that existed in these territories (Gulch, 2020). The financial management system that periodically arose in the ancient civilizations studied, according to (Onyango, 2020), as mentioned by Dabuo (2019), was the consequence of concurrent efforts to address these particular issues for all of them. There were well-developed, comparable financial management structures in the governments of Mesopotamian city-states beginning in the third millennium B.C., ancient Egypt and Crete (3100–100 BC), Mauryan India (300 BC–AD 200), China during the Shange and Han dynasties

(1523–1027 BC) and 200 BC–AD 200), Japan up until the nineteenth century, and the Bronze Age cultures of sub-Saharan Africa (AD 1200-1532). These governments have created comparable answers to the issues even though they are widely separated in time and space. Similar taxes were imposed, handled similarly, and the proceeds went toward the advancement of their country.

Unlike modern times when most people find ways to evade taxes, in ancient times tax collection was effective and done with pressure (Andoh, 2020). Some methods used to collect such taxes were particularly punitive with taxes that citizens find worth paying. This essence of taxation raised the spending cost of these taxpayers in those days. Thus, in areas where there have been frequent environmental and security issues such as droughts and the frequent outbreak of wars, the cost of living became very unbearable for taxpayers because more taxes will have to be paid to support military campaigns by monarchs or leaders in those territories. (Chigbu, & Appah, 2020).



Around 1719, modern taxation system developed in England (Gulch, 2020). This was after a 1404 attempt to charge tax on people's wages had failed because the people refused it. The main purpose of introducing the 1719 tax as was the case with most taxes charged years before, was to help England and her allies in the Napoleonic Wars against France. Because of this, after the war ended and England and her allies emerged victorious, the people again called for the abolition of the tax and it ended in 1816. The next tax to be introduced again occurred in the early periods of the Second World War and only 6 percent of the working population was taxpayers at that time. During this period, the collection of this tax introduced was so effective that tax evasion was nearly impossible. It functioned as a "pay as you earn" system and made

it relatively simple for government agencies to collect taxes without having to worry about people evading them (Gulch, 2020).

Taxes were collected in Egypt, where civilization began, following an order from Pharaoh who was the king and considered among the people a 'god'. Taxes charged were based on the property an individual had and nobles as well as the wealthy were not exempted from these taxes. Grain, animals, cooking oil, beer, other farm products, and daily living expenses were all taxed in ancient Egypt. Other tax revenue sources included the use of the Nile for international trade and the movement of goods. Additionally, taxed were local politicians. Anyone who failed to pay their tax was asked to offer a livestock or a portion of their land to the courts.

The Chinese and Greece had identical system. From the Qin (chin) dynasty in 221 BC to the establishment of the Xinhai Republic in 1911 AD, throughout the 2000-year Imperial period, taxes were imposed by emperors. At the time, China had a predominantly agrarian economy. It was there that income taxes were introduced in China until 1950. Even with its introduction, until 1959, when it was expanded for all, it was imposed only on previous capitalists. This was so because all forms of production were controlled by the government and due to that, tax revenue was unnecessary. In 1980, they introduced income tax (Blankson, 2019).

These days, taxes in China include sales tax, company tax, value added tax (VAT), and income tax. On the other hand, in ancient times, Greece used taxes to fund governance, administrative procedures, public festivals, building city walls, city maintenance, building temples for its gods, and maintaining them. In Greece, taxation was a poll tax levied on foreigners during these periods. Men were to pay one drachma, and women were to pay half a drachma. Additionally, a port tax of 2% was

levied on all imports and exports and was collected at ports. Even the state produced coins to help raise taxes shifting away from the barter system (Jayakumar & Nagalakshmi, 2020).

2.2.2 History of Taxation in Ghana

Before the arrival of the Europeans into the Gold Coast, now Ghana, there was no unified system of government. Traditional leaders and overlord chiefs were in charge of their territories and saw to the day-to-day administration of their territories. There were states, kingdoms, and empires such as the Bono Kingdom, Denkyira Kingdom, Akyem, Akwamu, and Asante empires. Lands frequently changed hands due to war, and whoever became the new ruler brought with him his ways of levying imposition; these impositions mostly concerned land taxes and took place in the early 18th century before colonial administration (Adeyiga, 2020).

Taxation in this period was similar to those used by several other monarchies and states in other parts of the world. Taxes were collected in many forms ranging from slaves, lands, gold dust, and farm harvest. It was until the British gained total control of the Gold Coast in the early 20th century that the country was put under one centralized government controlled by the British. On gaining political control of the Gold Coast, the colonial masters brought an end to the war campaigns. This brought several reforms into our system of administration because, for the very time, the country was no more divided into empires and states but was brought together under one centralized government administered by the British (Appah, 2020).

The first modern tax was introduced in Ghana by the British administration in 1943. Before the introduction of this tax system, the British, in the prior years of 1852, endorsed the Survey Charge Statute (Mantey, 2019). Each colony ruled by the

British was forced to pay one shilling annually under this tax scheme. This taxation system failed due to poor planning, as well as the fact that the majority of the first funds were used to reward the English government's officials for their raises and only occasionally for the establishment of social framework (Nwaobia & Jayeoba, 2020). The Pay Charge Law, considered to be the original Pay Charge Law, was also introduced in 1943. As a result, an outside pay inflow was exempt from the tax unless it was transported inside the country. It required the expense on revenues sourced mostly in Ghana.

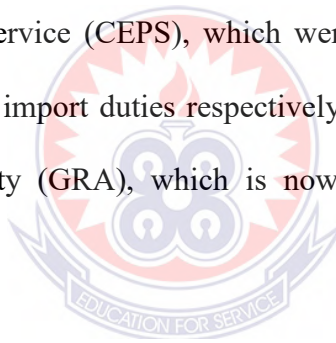
Gaining independence from British rule was a great deal of success for the leaders of Ghana. Nevertheless, the greater part of the responsibility was in their ability to sustain the economy as well as provide more infrastructures to improve the lives of the citizenry. Because of this, the nation's leadership decided it was necessary to make significant changes to the British-inspired system of assigning duties. Act 68, for example, made significant adjustments to the merged version in 1961. Act 178 followed in 1963, and Act 132 finished the job in 1965. In September 1966, the Income Tax Decree, 1966-No. 78, considered to be the second merged version, became available (Mantey, 2019). Although the Income Tax Decree of 1975, S.M.C. Decree 5, was passed, additional measures aimed at unifying the Income Tax System led to various amendments to the decree. The Internal Revenue Act of 2000 is the current income tax law (Act 592).

2.2.3 Tax Laws and Agencies in Ghana

Due to the complex nature of taxation, it should be regulated to ensure its enforcement and adherence. Failure for a tax system to be backed by law makes it ineffective and can be easily disregarded by those supposed to pay them.

The 1992 constitution, according to Appiah (2019), states that taxes may only be imposed when they are supported by an Act of Parliament. There were various Acts of Parliament which regulated tax administration in Ghana. These are the Internal Revenue Service (IRS), the Value-Added Tax (VAT), and Customs, Excise, and Preventive Service (CEPS). The Internal Revenue Act of 2000 provided support for the Internal Revenue Service (IRS) (Act 592). In the years 2002, 2003, 2004, and 2006, the Act was revised. 1993 provided support for Customs, Excise, and Preventive Service (P.N.D.C. Law 330). In 1998, support was also given to the Value Added Tax Service (Act 546). In 2009, the Ghana Revenue Authority was created.

The Internal Revenue Service (IRS), VAT Service (VATS), and Customs, Excise and Preventive Service (CEPS), which were managing independently direct taxes, indirect taxes, and import duties respectively, have now been merged into the Ghana Revenue Authority (GRA), which is now in charge of all these taxation systems in the nation.



Separate revenue agency operations were ended by the Ghana Revenue Authority Act 2009 (Act 791), which was a long overdue reform move required to improve and modernize Ghana's tax and customs system. The Internal Revenue Service (IRS) and Value Added Tax Service (VATS) have combined under the new structural arrangements to form the Domestic Tax Revenue Division (DTRD), which is led by a commissioner. The Customs Division, which is likewise commanded by a commissioner, replaced the Customs Excise and Preventive Service (CEPS). The former separate agencies' financial, administrative, and research services were combined to form the Support Services Division, which now provides the current demand for managerial services, freeing up the other two divisions from having to

focus on non-core tasks and allowing them to concentrate on assessment and collection. A commissioner serves as the head of this third category as well (Adeyiga, 2020).

2.2.4 Tax Reforms in Ghana

As in the data collected by (Appah, 2020) Ghana's fiscal structure prior to 1983 had generally been characterized as being very low in revenue collection. In view of this, Ghana has undertaken a number of reforms to help curb this challenge as prescribed by the International Monetary Fund (IMF) and the World Bank under the Economic Recovery Programs (ERP) and the Structural Adjustment Program (SAP) (Adeyiga, 2020). Under the programs, numerous policies were amended to establish a more attractive investment climate. More taxes have been introduced to improve tax revenues mobilization (Blankson, 2019). Some of these taxes include the value added tax (VAT) which was introduced to replace the sales tax, others include but not limited to gift tax. According to Adeyiga (2020) tax collecting agencies such as the Customs and Excise Preventive Services, the Internal Revenue Service and the VAT service have also been better equipped by recruiting qualified personnel for those services and placing them under one umbrella called the Ghana Revenue Authority in a bid to synchronize the tax collection system and maximize revenue collection.

Furthermore, logistics for the Ghana Revenue Authority have also improved with time for the purposes to enhance revenue collection. As posited by Andoh (2020), tax reforms in Ghana have been used for three broad objectives: restore the tax base, provide better production incentives for investors, and improve tax administration. In spite of all the reforms, the tax system is still lagging in many perspectives (Nakiwala, 2020) .

2.2.5 The Meaning and Importance of Taxation

Taxation has been defined in so many ways by Scholars, experts, economist. Below are some the terms and definitions by some scholars. Taxation is the imposition of mandatory payments by government agencies with taxing authority to cover the cost of operations (Larry-Stone, 2019).

According to the Business Dictionary, taxes are imposed on individuals and business entities as a way for the government to pay for its expenses. According to Jayakumar and Nagalakshmi (2020), a tax is any amount of money that a government forcibly takes from its citizens without providing any goods or services in direct exchange for the money raised.

According to Larry-Stone (2019) ways through taxation affects the country's economy are; raising money to maintain law and order by providing quality and better service to the Police and the Army, redistribution of income (thus reducing inequalities among the rich and the poor), economic reasons by controlling savings, inflation and correcting balance of payment deficit, provision of social infrastructure such as roads, schools, hospitals and also provide welfare services and to encourage and attract other investors in other sectors of the economy.

2.2.6 Digitalisation of Tax Administration (Electronic-taxation)

The practice of assessing and administering taxes using an electronic platform is referred to as tax digitization (Mukasa, 2020). Muhumuza and Kempaka, (2019) also posit that electronic taxation is a method by which governments employ ICT to provide quality public services and share public administration information. Digitalisation in tax administration is the use of an online platform to gather and

administer tax information. Further, digitalization in tax administration is an internet system that allows the access to services provided by the tax authorities that includes obtaining a tax identification number and filing tax returns electronically (Taylor & Todd, 1995; Junaidu & Hawau, 2018). Electronic-tax as an online platform via which an individual taxpayer can access all the tax authority's services over the internet (Chigbu & Appah, 2020).

In Ghana, Tax Clearance Certificate (TCC) is issued by the Commissioner General to confirm a taxpayer has met all applicable tax obligations (i.e. filing of returns and payment of taxes) or has satisfactory arrangements of installment for arrears with the GRA at the date of issuance (Appiah, 2020). According to Ghana Revenue Authority Report (2021), GRA has now moved from issuing physical TCCs to Electronic Tax Clearance Certificates (E-TCC). Some benefits of the digitalization include but not limited to instant access to Certificates, avoidance of fake TCC and middlemen, reduce the cost of compliance and eliminate the delays in obtaining TCC (Mantey, 2019). Again, cooperate bodies will eliminate the delays in verifying genuine TCC since these requesting entities will receive a copy of the TCCs meant for them in their portals (Mantey, 2019).

In conclusion, technological innovations have profound impact on the administration of fiscal systems and the way in which taxation is administered (Blankson, 2019). Digitalized tax administration ensures tax compliance through voluntarily filing of tax returns and payment of tax liabilities as stipulated in the tax laws and reduces the intervention of the tax authorities forcing taxpayers to file tax returns to avoid penalties (Andoh, 2020). Further, if tax compliance measures are low,

then enforcement measures like audit and collection are resorted to which in turn increases the cost of tax collection (Otwani & Nambuswa, 2020).

2.3. Empirical Review

The Ghana Revenue Authority Act, 2009 Act 791 task GRA to establish a system of tax administration that allows for the collection of required taxes at minimum cost. Tax authorities engages in various activities, such as processing tax returns, entering tax return data into a database, matching returns against filing requirements, processing tax payments and issuing assessments and refunds (Mukasa, 2020). According to Aguti (2019) one way to boost efficiency in tax administration is by expanding its technological system. This is supported by Usman and Abubakr, (2019) that, technology can facilitate a range of services, including registering taxpayers, filing returns, and processing payments.

According to Jahirul (2019), electronic filing systems improve the quality and quantity of data available to tax officials, which enables them to complete transactions faster and more accurately. The error rates in electronic filing is lesser than paper returns and substantially cut the need to impose penalties to foster compliance. The electronic system is more efficient in issuing assessments and refunds more quickly, and taxpayers know right away if their returns have been accepted by the tax authorities.

Furthermore, well-designed digitalised systems can reduce corruption by lowering physical interactions posited by Otwani and Nambuswa (2020). According to Onyango (2020) through a research conducted in Uganda showed that for the purposes of ensuring that revenues are collected efficiently and total reduction of corrupt opportunities, a generally accepted principle is that tax authorities should not

handle money directly. Ideally, tax officials should have minimum physical contact hours with taxpayers and so less discretion in deciding how to treat them (Franklin, 2020). Electronic filing is also easy, flexible and convenient for taxpayers. E-filing makes it possible to file returns from a taxpayer's home, financial institution, work place, and shops (Junaidu & Hawau, 2018). This stands to reason that with the integrated electronic filing and electronic payment system, taxes can be filed and paid online from any place. Electronic filing help to reduce cost of handling returns which enables administrative resources to be reallocated to other tasks such as auditing and tracking non-compliance (Geetha & Sekar, 2018). Digitalised system account for safer data storage that can be used to implement a risk management system for auditing and enforcement. Digitalised systems are normally complemented by software's that facilitates data processes for taxpayers (Gupta, 2019).

In addition, Masunga (2020) researched the impact of the use of ICT tax system on tax collection in Tanzania. The study's goal was to see how the usage of ICT tax systems (ICTTs) as a mediating factor on tax collection in Tanzania. A total of 109 taxation students from higher education institutions made up the study's sample size. To examine the data, the researcher used Partial Least Square Structural Equation Modelling in two stages: first, the measurement model, and then, the structural model. The findings revealed that both performance and effort expectations had significant direct and indirect implications on tax collection. According to the study's findings, the government should continue to engage in technological awareness campaigns that improve tax collection for both existing and prospective taxpayers.

On the contrary, Hanrahan (2019) conducted a static and dynamic panel data analysis on digitisation as a factor of tax collection in OECD countries. The research used panel data from 1998 to 2019 that covered all OECD nations. Using both static and dynamic panel data analysis techniques, the study investigates the effects of the rise of digitalisation on tax income. According to the findings, digitalisation may have a negative impact on a country's ability to generate higher tax revenue in a country with high digital dynamics. Also, Masimba (2019) studied how taxing the digital economy affects income generation in Zimbabwe. The goal was to investigate into the taxation of the digital economy and the effects it has on network infrastructure. Questionnaires were used to collect data for the paper, which followed a quantitative research process. The study's findings revealed that digitisation has both beneficial and bad consequences for the country. They concluded that the government should embrace digital technologies across the board.

Nevertheless, Chijioke (2018) investigated the impact of e-taxation on Nigeria's revenue generation and economic growth, using secondary data obtained from Federal Inland Revenue Services and Central Bank of Nigeria for the period of 4 years (2013- 2016). The study found federally collected revenue and tax GDP ratio significantly decreasing after the introduction and implementation of e-taxation. The study also found that tax revenue decreased after the implementation though the mean difference was not statistically significant.

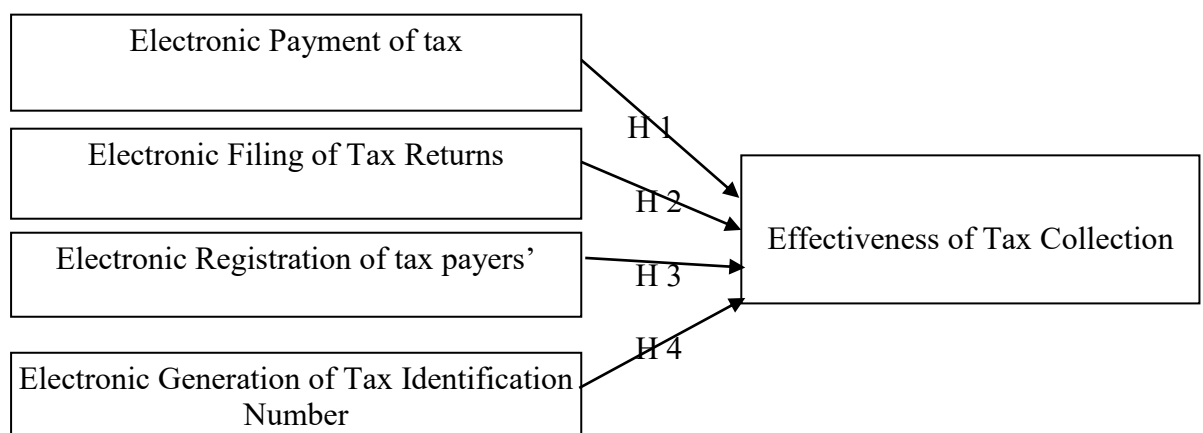
Finally, Olonde (2019) conducted research in Kenya on the impact of information technology on tax collection. The study's goal was to see how the Kenyan Revenue Authority (KRA) used information technology to improve tax collection in Nairobi, Kenya. The study looked at the implications of tax, big data analytics, and

block chain technologies on tax compliance. The researcher employed a survey research design for the investigation, and the target population was all the I. T KRA staff members and a sample population of 65 respondents were used to deliver the questionnaire, which was administered using a purposive sampling technique. A descriptive statistic of means and standard deviation, as well as inferential statistics, were used to examine the data. The findings showed that information technology has a significant positive impact on tax collection. The study urged that information technology should be properly trained, and that the government must adopt policies that will allow users' information be kept privately.

2.4 Conceptual Framework

The conceptual framework of the study, include electronic payment of tax, electronic filing of tax returns, electronic registration of tax payers', electronic generation of tin identification number as the independent variables while the effectiveness of tax collection will be the dependent variable. The study's conceptual framework is depicted under **figure 3**

Figure 3 Showing the Relationship Between the Variables



Independent Variables

Dependent Variable

Source: (Author's Construct for Literature, 2022)

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The purpose of this study was to assess the effect of digitalisation system on tax collection in Ghana. Therefore, this chapter discusses how the study was conducted. It defines the choice of the study approach and the design that was used in undertaking the study. It covers issues such as research design, population, sample and sampling procedure, data collection procedure, instrumentation and data analysis. Finally, the chapter describes the ethical consideration issues of the study for addressing anonymity, confidentiality and other ethical issues in any systematic research inquiry.

3.1 Research Design and Approach

This study adopted the descriptive research design. The descriptive research design was employed for the study because it is concerned with establishing relationships between two or more variables in the same population or between the same variables in two populations (Creswell & Zhang, 2019). Furthermore, the study adopted a quantitative research approach of collecting data. The approach was adopted because it is the most logical method to use when accessing interrelationships among variables, where objective theories are tested (Creswell & Zhang, 2019).

Lastly, the study adopted the longitudinal model approach. In that, it provides results that are simply not detectable in pure cross-sections or pure time-series studies (Zeger & Liang, 2018). Zeger and Liang (2018) further argue that longitudinal data model provides more edifying data, more variability, more degrees of freedom and more effectiveness. Also, the model provides controls for individual's heterogeneity due to hidden factors as well as enabling the researcher to construct and test more

complicated behavioural models then cross-section on or time-section data (Creswell & Zhang, 2019).

3.2 Population

The population of the study was a total of twelve thousand (12,000) staff from Ghana Revenue Authority (Ministry of Finance Report, 2021). Due to the large size of the population the researcher had a target population (Kothari, 2010). The target population was the GRA branch in Agona Swedru under Central Region Division which had one hundred staff (100). Again, fifty (50) tax payers were selected to represent the views of other tax payer on the subject under study. The categories of respondents that were selected to participate in this study was based on their involvement with the study objectives. To ensure inclusivity and diversity, both male and female workers and tax payers were targeted. The essence is to ensure a homogeneous representation of respondents. This is supported by Creswell (2019), that population is a group of individuals who had the same characteristic.

3.3 Sample and Sampling Technique

The study adopted a simple random sampling technique. The simple random sampling is a type of probability sampling that allows researchers to select a sample from a population due to the fact that each member has the same trait (Saunders *et al.*, 2019). Due to similarities in performance of duties by the GRA staff's members, the simple random sampling was deemed appropriate. This technique was considered appropriate because it gives even and fair generalization of findings (Claydon, 2017). The simple random sampling also allows the researchers to improve precision or reduce error in relation to the sample size determination (Saunders *et al.*, 2019).

Further, the sample size used was one hundred and twenty-four (124) respondents. This was determined by using Krejcie and Morgan (1970) sample size determination table for a given population. With regard to the level of accuracy, we used a confidence level of 95% as suggested by Krejcie and Morgan (1970), this means that there are 95 chances in 100 (or .95 in 1) that the sample results represent the true condition of the population within a specified precision range against 5 chances in 100 (or .05 in 1) that it does not. The table below contains the target population as well as the sample size that was determined.

Table 3.1: Target Population and Sample Size

	Target Population	Sample Size
GRA Staff	100	80
Tax Payers	50	44
Total	150	124

Source: (Author's Construct from Field Data, 2022)

In all, a total number of one hundred and twenty-four respondents were chosen for this study. The justification for this sample size is for the researcher to be able to get more reliable and accurate data to achieve the purpose of the study (Krejcie & Morgan, 1970).

3.4 Data Collection Procedure

The researcher prepared and personally circulated a total of hundred and twenty-four (124) questionnaires to the Ghana Revenue Authority staff and selected tax payers due to financial and time constraints. Permission was taken from the Human Resource Department of the Ghana Revenue Authority and respondents were met by the researcher personally to administer the questionnaires to get first-hand

(primary) data. Respondents were given a period of one week to complete the questionnaires due to time constraints.

Secondly, the questionnaire was purposely used in obtaining information from GRA Staff and tax payers regarding the use of the digitalised tax system. According to Saunders (2019) one method of data collection is the use of a questionnaire. This is to ask individuals series of questions to obtain statistically useful information about a particular topic at a given time. The questionnaire data collection method is the most commonly adopted. It is mostly observed as an effective tool for data collection, especially when studying the perception and opinion of individuals in the field of study. The questionnaire that is designed effectively is indispensable to getting a good and reliable result in every social research. Depending on the research objective and the research problem, a questionnaire refers to the support that includes communication between the person collecting the information known as a researcher and the person answering the known question of the respondent (Saunders *et al.*, 2019).

However, the questionnaire for this study was administered by the researcher to respondents who have knowledge of the subject area within the targeted population. A forty-four (44) item questionnaire was designed and administered to the respondents to solicit data from the respondents. The questionnaire was structured into five (5) sections with each section divided into two parts. The first part is for the tax payers' whilst the second part is for the GRA staff; Section A examined the respondents' personal background information concerning age, gender, academic qualification and working experience with Ghana Revenue Authority which consist of four items, Sections B, C, D, and E focused on forty (40) items that look at

specifically eleven (11) items for Effects of electronic payments of tax in Ghana, eleven (11) items for Effects of electronic filing of tax returns in Ghana, eight (8) items for Electronic tax registration and finally, Section E was on the items for measuring Tax identification number consisting of eight items.

3.5 Measurement Instrument

3.5.1 Tax Collection Contribution Factors (Independent Variables)

3.5.1.1 Electronic Payments of Tax.

The Electronic Payment of tax was assessed with an eleven-item scale developed by Pickett and Meeks-Wagner (2010). Sample items include but not limited to “Clients pay tax easily by the use of mobile phone either from home or office, clients check tax statement with ease after payment is done, electronic payment system has made clients pay tax in time and electronic payment/filing system has reduced GRA/client’s operational cost”.

This scale has been widely used in some prominent research studies due to its reliability and internal accuracy (Cheng *et al.*, 2002; Joseph & Engle, 2005). The scale was deemed relevant for the research hypotheses and hence, the researcher adapted and modified it to meet the specific context of this research study. A 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree was used to obtain responses. The Likert-scale method was used because of its accuracy and reliability (Zeger & Liang, 2018).

3.5.1.2 Electronic Filing of Tax Returns.

The electronic filing of tax returns was measured using an eleven-item scale that has its roots in Ghana tax laws Income Tax Act, amended (Act 896). The items were selected from the GRA tax policies and procedures, as this taps into the heart of

the issue in the Ghana Revenue Authority. Sample items include “Client’s file tax easily from anywhere by use of their mobile phone, clients check tax statement easily anywhere by use of their computer, electronic filing system has made communication and collaboration between tax payers easier and electronic filing system has increased Revenue collection”.

The scale was deemed relevant for the research hypotheses and hence, the researcher adapted and modified it to meet the specific context of this research study. A 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree was used to obtain responses. The Likert-scale method was used because of its accuracy and reliability (Zeger & Liang, 2018).

3.5.1.3 Electronic Tax Registration.

The electronic tax registration was assessed with an eight-item scale developed by Zhou and Wang (2010). Sample items include “Clients are registered easily on the electronic system, client’s registration process waste time, the system has made clients pay tax in time and the system has reduced GRA/client’s operational cost.

Again, this scale has been widely used in some prominent research studies due to its reliability and internal accuracy (Mihret & Yismaw, 2007; Cowell & Gordon, 2010). A 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree was used to obtain responses. The Likert-scale method was used because of its accuracy and reliability (Zeger & Liang, 2018).

3.5.1.4 Tax Identification Number.

The Tax identification number was assessed with eight-item scale developed by Cowell and Gordon (2010). Sample items include “Clients are provided with TIN, TIN has made identification of clients easy, TIN system has reduced tax evasion by Client’s and issues on Tax identification number is addressed with ease.

Further, this scale has been widely used in some prominent research studies due to its reliability and internal accuracy (Pickett & Meeks-Wagner, 2010). The scale was deemed relevant for the research hypotheses and hence, the researcher adapted and modified it to meet the specific context of this research study. A 5-point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree was used to obtain responses. The Likert-scale method was used because of its accuracy and reliability (Zeger & Liang, 2018).

3.6 Data Analysis and Technique

The data obtained from the respondents were processed and analyzed using statistical software programs; Statistical Package for the Social Sciences (SPSS). This involved data coding, editing and tabulation especially quantitative data. Descriptive statistics (frequency count, percentages, mean and standard deviation) were used to evaluate the respondents’ background information.

The statistical tool employed for further analyses to be conducted was Pearson correlation to test the relationships between the constructs under study. Thus, Pearson correlation was employed in testing the direct relationships between the constructs as hypothesized in the study. The Pearson correlation method is the most common method to use for measuring numerical variables as posited by Creswell (2018). Also, the method assigns a value between -1 and 1 , where 0 is no correlation, 1 is total

positive correlation, and -1 is total negative correlation. Claydon (2018) posit that, one important feature of the Pearson correlation method is that, it measures not only the direction but the strength of the relationship between two variables.

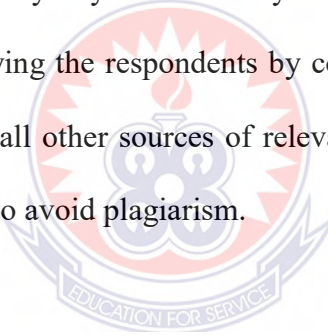
Furthermore, a correlation value of 0.7 between two variables would indicate that a significant and positive relationship exists between the two. A positive correlation signifies that if variable A goes up, then B will also go up, whereas if the value of the correlation is negative, then if A increases, B decreases (Zeger & Liang, 2018). Mean and standard deviation was used to give a clear understanding of the research interpretations for clear and easy understanding of the phenomenon studied. The purpose of all these is to make the information clear and understandable for other people.

3.7 Ethical Considerations

Engaging respondents in research, the researchers must be ethical and develop trust with participant whilst promoting the integrity of the research (Creswell & Zhang, 2009). In addressing the ethical issues in this study, informed consent was elicited from the participants prior to the administration of the instruments (Bodea & LeBas, 2013).

Fulfilling this condition, the researcher obtained clearance from the human resource Department of the Ghana Revenue Authority for their permission to conduct the survey with the approval of all participants before they completed the questionnaires. The respondents were informed of their rights to willingly accept or decline to participate and to withdraw participation at any time without penalty.

However, there was no attempt or what so ever to exaggerate or deceive respondents about the aims and objectives of the research work. The researcher made all forms of communication formal. All kinds of engagement that the researcher had with the respondent in relation to the research was done with honesty and transparency. Issues concerning conflicts of interests as well as misleading information regarding representation of primary data findings in a biased way were avoided. Anonymity and privacy were assured and adhered to. No form of identification was required of the respondents and their responses were not disclosed to any third party. Generally, anonymity does not constitute a serious constraint on research, as most researchers are interested in group data rather than individual results. The thought of anonymity can be easily overcome by ignoring the names of the participants or classifying the respondents by code instead of by name (Creswell & Zhang, 2009). Finally, all other sources of relevant literature and documents used were fully acknowledged to avoid plagiarism.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter presents the result and discussions of the study. It deals with analyses of the data collected and presented the same data with interpretation and managerial implications. It also shows the descriptive statistical table as well as the correlation and regression analysis among the variables.

4.1 Demography of Respondents

Table 4.1 Demography of Respondents

	Variables	Frequency	Percentage	Valid percent	Cumulative Percent
	Gender				
Valid	Male	60	48.39	48.39	48.39
	Female	64	51.61	51.61	100
	Total	124	100	100	
	Age				
Valid	21-30	10	8.10	8.06	8.06
	31-40	22	17.74	17.74	25.8
	41-50	72	58.06	58.06	83.86
	51 and above	20	16.10	16.10	100
	Total	124	100	100	
	Educational Level				
Valid	Diploma	3	2.42	2.41	2.41
	Degree	66	53.23	53.23	55.64
	Masters	30	24.19	24.19	79.83
	Professionals	25	20.16	20.16	100
	Total	124	100	100	
	Experience level				
Valid	1-2 years	7	5.65	5.65	5.65
	2-3 years	20	16.13	16.13	21.75
	4-5 years	27	21.77	21.77	43.52
	5 years and above	70	56.45	56.45	100
	Total	124	100	100	

Source: (Author's Construct from Field Data, 2022)

Table 4.1 shows that, 48.39% are male and 51.61% female. This shows that data obtained from the respondents is free of gender bias since both male and female were represented in the reasonable proportion. It also shows that, 17.74% of the respondents were in the age group of between 31- 40 years, followed by 8.10% between 21–30, 58.06% between 41-50 and 16.10% above 51 years respectively. The implication is that, there was fair representation of the population as almost all classes were represented and the data provided reflected the views of the entire population and the majority of the respondents are matured which means they gave a matured view. It also reflects that Ghana Revenue Authority is having a fair representation of all age groups in its employees.

In addition, it shows that, 53.23% of the respondents have degree, 24.19% masters, 20.16% professionals like (ACCA, CIMA, etc.) and 2.42% diploma. This implies that the respondents are educated meaning they could read, understand and interpret questionnaires reliably. It reveals the fact that Ghana Revenue Authority has highly educated employees, which contributes to good performance. As such the data collected is believed to be reliable and was thus processed to present findings.

Lastly, the table it indicates that, 56.45% of the respondents had served Ghana Revenue Authority for a period of 5 years and above, 21.77% between 4 to 5 years, 16.13% between 2 to 3 years and 5.65% between 1-2 years. This implies that almost all respondents had taken reasonably enough time in service and thus the data they provided is reliable.

4.2 Descriptive Statistics of Respondents

In essence, descriptive statistics uses mathematical and/or graphical techniques to search for patterns in a data set. In most cases, it provides a convenient summary of

the data set's information by revealing the average indicators of the study's variables.

Table 4.2 below presents the descriptive summary statistics of the respondents of the study.

Table 4.2 Summary of Descriptive Statistics

	N	Mean	Std Deviation	Skewness	Kurtosis
Gender	124	1.45	0.5	.19	-1.98
Age	124	11.94	0.81	.12	-1.45
Educational Level	124	6.84	1.15	.11	-.88
Experience level	124	3.03	1.23	-.36	-.61

Source: (Author's Construct from Field Data, 2022)

With reference to the table 4.2, the data for the gender in normally distributed indicated by a value of 0.19. Skewness of a normal distributed data is equal to zero (0) (Pearson's, 1911). This was indicated by a strong mean of 1.45 and a homogeneity standard deviation of 0.50. These also imply that, there was avoidance of gender bias in the selection of the respondents. The table further indicates that, the respondents that were engaged in the study are from all age groups specified. This is supported by skewness value of 0.12 which represents a normal distribution of data. This was indicated by a strong mean of 11.94 and a heterogeneity standard deviation of 0.81.

Furthermore, table 4.2 mirrors a mean of 6.84, standard deviation of 1.15 and skewness of -0.11 in relation to educational level. This explains that the data is normally distributed in that skewness of a normal distributed data is equal to zero (0) (Pearson, 1911). It implies that, respondents from all educational level (Diploma, Degree, Masters and Professional) were engage for the purposes of gathering relevant

and reliable information. Further, the mean showed that on average 68.4 % of the respondents that were engaged are educated.

Lastly, in relation to level of experience the table mirrors a mean of 3.03, standard deviation of 1.23 and skewness of 0.36. This explains that the data is normally distributed in that skewness of a normal distributed data is equal to zero (0) (Pearson, 1911). Again, it implies that, respondents from all experience level were engage for the purposes of retrieving reliable information. The summary descriptive statistics table indicates that all the scale has good scores of symmetries.

4.3 Correlational Analysis

Table 4.3 Correlational Matrix of the Variables Used in the Study

Variables	Tax Collection	Electronic Payment System	Electronic Filing System	Electronic Tax Registration	Tax Identificatio n Number
Tax Collection	1.000				
Electronic Payment System	0.587*	1.000			
Electronic Filing System	-0.389*	-0.952	1.000		
Electronic Tax Registration	0.327*	0.127*	0.116	1.000	
Tax Identification Number	0.206*	-0.796*	-0.636*	0.095	1.000

Source: (Author's Construct from Field Data, 2022)

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

Using the Pear correlation coefficient, a correlation study was carried out to determine and present the degree of association between the research's variables. A positive figure shows high figure strongly and favorably association whilst negative figure indicates an adverse relationship.

Table 4.2 shows early indications from correlation analysis that each Electronic Payment System, Electronic Tax Registration and Tax Identification Number are strongly and favorably associated to Tax Collection, with r values of 0.587, 0.327, and 0.206, respectively. The relationship between Electronic Filing System and Tax Collection is significant but adverse, with an r value of -0.389.

The research also reveals a strong correlation between several independent variables, such as Electronic Payment System, Electronic Tax Registration, Tax Identification Number and Electronic Tax Registration, Electronic Tax Registration and Electronic Filing System on both sides of the equation, indicating a potential multi-collinearity issue. A positive Tax Identification Number suggests that there is a significant relationship between Tax Identification Number system and Tax Collection in Ghana. On the other hand, it also suggests that Tax Identification Number system contributes positively to Tax Collection in Ghana. As a result, Ghana Revenue Authority can develop strategic plans to halt possible ways of evading tax to increase total revenue collection by Ghana Revenue Authority.

4.4 Regression Analysis.

Table 4.4: Regression Analysis of Electronic Payment System, Electronic Filing of Tax Returns, Electronic Tax Registration and Tax Identification Number on Tax Collection in Ghana

<i>Model</i>	<i>Unstandardize d Coefficients</i>		<i>Standardized Coefficients</i>		<i>t</i>	<i>Sig.</i>	<i>95.0% Confidence Interval for B</i>	
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>				<i>Lower Bound</i>	<i>Upper Bound</i>
1 (Constant)	2.918	.528			5.532	.000	1.880	3.956
Electronic Payment System	.012	.068	.010		.176	.860	-.122	.146
Electronic Filing of Tax Returns	2.411	.094	1.312		25.623	.000	2.226	2.596
Electronic Tax Registration	3.101	.096	2.112		35.123	.000	3.126	3.496
Tax Identification Number	-.388	.067	-.406		-5.767	.000	-0.520	-0.256
Adjusted R Square			0.904	Std. Error of the Estimate		0.82491		
F-test			949.334	Prob > F		0.000		

Source: (Author's Construction from Field Data, 2022)

The model results presented in table 4.4 shows Adjusted R Square of 0.904 and Std. Error of the Estimate of 0.82491. The adjusted R-square of 0.904 means that the independent variables (Electronic Payment System, Electronic Filing of Tax Returns, Electronic Tax Registration, and Tax Identification Number) in the model explain the variation in tax collection by 82.49%. Furthermore, the adjusted R square was appropriate to use because it controls the rate of change at which the independent variables affect the dependent variable when the independent variables increases or

decreases (Creswell, 2018). Again, the model results presented in table 4.4 shows F-test of 949.334 and a significant level of 0.000. This justifies that the regression model with robust standard error is highly significant ($P < 0.000$). This means that the regression model is significant or appropriate for making predictions.

4.5 Discussion of Findings

4.5.1 Hypothesis 1 - Electronic Payment System Has No Significant Effect on Tax Collection

The results indicate that Electronic Payment does not have a relationship with tax collection. The coefficient of determination is 0.860 which indicates that there is no relationship between electronic payment and tax collection. These results provide reasonable evidence to the consistent view that there is a lack of internet accessibility in tax payment especially by small tax payers and inadequate knowledge in use of the platform and attitude towards the use of the system especially in transfer of money hence they prefer traditional payment system to mobile. Also, it can be justified that internet infrastructure is inadequate in the country for the majority of tax payers with the exception of big companies. The result depicts that there is a high level of illiteracy as far as technology is concerned.

4.5.2 Hypothesis 2- Electronic Filing of Tax Returns Has Significant Effect on Tax Collection

The results indicate that Electronic Filing of Tax has a relationship on tax collection. The coefficient of determination is 0.000 which indicates that there is a positive relationship (2.411) between Electronic Filing of Tax and tax collection. These results provide reasonable evidence to the consistent view that, when most of the businesses file tax electronically as well as when filing of tax electronically is

made mandatory, tax collection will be high. Furthermore, it also explains that the level of tax evasion will also be reduced to its barest minimum. The beta of electronic filing of tax returns is 1.312 with a t-statistic of 25.623. The positive coefficients mean a 1% increase in the usage of Electronic Filing of Tax system leads to a 2.411% increase in tax collection and the high t-statistic value indicates that the impact is statistically significant at 5 % test level.

4.5.3 Hypothesis 3- Electronic Tax Registration Has Significant Effect on Tax Collection

The results indicate that Electronic Tax Registration has relationship with tax collection. The coefficient of determination is 0.000 which indicates that there is positive relationship (3.101) between Electronic Tax Registration and tax collection. Again, these results provide reasonable evidence to the consistent view that, the level of tax revenue collected will increase when more business and individual tax payers are registered. The beta of Electronic Tax Registration is 2.112 with a t-statistic of 35.123. The positive coefficients mean a 1% increase in the usage of Electronic Tax Registration leads to a 3.101% increase in tax collection and the high t-statistic value indicates that the impact is statistically significant at 5 % test level.

4.5.4 Hypothesis 4- Tax Identification Number Has Significant Effect on Tax Collection

Collection

The results indicate that Tax Identification Number system has relationship with tax collection. The coefficient of determination is 0.000 which indicates that there is negative relationship (-.338) between Tax Identification Number and Tax collection. However, these results provide reasonable evidence to the consistent view that, there is network failures, inadequacies regarding the knowledge of Tax

Identification Number as part of the system hence tax payers prefer being identified by their names instead. The beta of mobile payment is -0.406 with a t-statistic of -5.767 . The negative coefficients mean a 1% increase in usage of TIN leads to a -0.388% increase in tax collection and the negative t-statistic value indicates that the impact is statistically significant at 5% test level.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter covers the conclusion and recommendation of the findings. Recommendations to the challenges facing the Tax Management System in Ghana,

5.1 Summary of Findings

This section summarises findings about each objective in order to come up with logical conclusion. The summary of the objective are as follows:

1. The findings showed that, there is no relationship between electronic payment and tax collection which is supported by a coefficient of 0.860. The beta of 0.010 also indicates that Electronic Tax Payment System gives less variation in tax collection. Further, the results provide reasonable evidence to the consistent view that, there is lack of internet accessibility in tax payment especially by small tax payers and inadequate knowledge in use of the platform.
2. The results indicate that Electronic Filing of Tax has relationship on tax collection. The coefficient of determination is 0.000 which justify that there is positive relationship (2.411) between Electronic Filing of Tax and tax collection. These results provide reasonable evidence that, when most of the businesses file tax electronically, tax collection will increase
3. The results indicate that Electronic Tax Registration has relationship with tax collection. The coefficient of determination is 0.000 which indicates that there is positive relationship (3.101) between Electronic Tax Registration and tax collection. Again, these results provide reasonable evidence to the consistent view that, the level of tax collection will increase when more business and

individual tax payers are registered which is justified by the beta value of 2.112 with a t-statistic of 35.123.

4. The results indicate that Tax Identification Number system has relationship with tax collection justified by the coefficient of 0.000 which indicates that there is negative relationship (-.338) between Tax Identification Number and Tax collection. However, these results provide reasonable evidence to the consistent view that, there are network failures and inadequacies regarding the knowledge of Tax Identification Number as part of the system hence tax payers prefer being identified by their names instead.

5.2 Conclusion

Based upon the findings of the study some conclusions are drawn and for which recommendations are made to the management of GRA. From the findings, GRA has developed sustainable strategies to improve its performance in revenue mobilization with the introduction of digitalized system. However, it was established that before digitalization was introduced especially from 2010 to 2017 tax collection was low ranging from GH¢6694.918 to GH¢35342.629 respectively which was below the national budget (Ghana Revenue Authority Report, 2021). This implies that tax collection was not meeting the budget target hence the country was operating below the budget. From 2018 government of Ghana has made conscious efforts in digitalizing the economy. For instance, the introduction of GIFMIS in 2009 has made it possible for public sector in the various regions to make expenditure using the electronic which makes tax auditing easy as well as improvement in public accountability..

Furthermore, digitalization offers an option to the clients to file taxes like VAT, PAYE, Excise duty and Withholding taxes electronically on GRA's website without having to visit a GRA premise (Ghana Revenue Authority Report, 2021). The electronic system was introduced to raise tax collection drastically but still have some draw backs. This was believed to be due to lack of awareness among the tax payers about electronic tax management system in place and lack of skills especially among the tax payers on how to use the system.

In conclusion, as per the data in 2020 tax collection was increased to GH¢51468.231 out of total revenue collected amounting to GH¢2389.231. This implies that the GRA managed to collect revenue to be able to contribute to national budget by 48.9%. It can be emphasized that Electronic Filing of Tax Returns, Tax Registration System and Tax Identification Number has relationship with revenue collection although electronic payment system has no relationship. Therefore, it can be summarized that Electronic Tax Management System has improved Tax Collection in Ghana.

5.3 Recommendations

The researcher has come up with the following recommendations in order to support Electronic Tax Management System in Ghana. The recommendations are;

1. Policy makers should formulate and ensure optimal policies to increase the level of effectiveness and efficiency in electronic service provision.
2. Policy makers should employ skilled personnel with more experience on network management in order to ensure the reliability of network for tax registration.
3. Policy making institutions should inculcate in their policies to education

clients on the usage of various electronic tax platforms for effective and efficient filing of tax returns.

4. GRA should update their software's on regular basis in order to ensure the generation of TIN without error.



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APPENDICES

Appendix: Questionnaire

**UNIVERSITY OF EDUCATION, WINNEBA
SCHOOL OF BUSINESS
ACCOUNTING DEPARTMENT**

**TOPIC: Effectiveness of Tax Collection in Ghana; Is the Digitalisation a Game
Changer?**

I am undertaking a study leading to the award of Master of Business Administration (MBA) in Accounting at the University of Education, Winneba Business School in the Central Region of Ghana. This research is being undertaken to assist the researcher to make an objective assessment of the aforementioned research topic. Therefore, I would appreciate any assistance that can be given to me to enable me to collect data/information by providing the necessary responses to these questions outlined below. This is purely an academic exercise and any information given would be treated as confidential. Thank you in advance for your assistance.

Instructions

The questionnaire is divided into two: Demographic information of respondents and Specific objectives.

Please tick the response that you think is most appropriate to each question and indicates your response in the space provided.

Tick whichever is applicable to you:

SECTION A: DEMOGRAPHIC INFORMATION

1. Are you Male or Female?

a. Male

b. Female

2. What is your age? (Tick appropriately)

a. 21- 30

b. 31- 40

c. 41- 50

d. 51 and above

3. Educational qualification:

a. Secondary

b. Undergraduate

c. Post graduate

d. Others specify

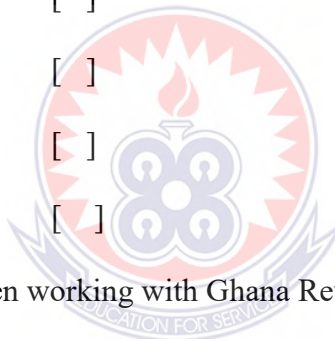
4. How long have you been working with Ghana Revenue Authority (GRA)?

a. 1 - 2 years

b. 2 – 3 years

c. 3 – 4 years

d. 5 years and above



SECTION B**SPECIFIC OBJECTIVE 1: EFFECT OF ELECTRONIC TAX PAYMENT ON TAX COLLECTION IN GHANA**

Definition of Scale for assessing Electronic Payment of tax on Tax Collection in Ghana (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree)

TAXPAYERS' ONLY

Assessing Electronic Payment of Tax	1	2	3	4	5
5. Clients pay tax easily by the use of mobile accounts either from home or office					
6. Client's pay tax from home by use of bank accounts either from home or office					
7. Clients check tax statement with ease after payment is done					
8. Clients get tax knowledge by use of internet without physical appearance					
9. Clients get alert on email or SMS by use of internet					

GRA STAFF ONLY

Assessing Electronic Payment of Tax	1	2	3	4	5
10. Electronic payment system has made clients pay tax in time					
11. Electronic payment system has reduced GRA/client's operational cost					
12. Electronic payment system has made clients pay tax from anywhere					
13. Electronic payment system has made communication collaboration between tax payers easier					
14. Electronic payment system has made tax auditing/accountability easier					
15. Electronic payment/filing system has increased revenue collection					

SECTION C**SPECIFIC OBJECTIVE 2: EFFECT OF ELECTRONIC FILING OF TAX RETURNS ON TAX COLLECTION IN GHANA**

Definition of the Scale for the assessment of Electronic Filing of Tax Returns on Tax

Collection in Ghana (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree).

TAX PAYERS' ONLY

Assessing Electronic Filing of Tax Returns	1	2	3	4	5
16. Client's file tax easily from anywhere by use of their mobile phone					
17. Procedures in filing tax is easily done regardless where you are by the use of their computer					
18. Clients check tax statement easily anywhere by use of their mobile phone					
19. Clients get tax knowledge easily from anywhere by use of their computer					
20. Issues regarding filing of tax returns by Clients are quickly without physical appearance					

GRA STAFF ONLY:

Assessing Electronic Filing of Tax Returns	1	2	3	4	5
21. Electronic filing system has made clients pay tax in time					
22. Electronic filing system has reduced on GRA/client's operational cost					
23. Electronic filing system has made clients pay tax from anywhere					
24. Electronic filing system has made communication collaboration between tax payers easier					
25. Electronic filing system has made tax auditing/accountability easier					
26. Electronic filing system has increased Revenue collection					

SECTION D**SPECIFIC OBJECTIVE 3: EFFECT OF ELECTRONIC TAX****REGISTRATION ON TAX COLLECTION IN GHANA**

Definition of Scale for assessing Electronic Tax Registration on Tax Collection in Ghana (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree)

TAX PAYERS' ONLY

Assessing Electronic Tax Registration	1	2	3	4	5
27. Clients are registered easily on the electronic system					
28. Client's registration process waste time					
29. It is difficult getting client registered					

GRA STAFF ONLY

Effect of Electronic Tax Registration on Tax Collection in Ghana	1	2	3	4	5
30. The system has made clients pay tax in time					
31. The system has reduced GRA/client's operational cost					
32. The system has made communication/ collaboration between tax payers easier					
33. The system has made tax auditing/accountability easier					
34. The system has increased revenue collection					

SECTION E

SPECIFIC OBJECTIVE 4: EFFECT OF ELECTRONIC TAX IDENTIFICATION NUMBER ON TAX COLLECTION IN GHANA

Definition of the Scale for assessing electronic Tax Identification Number on tax collection in Ghana (1 = strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree)

TAX PAYERS' ONLY

Assessing the Effect of Tax Identification Number on Tax Collection in Ghana	1	2	3	4	5
35. Clients are provided with Tax Identification Number					
36. Generation of Tax Identification Number for Clients is instant					
37. Tax Identification Number has made identification of clients very easy					

GRA STAFF ONLY

Assessing the Effect of Tax Identification Number on Tax Collection in Ghana	1	2	3	4	5
38. Tax Identification Number system has made clients pay tax in time					
39. Tax Identification Number system has reduced tax evasion by Client's					
40. Issues on Tax Identification Number is addressed with ease					
41. Tax Identification Number system has made individual tax auditing/accountability easier					
42. Tax Identification Number system has increased revenue collection					

Thank you for your contribution