DIGITIZATION OF TAX ADMINISTRATION, TECHNOLOGY AND TAX COMPLIANCE BY SMALL AND MEDIUM SIZED ENTERPRISES IN NAIROBI CENTRAL BUSINESS DISTRICT

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DECLARATION

I, Cecilia Mumbua Katua, I declare that this Master of Science research projects titled digitization of tax administration, technology and tax compliance by small and medium sized enterprises is my original work and has never been submitted in any other college, institution or university for award of certificate diploma or degree.

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SUPERVISORS APPROVAL

This Master of Science project prepared by Cecilia Katua Mumbua has been submitted for examination with the approval of my appointed supervisor

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DEDICATION

I dedicate this project to my late mother Mrs Lydia Munyiva Katua it is because of her sacrifices, prayers and guidance that I have come this far. Also my daughter Jasmine Munyiva Katua who has been my source of motivation to do better and my friends who encouraged me through this journey.

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ABBREVIATIONS

CBD   Central Business District

ICAEW   Institute of Chartered Accountants in England and Wales

IT   Information Technology

KNBS   Kenya Bureau of Statistics

KRA   Kenya Revenue Authority

MSME   Micro, Small and Medium Enterprises

OECD   Organisation for Economic Co-operation and Development

SMEs   Small and Medium Sized Enterprises

SPSS   Statistical Package for Social Sciences

TAM   Technology Acceptance Model

TOT   Turn Over Tax

UTS   Unified Tax System

VAT   Value Added Tax

ABSTRACT

The main objective of the study was to explore the impact of digitization on tax administration, technology and tax compliance by SMEs in Nairobi CBD. Most SMEs fail to register their businesses for tax reasons and mostly operate without licenses from both national and county governments. Therefore, tax compliance is a matter of great concern for all SMEs. Furthermore, lots of money is generated from SMEs operations on daily basis although majority are considered as hard tax payers. A key tool that could be used to curb and increase tax compliance by SMEs is digitization of the tax administration system. This would increase the efficiency and effectiveness in tax collection. The purpose of this study was to determine the effect of digitization in tax administration, technology and tax compliance by SMEs in Nairobi CBD. The specific objectives of the research were; to establish the effect of digitization of tax administration on compliance by small and medium sized enterprises in Nairobi Central Business District, to assess the influence of technology on the association between digitization of tax administration on compliance by SMEs in Nairobi CBD and to determine the impact of digitization in tax administration on tax compliance by small and medium sized enterprises. This research was informed by the innovation diffusion theory, the psychology theory, technology acceptance theory, and fischer tax compliance model. The study used the descriptive research design. The target population was all the 1539 SMEs operating in Nairobi CBD. Stratifies random sampling was used to derive 155 respondents which was used as the sample. Out of the 155 questionnaires issued, 133 were successfully filled and returned translating to a response rate of 85.8 %. The inferential statistics was undertaken by performing on digitization in tax administration against tax compliance. The study found p values of 0.000 at 95% level of confidence on the association between digitization and tax compliance by SMEs. This shows that the model adopted for this study was significant and that digitizing tax administration significantly improves tax compliance. Technology was also found to play a vital role in mediating the relationship between digitization and tax compliance since it was a crucial component of digitization. It can be concluded that an increase in the utilization of the resources in the digitized KRA tax administration tax system such as real time and data analytics enables SMEs to promptly make remittances thus protecting them from potential consequences associated with noncompliance. The study recommends that KRA should develop training programs for SMEs to equip them with additional knowledge on the digitized tax administration system. SMEs should be educated on how to use the KRA portal and sensitized on the different resources available in the platform for full and effective utilization

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The powerful influence of the digital era on the everyday life and activities of people has caused the phenomenon of "digital disruption". It means that the digital age inevitably changes the way an economy operates, causing the disruption or interruption of traditional business models. This, in turn, requires adaptations and changes that are not always simple and painless but happen inevitably, regardless of whether we are dealing with agriculture, production, trade, banking or the provision of services (ICAEW, 2016). Digital disruptions have significant implications on the organization and functioning of economy. One of the consequences is their impact on taxation. The current tax regulations are not adequate for virtual companies operating worldwide. Statistics show that today, 9 out of the top 20 companies on the world market capitalization are digital, and only ten years ago out of 20 companies, one was digital. It is the biggest challenge to use this trend in the best possible way, while ensuring that digital companies contribute fairly to their share in tax revenues (Juswanto & Simms, 2017; Lipniewicz, 2017) The reduced revenue gathered is pointed to the realization that provisions of taxes are not keenly followed, corruption, low levels of taxation awareness, compliance behavior and the design of the tax system (Makori, et. al, 2013)

This survey was based on Innovation Diffusion Theory and Technology Acceptance Theory (TAM) and supported by social psychology theory and the Fischer Tax Compliance Model. The Technology Acceptance Theory argues that once a customer is given a new innovation, some elements affect their choices with regards to time and means of utilization which goes a long way

to determining its apparent helpfulness and convenience while the Innovation Diffusion Theory proposes four ways that determine the dissemination of a new idea as innovation or the new idea, communication channels, time to allow for adoption and the social system. Fischer Tax Compliance Model categorizes the factors that affect tax compliance into 4 categories namely; demographics attitudes and anticedents non compliance and the tax system/ tax structure (Fischer, 1992)

These SMEs form the key contributors to the Nairobi County economy since they create employment thus directly enhancing livelihoods. Ndemo (2015) opines that most SMEs fail to register their businesses for tax evasion motives and most are not licensed by both from both national and county governments. Therefore, tax compliance is a matter of great concern for all SMEs. Furthermore, lots of money is generated from SMEs operations on daily basis although majority are considered as hard tax payers. (Lumumba et al., 2010). A key tool that could be used to curb and increase tax compliance by SMEs is digitization of the tax administration system. This would increase the effectiveness and efficiency in tax collection and thus an investigation on the digitization of the tax administration and tax compliance by SMEs in Nairobi County is important.

1.1.1 Concept of Digitization

Digitization can be defined as the process of transforming analog data into binary electronic (digital state) especially use in a computer or storage (Pearce, 2005). Digitization entails the conversion of materials from analog state that can be read by individuals to a digital state that is only readable by machines. Digitization of tax administration is a difficult task that requires

radical changes in the way it is organized and delivered to its intended users. Digital technology is a powerful tool of management, but tax administration's encounter with this mode of work has often proved to be complex, sometimes unsuccessful. The problem is that tax administration, like any other sector, often wants to create an electronic management and information system that works for them, and a lot of money, effort and technology is spent (Lipniewicz, R. 2017).

Tax evasion is defined as partial or total evasion of tax payments. The increased tax evasion is a key consequence of the digitization of business (IOTA 2016; OECD, 2013; OECD, 2015; OECD (b), 2017). Tax agencies of many countries see that digitization could make them stronger, faster and better. Digital components enable tax administrations to be more efficient and organized, both in combating abuse and in improving the tax collection and reporting (Center for Policy and Governance 2017). Without building a strong organization of tax administration, information system and professionalization of employees, the tax reform will not be possible (Juswanto & Simms, 2017).

There is no ready formula for the digitization of tax administration. There are only experiences that are often not fully applicable in each country. It is important, however, to clarify two things: first, digital tax administration is inevitable (not a matter of choice); second, digitization is not a good implementation of a surge only in order for something to happen, because essential changes in the social frameworks and mechanisms do not pass without serious consequences. In short, there are no complete solutions to digitization, but there are a number of unavoidable strategically important steps on the way to the fundamental digitization of tax administration. The first step refers to the need for awareness of what is to be achieved. For this, consciousness

and clear political will, thorough work and professional preparation is required. The first question is whether tax administration is ready to work on such important issues as: the goals of digitization, how to proceed, resources allocated for this purpose, how to identify tax jurisdiction, how to control the flow of commercial services on the Internet and how to identify entities that provide their services on the Internet.

As tax systems go digital, multinationals have been subjected to more operational risks in recent years. Responding to the digitized tax platforms is becoming crucial for these entities subjecting tax authorities and the entire finance department to adapt. Failure to adequately respond exposes the firm to stringent financial penalties (ICAEW, 2016). The study will analyze the following aspects of digitization of tax administration; real time access, cloud computing, data analytics and managing of tax risks (Ernst &Young. 2017)

1.1.2 Concept of Technology

On extensive investigations undertaken on this matter, the studies are fragmented along distinct specialties and there exists is no generally accepted paradigm. Scholars such as David and Tepstra (2008) argue that technology is a cultural systems that deals with the associations between human beings and their environments. The latest definition given by Mascus (2016) who defines it as 'the information necessary to attain specific production outcomes from specific tools of processing selected inputs such as production processes, management techniques, intra-firm organizational structures, marketing methods, means of finance or any of its combination. Each establishment is conversant of the effects, implications of technologies in establishments and also its capacity to create competitive advantage (Carroll, 2017).

The use of automated systems has proved to increase the efficiencies to business processes as well as minimize costs (Wasao, 2014), the government's bureaucratic structure which is expensive to manage with little result, tax agencies as a government agency are shifting to e-government led solutions such as the electronic tax filing (Ambala, 2009) anchored on the argument that it boosts the public service delivery and fiscal evasion without incurring excessive overheads (Harris, 2015).

The strategic essence of IT lays in its ability to develop the concepts of value chain in any establishments through creation of interdependent generic value acts constituting elements such as customers, suppliers, finance, production etc. IT transforms value chains and the physical components of products and processes either through value activities of products. IT further transforms the speed of the competition. IT also adds value to firm through cost reduction thus increasing profits. The ability of IT firm to add value to the firm is capabilities from its ability to be a firm's source of competitive advantage (Wahab, 2012).

1.1.3 Tax Compliance by SMEs

In 2008, Pope & Abdul- Jabbar defined tax compliance as the satisfaction for the taxation duties as stipulated in the law justly and fully. In 2003, Brown & Mazur argued that tax adherence is a multi-dimensional standard while theoretically; it's described through assessing various unique categories of adherence like payment adherence, filing adherence, as well as reporting adherence. In terms of theories, opinions of both taxpayers as well as tax gatherers are; tax adherence relates to observing tax policies that are varying for every nation. According to James

(2004), this tax adherence has become a key challenge in most tax authorities while it is difficult convincing them to observe the policies although they aren't consistently specific.

Tax compliance is categorized as: - Administrative Adherence that comprises of observance of administrative policies for the lodging as well as the submission taxes timely. This is inclusive of observance of reporting stipulations, processes as well as rules. Technical adherence that describes observance for calculation of taxable revenue based on the technical stipulations of the law for taxation and submitting the expected tax (James and Alley, 2004). Resistance in tax compliance was from long ago as seen in the Taxation History since they are seen as a burden by all. Resistant taxpayers' characters prove that when allowed an opportunity, taxpayers may not adhere to them (Makori, et. al, 2013). Their look about observance could be impacted with several issues that ultimately impact their character.

According to Kirchler (2007), previous works prove that, these issues affecting tax compliance as well as non-compliance vary in every nation and is based on every person individual beliefs. Lack of adherence may be displayed differently like refusal in filing of returns in the given time span, or total ignorance, lying about the amount of income received, exaggeration in the deductions, refusal to clear the debts in the provided time frame, or even in extreme cases, refusal to remit the taxes due (Kasipillai,2006). Digitization of the tax system is beneficial to both the tax payer and the tax authority. For the tax agencies, digitization reduces the work load and operational costs including handling costs, storing and processing tax returns. For tax payers, digitization confers convenience in the filing of tax returns and registering tax payments from their office or home.

1.1.4 Small and Medium Sized Enterprises

SMEs are articulated broadly as any business venture managed by an individual having minimal staff as well as minimal revenue. These are generally solely managed and controlled, could be in form of partnerships and even sole proprietorships (Payton, 2011). SMEs bring dynamism and innovation and are responsible for creation of employment opportunities in emerging and developing economies. They account for a large percentage (95% to 99%) of the businesses in all countries (OECD, 2009).

The OECD (2007) noted that annual turnover, number of employees and net assets were the categories used to define SMEs. In Kenya, the MSME (Micro, Small and Medium Enterprises) bill has defined SMEs in general, using the number of workers firm's annual turnover criteria. Each section of activities locally has its own SMEs. They are in the textile sector, manufacturing industry, finance, security docket, hotels and restaurants sector, transport docket and also in the service provision sector. The rate employment in the informal sector amounted to 74.2% of those in jobs. This industry provides 18.4% in a nation's Gross Domestic Product(Goradichenko et al., (2009).

In spite the increasing significance of SMEs for each sector of this Kenyan economy, Waweru (2007) posits that the current taxation policy towards the SMEs that involves advanced taxation for the Passenger Service as well as for the Commercial cars; The Unified Tax System (UTS) which is responsible for the licensing fees as well as the tax obligations which a given business

entity is supposed to submit timely, usually one year; and a Turnover Tax (TOT) have not produced a lot like the income which become reduced over time gradually.

1.2 Research problem

Tax collection in Sub-Saharan Africa unlike in the Western nations are still growing. The WCO has in establishing standards that could be utilized so as to mitigate tax illegalities that exist across all nations (IMF, 2012) Digitization has significant implications on the organization and functioning of economy. One of the consequences is their impact on taxation. The current tax regulations are not adequate for virtual companies operating worldwide. Automated systems increase the efficiency to business operations which leads to increased profitability. Recognizing the importance of undertaking different reforms, previously, the KRA used a Modernization Programme and Tax Administration Reform whose key objective was to integrate its operations as per the international best tax collection practices (Juswanto & Simms, 2017).

Transforming Kenya into a digital economy is most definitely a big subject of discussion at the moment even as different bodies and organisations go digital. The KRA which is the tax collection agent in the country is now utilizing the digital space as the key growth area. Statistics show that the total money transferred through mobile platforms was Ksh3.64 Trillion in 2017 jumping to Ksh. 3.98 Trillion in 2018 (CBK, 2018). Similarly, the Kenya Bureau of Statistics (KNBS) shows that the value of money commerce transactions was 3.2 Trillion in 2018 (KNBS, 2018). In Kenya, the largest most taxpayers in the business are SMEs which is approximated to be 34.4% and responsible for 77% of employment (Ouma, 2014). Kenyan SMEs seek to reduce

their tax burden by engaging in tax evasion practices including a certain part of tax inspector, or functioning beyond the tax net which calls for digitization of tax administration.

Nasr (2014) did a study on implementing the electronic tax filing and payment systems in Malaysia. The study established that electronic mechanisms had been highly employed in tax filing, entering tax data into data base, making assessments, processing tax payments and issuing funds among others. Hsieh & Shannon (2005); Hyun, Park & Ya, (2002) and Yong & Hooper (2011) have found factors determining tax compliance in other nations besides Kenya to include: tax audits; tax rates; role of tax authority and tax administration; perception on probability of detection; simplicity of tax returns; penalty and personal financial constraint and awareness on offenses. According to PWC journal, payment of taxes (2018) the Korean government offers most of its services online.

Mutinda (2011) undertook an assessment of the effect of electronic commerce on tax collection by the Kenya Revenue Authority. The study found that E-commerce indeed had an impact on tax collection by KRA. Mwangi (2014) analyzed the factors affecting tax compliance with context on SME's which operating in Industrial area, Nairobi and found high tax rates, ignorance on tax factors and costs of tax compliance influenced tax compliance. From the foregoing, it is clear that no known study has focused on the efefct of digitization in tax administration on tax compliances. Most of studies seem to have concentrated on the effect of individual variables e.g. ITMS and e- commerce on tax compliance and tax collection respectively. Therefore, the research question for the study was; what is the effect of digitization of tax administration on compliance by SMEs in Nairobi CBD?

1.3 Research Objective

The study's broad objective was to examine the effect of digitization of tax administration, digitization and compliance by small and medium sized enterprises in Nairobi Central Business district.

The specific objectives were to :

i. Establish the effect of digitization of tax administration on compliance by SMEs in Nairobi Central Business District

ii. To assess the influence of technology on the relationship between digitization of tax administration on compliance by SMEs in Nairobi CBD

1.4 Value of the Study

This study's results will be used as a reference point by researchers, students and scholars who might wish to undertake further studies on the same field. Researchers and scholars may also utilize the findings so as to identify further research areas on related studies by identifying topics that require further research and giving a review of the empirical literature so as to establish study gaps. The research contributes to compliance in Kenya.

This study will give insight to KRA on the progress made so far in bringing on board tax payers through digitization to increase tax compliance. It will enhance the understanding of the Revenue Authority of the SME sector, which will enable them develop strategies to enhance compliance. It will also point out the challenges faced by taxpayers, with regards to the use of new tax remittance platforms thus bringing greater efficiency in tax collection.

The study would help the Government of Kenya and KRA in formulation and implementation of policies in the field of tax compliance thus increasing revenue collection. This will consequently serve as a guide or reference for other government departments and ministries as they undertake modernization programs to enhance revenue inflows. Finally, the beneficiaries of the study will be the business people in the SME sector who will use the modern tax remittance platforms for easy tax remittance and other related queries.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theories used in the research and looks into the previous studies on tax compliance. It contains the empirical review, theoretical review, the conceptual framework and a summary of the literature.

2.2 Theoretical Foundation

This section reviews the theories that explain the associations between digitization and tax compliance. The study used innovation diffusion theory, technology acceptance theory, innovation diffusion theory the fiscal psychology theory and the Fischer Tax Compliance Model.

2.2.1 Innovation Diffusion Theory

The innovation diffusion theory is traced back to Rogers and looks at how and the rate at which innovation is being dispersed. There exist four components that determine the dissemination of a new idea; the innovation or the new idea, communication channels, time to allow for adoption and lastly the social system. These go through a process of diffusion consisting five stages namely; knowledge, persuasion, decision, implementation and confirmation. The result is six categories of users namely; innovators, early adopters, early majority, late majority, laggards and the leapfroggers which normally take up a sigmoid shape ((Robertson, 1967).

The innovators are those who risk exploration of new ideas and technologies and account for approximately 2.5% of the market share. For early adopters, they are those opinion leaders who give referrals and share positive testimonials about the innovations. They do not require much persuasion as they are already open minded and may actually be interested in some change. They account to for roughly 13.5%. On the other hand, the early majority are those willing to adopt new technologies of convinced by positive reviews from earlier adopters forming 34% of the market share. The late majority are the skeptics and are reluctant for any changes unless they feel strongly left behind. Lastly, the laggards always stick to the old proven ways of doing things ad account for 16% of the market share. They trust their past experiences and only adopt new products when the adoption is available (Hanlon, 2013)

According to Schumpeter (1976), the innovation diffusion theory is a form of creative destruction arguing that it was creating a new one and destroying the old one. Initially, the innovation diffusion theory was utilized to research on marketing and consumer behaviour but since the proposal of Bass Diffusion Model which showed the interaction between innovators and the imitators its being applied widely from retail services, technology to even agriculture and education among others (Li &Sui, 2011)

2.2.2 Technology Acceptance Theory

TAM was first advanced by David in 1986. This model is important in explaining and determining technological behavior (Chem Shing-itan and Chien-Yi 2011). The acceptance and rejection of technology can be used by this approach. The model implies that once a customer is

given is exposed to alternative innovations, some components affect their choices on the time and means of utilization. This constitutes its apparently seen helpfulness and convenient. This was produced from the contemplated hypothesis activity by social clinicals. In Davis' research, two fundamental parts are recognized; seen helpfulness and convenience (Davis, Foxall & Pallister, 2002).

TAM has been largely adopted due to its ability to predict of the use of technology by individuals (Fishbein & Ajzen, 2010). Davis (1989) argues that the perceived ease of use affects the intention for adoption and perceived usefulness. TAM has however been linked with haddocks despite being a resourceful in the study of adoption and use of technology such as failing to consider the organization's setting, generality and parsimony during the initial stages of designing the model and disregarding the factors which moderate ICT adoption (Sun & Zhang, 2006). This theory has influences explorations on technology acceptance. In this research, TAM will be used to explore the manner in which persons have how individuals have been slowly embracing the use of mobile banking in order to save time and cut costs thus better business performance. In this survey, TAM will be utilized to ascertain how the use of technology enhances voluntary tax compliance in Kenya and how technology use influences the adoption of technological innovations by Kenya Revenue Authority.

2.2.3 Fiscal Psychology Theory

The fiscal and social psychology theory says that the more the attitude of the taxpayer in the payment of taxes, the bigger is their motivation in tax payment (Schmolders (1960). Taxpayers'

motivation to comply with tax laws relates to the taxpayers perception and attitude of the tax system (Strumpel, 1966). The theory pays attention to psychological variables like moral values, ethical values and the fairness of the tax system. Tax compliance theories presume that psychological factors in addition to moral and ethical values are vital to taxpayers.

"Under the fiscal psychology theory, is the theory of planned behaviour which opines that the character of an individual is being influenced by some factors that emanate from certain reasons and arise in a predetermined manner (Ajzen, 1991). One's behavioural intention which is influenced by factors like attitude, perceived behavioural and subjective norms control influences the individual to behave in a particular way. The three factors fall under the influence of normative, behavioural and the control beliefs. Taxpayers may comply even where the probability of detection is low since the theory's focus is on morals and ethics. Under the psychology theory the emphasis is on change of the taxpayers attitudes towards the tax system."

2.2.4 Fischer Tax Compliance Model

This model was developed by Fischer (1992) and categorizes the factors that affect tax compliance into 4 categories namely; demographics (age, gender, and education), attitudes and perceptions (i.e. fairness in tax administration and peer influence) non compliance (occupation, income source and income level) and the tax system/ tax structure (probability for detection, complexity of the tax structure and penalties payables). The Fischer model is thus more comprehensive since it constitutes economic, social and psychological components. The Fischer's model argues that individuals more so females over 35 years are unlikely to to deter tax payment. Educated individuals also exhibit more tax ethics than their uneducated ones since

educated persons have a wider comprehension of matters related to tax laws and make informative decisions on whether to comply or not.

The Fischer tax compliance model opines that dissatisfaction with the fairness of the fax system has an impact on tax compliance. The tax rate must be equal across specific social class failures to which tax payers will carry perception that they are being exploited in tax payments. The major determinant for non-compliance is likelihood for detection and any probability for being caught is noncompliance (Clotfelter, 2006)

2.3 Digitization of Tax Administration and Tax Compliance by SMEs

The digital age is rapidly transforming the relationship between tax authorities and tax payers (Ernst & Young, 2016). The tax agencies are driven by the need for more revenue collection, improved compliance and greater efficiency in an environment of diminishing resources. Tax agencies are increasingly depending on digital tax data collection and analysis via digital platforms to allow for real time evaluation of the tax payer data. This enables the tax agencies to respond swiftly and in a more cohesive manner to the probable compliance risks. Businesses with outdated systems or those which are unable to quickly adapt face unexpected costs, compliance risks and unanticipated compliance challenges. The current study exclusively examines four aspects of digitizationwhich lead to increased tax compliance namely; real time, data analytics and management of tax risks.

The use of real time or close to real time information systems by tax agencies is further increasing. In such systems, transactional data is transferred to tax agencies on real time basis for example monthly transmission of social security remittances or submission of sales transactions on real time basis. This offers the tax authorizes the opportunity to scrutinize transactions on a real time basis as opposed to depending on annual tax return reviews. However, such systems should be implemented in a systematic manner with sufficient resource and time committed for development, piloting and testing. Real time systems increase compliance as they are faster to implement and could lead to lesser audits in future and faster VAT refund (World Bank, 2018).

With digital transformations, tax institutions can transform data into business assets via predictive modeling and the examination of macroeconomic trends and policies which help in the development of workforce capabilities on real time basis. This simplifies compliance and facilitates prevention of fraud and tax errors. It helps to improve taxpayer services through improvement of payment procedures, issuance of refunds and improving access to useful information. Administrations utilize the information to decrease costs, reduce operation times, improve risk management techniques better incentivize international priorities and audit efficiency (Mathai, 2014)

Data analytics, with respect to tax administration refers to analyzing the huge volume of taxpayer information that flows between governments and enterprises which is being analyzed and utilized in new and various expansive manner. Data analytics enables the firm to better identify high risk firms for audit and to match data from various sources. Like other enterprise functions, tax agencies face a higher need to operate more effectively, similarly, expectations are increasing

for tax to provide strategic tax viewpoints and increased value for broader organisation (Kopetz, 2008). Data analytics can help mitigate the increasing requirements and open new channels tax executives to conduct expansive businesses. Tax data analytics combines technical knowledge, large data sets and newer technologies for instance visualization tools to generate deeper understanding. Tax analytics enables the tax function of the organisation to make real –time decisions to improve business performances and accelerate strategy (Deloltte, 2018).

The activities, decisions and operations performed by an organisation give rise to different areas of business risks and uncertainty. Most of these uncertainties fall in regards to tax. The tax uncertainties could be in conjunction to the utilization of tax laws and practice to specific facts, it could be uncertainty over the actual facts or the efficiency with which the systems operate to arrive at the tax results. The occurrence of these uncertainties produces tax risk (KPMG, 2014). Management of tax risks thus deals with the management of these uncertainties. As a result of occurrence of these uncertainties, no one right answer exists. Management of tax risks thus deals with understanding the source of the tax risks and deciding on how they shall be mitigated (Cineca, 2015)

"There are seven broad categories associated with tax risks namely; transaction risk which concerns the risks and exposures associated with specific business transactions, undertaken in a company; operational risks which concerns the underlying risks of applying the tax laws, decisions and regulations to the routine of every business regulation in the company; compliance risks which concerns the risks associated with meeting the tax compliance obligations of an organisation; financial accounting risk which examines the risks in the financial accounting area

since most financial statements issued are estimates; management risk which analyses the consequences of failure to properly manage the various risks set above and reputational risks which concerns the wider effect on the firm that might arise from an organization's actions if they become a issue of public concern (Sarbanes, 2012)"

Digitalization provides extended analytical capabilities and intelligent algorithms to help screen huge volumes of data automatically. It also enables the identification of problematic transactions with greater accuracy than any manual effort. These algorithms can be used to eventually analyze every transaction as it happens – making split-second decisions on which to pass – and which to interrogate for further analysis. There is little room for error: too many missed exceptions and the system fails, whereas too many false positives could seriously harm a company's business (EYGM, 2018)

2.4 Digitization, Technology and Tax Compliance

Digital disruptions have significant implications on the functioning and organization of an economy. One of the consequences is their impact on taxation. In digital context, this implies the necessary tax reform (European, commission, 2017). Digitization of tax administration entails five elements: technologies, people, managing of tax risks, financial resources, and communication. Digitization implies that a single IT database would be networked with the Pension and Disability Insurance Fund, the Health Care Fund, the National Employment Service, the Customs, and the Ministry of Internal Affairs. This is a basic prerequisite for the digitization of tax administration, as well as online control and tax collection. The uncontrolled accumulation

of debt of certain taxpayers will be avoided and the administrative costs, both for the tax administration and taxpayers, will be reduced (OECD (2017; OECD, 2016).

Digitization of tax administration is a difficult task that requires radical changes in the way it is organized. Digital technology is a powerful tool of management, but tax administration's encounter with this mode of work has often proved to be complex, sometimes unsuccessful. Although technology seems to be a primary element, one should not ignore the fact that the human factor is very significant. Digitization of this segment of tax administration is possible in several ways: through educating tax officials, recruitment, determination of their regular or special status (tax technologist) and, ultimately, performance measurement and the compensation and reward system. (Juswanto & Simms, 2017; Lipniewicz, 2017).

A proper tax system design must ensure easy revenue collection and simplified tax administration. Currently, particular technology trends such as data analytics, big data, artificial intelligence (AI), the Internet of Things (IoT), machine learning, cloud computing and mobility are all affecting tax administrations to a large extent. Taken together or individually, these trends increase taxpayer satisfaction, modernize services, empower tax agency employees and optimize operations. With digital transformation, tax agencies transform data into business asset via predictive modelling and analyzing policy changes and macroeconomic trends that boost workforce capabilities which results to prevention of tax frauds. Digital transformation can help tax administration in areas of transparency, tax-payer centric solutions, connected tax stakeholders and automation of processes (PWC, 2017)

Amitabh (2009) examined the advantages online tax filing by young experts in India. The study's goal was to analyze the manner in which young professionals in India will react towards online filing of tax return submissions so as to enhance compliance. Regression analysis was conducted on the the antecedents of young Indian professionals depended on personal innovativeness in information technology, the perceived ease of the tax system, performance of filing service, compatibility and relative advantage.

Nawawi and Ling (2010) conducted a study on integration of ICT Skills and tax software in tax education. Tax practitioners were utilized as the respondents and the research aimed at ascertaining the necessary skills needed by taxpayers for full utilization of the online tax platform. The research established that three skills are required by taxpayers to interact fully with technology based tax systems namely, word-processing software, e-mail and spread sheet software. The study's results has got correlate with the current investigation since analyzing the electronic system's effectiveness demands for ignoring of the past technologies failure to which might result to not fully leveraging on the benefits.

Makanga (2010) examined technology adoption as a strategic tool for improving tax compliance in Kenya a case of Large Taxpayer companies with a turn in excess of Kshs. 750 million. The study's objective was to examine the role Technology on tax compliance by the large taxpayers. The investigation established that in the highly dynamic world, technology is crucial for business growth. Either Large Taxpayers or KRA must adopt modern technology so improve tax compliance efficiencies.

"Mwonge (2011) conducted a study that sought to establish the impact of electronic tax filing on tax compliance in Uganda .He found out that with the commencement of an e-filing system (e Tax) in June 2009, at least UShs 7 trillion worth of revenue arising from 1.4 million payments has been receipted through electronic tax payments. This revenue is arises due to over 360,000 tax returns that have been received online. He made the recommendations that the tax authority should upgrade the e tax servers, incorporate user friendly features to improve tax payer's interest in the use of the system and embark on a nation wide sensitization programe to enhance the adoption of the system."

Madola (2013) in his exploration on the factors affecting adoption of ITMS by SMEs in Nairobi between the years 2008 and 2012 revealed that perception of taxpayers towards e-filing technology as well as its perceived ease of use and perceived usefulness greatly determine the adoption and usage of the system. Over 88.9% of the 245 taxpayers interviewed in Nairobi considered e-filing a useful idea and its availability increases compliance to tax obligations, particularly because they find the online system efficient as compared to the manual system. This could also be a reason as to why those who do not feel the e-filing technology is a necessary or efficient system are yet to appreciate it and use it.

Isao (2014) explored the impact of online filing systems on tax compliance by SMEs in Nairobi CBD. The study's objective was addressed using research objectives that dwelled on online tax registration, online tax remittances and online tax filing and the manner in which each influenced online system so as to increase compliance. The research used the descriptive and quantitative and techniques and data collected with the aid of structured questionnaires. The results showed

that online system influences tax compliance by SMES in Nairobi CBD as the stated tax factrs were concerned. The investigation suggested further studies on tax other tax districts of SMEs apart from those in East Nairobi District.

2.6 Summary of Empirical studies

Various studies have been undertaken in the global and local context on the concepts of tax compliance and digitization. Some of the studies however, have addressed related variables and not necessary the study objectives of the current research. Different authors have addressed the isues of digitization or technology but not necessarily with the same variables as the current area of research, this is depicted in table 2.1.

Table 2.1: Summary of Empirical Studies and Knowledge Gaps

Study	Methodology	Results of the study	Knowledge Gaps	Focus of the current study
Role of technology in enhancing tax compliance by Kenyan large tax payers (Makanga, 2010).	Cross sectional survey	The study established that technology adoption in tax administration had increased the level of compliance of Large Taxpayers	The study only focussed on large manufacturing firms. The study treated technology as the independent variable	The current survey will explore how technology moderates the association between digitization and tax compliance among SMEs
Tax compliance Cost and Tax Payment by SMEs in Embu County, Kenya (Mukundi, 2017)	Descriptive research design	There exists a significant positive association between tax compliance and tax payments by SMEs in Embu County	The study examined the effect of tax payment methods on tax compliance	The study looks at how digitization in tax administration impacts tax compliance across different categories of SMEs
Factors influencing adoption of ITMS by SMEs in Nairobi (Madola, 2013)	Longitudinal study	The study noted that the perceived ease of usefulness was the major factor affecting the adoption of the ITMS system.	The study looked into the factors influencing the adoption of a digital platform. The study only used descriptive statistics	The study seeks to examine how the different aspects of digitization precisely, real time, data analytics, cloud computing influence tax compliance. The area of the study will be different. Inferential statistics will be used to test the relationship between digitization and tax compliance
Influence of electronic tax filing on tax collection and compliance in Uganda (Mwonge ,2011)	Descriptive Survey Design	The study established that the use of the online tax system has increased tax collection by about 7 trillion since it was launched	There exists a contextual gap. The study was done in Uganda	The present study will specifically focus on SMEs in Nairobi, Kenya

Source: Researcher (2019)

2.7 Conceptual Framework

A conceptual framework as exclusive description of the phenomenon under scrutiny preceded by visual and graphical depiction of the major study variables according to definition given by Mugenda, (2008). The research will address the following independent variables; real time, data analytics, cloud computing, management of tax risks. The dependent variable is tax compliance

Independent Variables   **Dependent Variable**

Digitization of Tax Administration

Real Time
- Access to information
- Predictive modeling
- Operational time frames

Data Analytics
- Technical knowledge
- Large data sets
- Direction of Strategy

Management of tax risks
- Transaction risks
- Operational risks
- Portfolio risks

Tax Compliance
- Increased amount of taxes paid
- Timely payment of taxes
- Timely filing of tax returns

Technology
- Automation
- Standardization

Figure 2.1 : Conceptual Model

Source: Researcher (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology that was adopted for the research. It shows the survey design, the target population, sampling frame and the sample size. This section also outlines the data collection methods to be used for data collection and data analysis approach to be adopted.

3.2 Research Design

Kothari (2004) describes the research design as an outline, system or plan which is employed to seek responses for a research problem. It gives a description of how the study addressed the research's objectives. To choose a research design, one has to consider the kind of data required, where and how it will be collected and how the data will be analyzed and interpreted. The descriptive survey design was employed whereby the descriptive perspective is classification as per the analysis method and pertains using variables to understand the phenomenon under study but does not explain why it is so.

Khan (2008) notes that a descriptive research design is utilized where the researcher wants to find out the state of affairs as they exist. Cooper & Schindler (2008) also point out that a research design that is descriptive gives a valid and accurate representation of the variables of the study and this becomes helpful when responding to the research question. Kothari (2004) also informs that a survey design comprises collection of data from a specific population to determine the state of the phenomenon under study according to one or more variables.

3.3 Target Population

Population is defined as a group of individuals or entities to which the findings of the sample are to be generalized (Cooper & Schindler, 2008). According to Kothari (2004), population refers to a group of individuals, things, elements, events, households that are well-defined and which are being examined. A research should have a population onto which the study's findings are generalized. The population of this study was the 1539 SMEs operating in Nairobi Central Business District (Nairobi County Government Licensing Department, 2018)

3.4 Sampling Technique

The study used stratified sampling technique where the population was divided into seven strata depending on the sector the firm is operating in. Simple random sampling methodology was then applied within each stratum to select a sample from the population. Stratified sampling enables the researcher to representatively sample each subgroup in the population hence higher statistical precision. Simple random sampling avoids biased selection and ensures that each object has an equal chance of selection hence satisfying the statistical regularity principle, which proposes that random selection of a sample implies that it possesses similar attributes as the entire population. Since stratified sampling technique has high statistical precision, it requires a small sample size hence the study took 10% of the target population of 1539 hence obtaining a sample of 155 SMEs as respondents.

Table 3.1: Sample Size

Classification of SMEs	Population	Sample size

General Trade	247	25
Transport and Communications	231	23
Agriculture	211	21
Hospitality	205	21
Professional and Technical	217	22
Education and Entertainment	207	21
Manufacturing	221	22
TOTAL	**1539**	**155**

Source: Nairobi County Government (2019)

3.5 Data Collection

According to Jensen (1976), data collection involves obtaining and measuring information of interest in a systematic manner in order to enable a researcher come up with address the research questions. The study was purely rely on primary data Sources. The primary data was obtained from the selected sample of SMEs operating in Nairobi CBD through use of structured questions comprising closed ended questions. The first section covered the general information about the respondents and their businesses, the second section covered the different digitization of tax administration for SMEs, third section covered technology while section D assessed tax compliance by SMES etc. The questionnaire was administered to the owners or managers of the managers of the small and medium sized enterprises

3.6 Operationalization of Study Variables

Various models and indicators to be applied in operationalizing the variables are depicted in Table 3.2 below.

Table 3.2: Summary of operationalization of study variables

Variable	Operational dimensions	Measurement Scale	Question naire Part	Supporting Literature
Real Time	• Access to Information • Predictive Modeling • Operational Time Frames	Ordinal Scale/Likert Type Scale	B	Mathai, (2012) Wach, (2014)
Data Analytics	• Technical Knowledge • Large Data Sets • Direction of Strategy	Ordinal Scale/Likert Type Scale	B	Kopetz, (2008) Kim-Soon et al.,2015.
Management of Tax Risks	• Transaction Risks • Operational Risks • Portfolio risks	Ordinal Scale/Likert Type Scale	B	Sarbanes, (2015) Cinecas, (2015)
Technology	• Automation • Standardization	Ordinal Scale/Likert Type Scale	C	Tepstra and David, (2008) Carroll, (2015)
Tax Compliance	• Timely filling of Taxes • Timely payment of Taxes • Increased amount of Taxes collected	Ordinal Scale /Likert Type Scale	D	Kaplan &Norton,(1997) BSCI, (2012)

Source: Researcher (2019)

3.7 Data Analysis

Saunders, Thornhill and Lewis (2009) stated that the data collected should be processed in order to obtain more meaningful information. The study's descriptive elementswas analyzed using descriptive statistics in form of frequencies and percentages. Regression analysis was also be carried out by the researcher in order to establish how digitization of

tax administration affect tax compliance among SMEs. Regression analysis was utilized to determine the association between the dependent variable (tax compliance) and the independent variables which are Real time, data analytics and management of tax risks

The regression model of the study was as depicted below;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Where;

Y= Tax Compliance

β_0= Constant (coefficient of intercept)

X_1= Real time

X_2= Data analytics.

X_3= Management of tax risks

ε= Error term

β_1........ β_3 = Regression coefficient of the four variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents an analysis of findings based on the proposed methodology and procedures on the topic digitization of tax administration, technology and tax compliance by SMEs in Nairobi CBD. The chapter comprised of the following sections; response rate, background information, digitization in tax administration, technology, tax compliance, regression analysis and discussion of the findings. The findings are presented in using of tables and figures as shown below;

4.2 Response Rate

For the study, out of the 155 questionnaires issued to the respondents, 133 were returned. The overall response rate for the study was as presented in Table 4.4 below;

Table 4.1: Response rate

Response	Frequency	Percentage (%)
Returned	133	85.8%
Unreturned	22	14.2%
Total	**155**	**100%**

Source: Researcher (2019)

The output in Table 4.1 indicate a 85.8 % response rate. Thus the response rate was suitable for analysis as per Mugenda and Mugenda (2008) that a 70% response rate and above is good for analysis and making inferences

4.3 Demographic Characteristics

The researcher sought to establish basic characteristics such the duration in which the business has been in operation, the duration in which the respondents have been working for the firms and the number of employees. To explore these factors, an analysis of frequencies was undertaken after which the output was presented as shown below.

4.3.1 Duration Worked in the Organization

Table 4.2: Duration Worked

	Frequency	Percentage
1-5 years	68	51.20%
5-10 years	49	36.60%
10-15 years	16	12.20%
Total	**133**	**100%**

Source: Researcher (2019)

Table 4.5 shows that the majority 51.20 % had worked for the organization for a period ranging between 1-5 years followed by 36.60% while the least, 12.20% had worked for between 10-15 years. It can be deduced that the respondents were better placed to provide data related to the study as most had been in the organization for a reasonable number of years understood the tax digitization platforms used by the organization and the degree of tax compliance.

4.3.2 Duration in Operation

Table 4.3: Duration in operation

	Frequency	Percentage
Below 10 years	48	36.60%
11-20 years	64	48.80%
Over 20 years	19	14.60%
Total	**133**	**100%**

Source: Researcher (2019)

Table 4.3 revealed that 48.8% of the businesses had been in operation for 11-20 years, 36.60% for below 10 years while 14.60% had been running for over 20 years. It can therefore be said that majority of businesses had been in existence for longer periods thus understood the trends in digitization of tax compliance as well as the consequences of not fully complying.

4.3.3 Number of employees

Table 4.4: Number of employees

	Frequency	Percentage
Less than 50	36	27%
50-100	27	20%
101-200	32	24%
Over 200	39	29%
Total	**133**	**100%**

Source: Researcher (2019)

Table 4.4 was performed in order to determine the size of the firm as well as to ascertain whether there were adequate employees to perform different tasks as well as determine the size of the business. The results confirmed that the number of employees among the categories presented was nearly uniform precisely 29% (less than 50), 27% (51-100), 24% (101-200) and 20% (51-100).

4.4. Digitization of Tax Administration

The first objective of the study was to establish the extent to which SMEs have adopted the different digitization platforms for tax compliance purposes. This was achieved by asking the respondents to give their opinions the level of adoption of different resources of digitization namely real time, data analytics and management of tax risks. The responses were rated using a five point Likert- scale of 1- Strongly disagree, 2- Disagree, 3- Moderate, 4- Agree, 5- Strongly agree

4.4.1 Real Time

The study purposed to ascertain the degree to which the firms were able to access tax information on a real time basis. The respondents were presented with statements related to real time and asked to rate using a five point likert scale.

Table 4.5: Real time

Statement	N	Mean	Std Deviation
The company can access any form of tax information from the comfort of the office at any particular time	133	4.300	.808
The firm can make enquiries in tax related issues through the KRA active platform at any given time	133	4.166	1.136
The immediate updating of tax information due to use of digital platforms has eliminated unnecessary delays	133	3.823	.727
Average	**133**	**4.096**	**0.89**

Source: Researcher (2019)

Table 4.5 illustrates that majority of the respondents agreed that the company can access any form of tax information from the comfort of the office at any particular time (M=4.300, SD= 0.808) followed the firm can make enquiries in tax related issues through the KRA active platform at any given time (M=4.166, SD= 1.136) while the least mean

recorded was on the immediate updating of tax information due to use of digital platforms has eliminated unnecessary delays (M=3.823, SD= .727). The overall mean was 4.096 implying that the digitization of tax administration has enabled SMEs to undertake most tax compliance at the conform of their offices more conveniently and without much delays

4.4.2 Data Analytics

The study sought to assess the degree to which data analytics had been employed by the firm to improve their tax compliance levels. The respondents were presented with statements related to data analytics and asked to rate using a five point scale.

4.4.2 Data Analytics

Table 4.6: Data analytics

Statement	N	Mean	Std Deviation
The company uses the information available at the KRA website to understand how they can improve their tax profiles	133	3.866	.626
Data analytics has enabled the firm to operate more efficiently through appropriate risk assessment	133	3.847	.764
The use of tax data analytics has helped the tax function of the company to make easier decisions to improve strategy	133	3.647	.913
The business analyses the available data to predict macroeconomic trends and thus make adequate policy changes	133	3.355	.507
The firm has been able to identify able to identify high risk companies for audit	133	3.200	.803
Average	**133**	**3.583**	**0.723**

Source: Researcher (2019)

Table 4.6 shows that most of the respondents agree that the company uses the information available at the KRA website to understand how they can improve their tax profiles (M- 3.866, SD- 0.626) closely followed by data analytics has enabled the firm to

operate more efficiently through appropriate risk assessment (M- 3.847, SD- 0.746), then, the use of tax data analytics has helped the tax function of the company to make easier decisions to improve strategy (M- 3.647, SD- 0.913) while the business analyses the available data to predict macroeconomic trends and thus make adequate policy changes and the firm has been able to identify able to identify high risk companies for audit were rated lowest with means of 3.355 and 3.200 respectively. The aggregate mean obtained was 0.723 showing that the responses were dispersed around the mean response.

4.4.3 Prevention of Tax Risks

The study sought to establish the extent to which the respondents agree that the adoption of digitization in tax administration has led to prevention of different business risks. The respondents were presented with statements related to prevention of tax risks and asked to rate using a five point likert scale.

Table 4.72: Prevention of Tax risks

Statement	N	Mean	Std Deviation
Digitization has safeguarded the business from tax compliance risks	133	3.867	.626
Digitization has enabled the organization to identify problematic transactions thus increasing accountability in making tax submissions	133	3.754	.507
The risks associated with specific business transactions undertaken by the company have been reduced	133	3.501	.803
With digitization, the business properly manages the various risks due to the availability of information on public domain	133	3.327	.765
Average	**133**	**3.612**	**0.675**

Source: Researcher (2019)

Table 4.7 shows that most respondents agreed that digitization has safeguarded the business from tax compliance risks (M- 3.867, SD- 0.626). Digitization has enabled the organization to identify problematic transactions thus increasing accountability in making tax submissions came second with (M- 3.754, SD- 0.507). Moreover, the risks associated with specific business transactions undertaken by the company have been reduced recorded (M- 3.501, SD- 0.803) while with digitization, the business properly manages the various risks due to the availability of information on public domain was ranked last (M- 3.327, SD- 0.765). It can therefore be said that the use digitization has largely contributed to reduction of tax risks more so through early detection of problematic transactions and proper management of tax information.

4.5 Technology

The study explored the moderating effect of technology on the relationship between digitization in tax administration and tax compliance. The respondents attributes were rated in a five point Likert scale of 1- Not at all, 2- Small extent, 3- Moderate extent, 4- Large extent, 5- Very large extent.

Table 4.8: Technology

Statement	N	Mean	Std Deviation
Our organization is committed to adopting modern technology to improve its business activities	133	4.556	.965
Online taxation has reduced filing costs considerably	133	4.432	.681
Considerable time is saved because of technology employed in tax administration	133	4.243	.964
Full compliance has prevented the business from unnecessary disruptions by tax agents thus enabling it to plan	133	4.002	.856
With digitization, the business properly manages the various risks due to the availability of information on public domain	133	3.867	1.136
The top management in our organization is aware of the benefits of technology in enhancing tax compliance	133	3.666	1.012
Our firm had competent IT staff that can transform the organization towards digitization	133	3.555	.728
Average	**133**	**4.046**	**0.906**

Source: Researcher (2019)

Table 4.8 depicts that technology has an impact on the relationship between digitization and tax compliance as evidenced by a grand mean of 4.046. The individual means and standard deviations were; our organization is committed to adopting modern technology to improve its business activities (M- 4.556, SD- 0.965), online taxation has reduced filing costs considerably (M- 4.432, SD- 0.681), considerable time is saved because of technology employed in tax administration (M- 4.243, SD- 0.946), full compliance has

prevented the business from unnecessary disruptions by tax agents thus enabling it to plan (M- 4.002, 0.856), with digitization, the business properly manages the various risks due to the availability of information on public domain (M- 3.867, SD- 1.136), and our firm had competent IT staff that can transform the organization towards digitization (M- 3.555, SD- 0.728).

4.5 Tax compliance

The study undertook an assessment of the extent to which the extent has adhered to several measures related to tax compliance. To achieve this, the study examined the extent to which the different indicators tax compliance have been observed by the business.

Table 4.9: Tax compliance

Statement	N	Mean	Std Deviation
The business understands well the benefits of adhering to tax compliance laws	133	4.136	.681
Given a chance, I would not file my returns	133	4.034	.809
The business does not indulge in any tax evasion activity	133	3.865	1.224
The business the submits the correct self-assessment of taxes owed	133	3.672	1.137
The business has been filing returns before Submission deadlines	133	3.477	.765
The company makes timely payments of the owed taxes without any enforcement activity	133	3.204	1.178
Average	**133**	**3.731**	**0.966**

Source: Researcher (2019)

Table 4.9 displays that the business has been highly tax compliant as evidenced by a grand mean of 3.731. The respondents agreed to a large extent with statements such as the business understands well the benefits of adhering to tax compliance laws (M – 4.136, SD- 0.681),given a chance, I would not file my returns (M- 4.034, SD- 0.809) and the

business does not indulge in any tax evasion activity (M- 3.865, SD- 1.224). On the other hand, the business the submits the correct self-assessment of taxes owed, the business has been filing returns before submission deadlines and the company makes timely payments of the owed taxes without any enforcement activity produced means and standard deviations of (M- 3.3.672, SD- 1.137), (M- 3.477, SD-0.765) and (M- 3.204, SD- 1.178) respectively.

4.7 Relationship between digitization in tax administration and Tax compliance

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629[a]	.396	.382	.93932

a. Predictors: (Constant), Real time, data analytics, prevention of tax risks
Source: Researcher (2019)

Table 4.10 shows an R^2 value in the model was 0.396 meaning that 39.6 % of the variation in tax compliance can be predicted by information systems while the other 60.4 % was attributed to other factors not factored in for the study

Table 4.31: Analysis of Variance

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74.541	3	24.847	28.161	.000ᵇ
	Residual	113.820	129	.882		
	Total	188.361	132			

Source: Researcher (2019)

a. Dependent Variable: Tax compliance

b. Predictors: Real time, data analytics, prevention of tax risks

Table 4.11 exhibits results from analysis of variance produced a P value of 0.000. The p value of

0.000 depicts that the model was significant and that digitization of tax administration can be

used to predict tax compliance

Table 4.12: Coefficients of Determination

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.154	.448		7.342	.000
	Real Time	.016	.134	.012	2.119	.026
	Data Analytics	.552	.160	.373	3.457	.001
	Prevention of Tax Risks	.454	.102	.358	4.465	.000

Source: Researcher (2019)

a. Dependent Variable: Tax Compliance

Table 4.12 illustrates that keeping all factors constant, the tax compliance will be held at

1.205. A unit increase in real time holding all other factors constant would lead to 0.012

changes in tax compliance. Similarly, a unit improvement in data analytics will result to

0.552 changes in tax compliance. Moreover, a unit change in prevention of tax risks

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would result to 0.454 changes in tax compliance. The individual effect of each independent variable on the dependent variable was positive and statistically significant.

Therefore, the regression model becomes;

$Y= 1.154+ 0.016X_1 + 0.552X_2 + 0.454X_3$

4.8. Discussion of Results

Ndemo (2015) opines that most SMEs fail to register their businesses for tax evasion motives and most are not licensed by both from both national and county governments. Therefore, tax compliance is a matter of great concern for all SMEs. Furthermore, lots of money is generated from SMEs operations on daily basis although majority are considered as hard tax payers. (Lumumba et al., 2010). A key tool that could be used to curb and increase tax compliance by SMEs is digitization of the tax administration system.

Objective 1: Establish the effect of digitization of tax administration on compliance by SMEs in Nairobi Central Business District

An analysis of descriptive statistics shows that most tax information and transactions are now undertaken on real time basis. The study found that companies can access all types of tax information and resources at the comfort of their offices. This has been made through the development of the KRA portal where businesses can download tax remittance forms, submission of tax returns and retrieval of tax compliance certificates on real tome basis. This has improved convenience, cut on transaction costs and improved flexibility and eliminated unnecessary delays.

The studies also found that business have to a good extent adopted data analytics. This was as evidenced by a grand mean of 3.583 on all the attributes presented. The study found that businesses use the information available in the KRA website to improve their tax profiles, this is with regards with understanding the tax category in which the business falls and the tax exemptions available for that category for appropriate launching of claims when necessary. On the other hand, tax analytics enables the business to foresee future tax risks and place their strategies accordingly. On the other hand, results data analytics were to some extent found to be useful to the business in analysis the economic trends as this allows the business to access past economic situations based on the available data in comparison to the prevailing circumstances thus enabling the business to strike a balance between the expected tax commitments against the anticipated profits. This findings agree with Cineca (2015) that data analytics enables the business to create efficiencies through an analysis of changing demographics, keeping abreast of regulatory and economic changes as well understanding regulatory procedures so as to develop new approach to compliance in the digital era..

The results on the role of digitization on prevention of task risks shows that digitization has largely been leveraged in the prevention of tax risks. This was as evidenced by a grand mean of 3.612. Most respondents agreed that digitization safeguarded the business from tax compliance risks in that the business can view the state of their tax compliance and due dates thus are able to plan accordingly thus eliminating defaults due to ignorance. Businesses were also able to identify problematic transactions such as those associated with double taxation thus place necessary measures to curb this menace. All tax information was also made available in the KRA portal thus easy retrieval of tax

payment information and accountability. This ensured that the taxpayers are satisfied with the amount of tax payed. These findings were found to be in line with Sarbanes (2012) that digitization reduces tax compliance risks through early identification underlying tax compliance risks and placement of necessary measures to mitigate.

Objective 2: To assess the influence of technology on the relationship between digitization of tax administration on compliance by SMEs in Nairobi Central Business District

The results on the influence of technology on the association between digitization and tax administration show that technology moderates the relationship to a large extent as shown by an aggregated mean of 4.046. The respondents cited that the organization was committed to adopting modern technology to improve business activities which includes the regulatory aspect of tax compliance. The respondents commented on the role of technology in the tax administration through cost reductions, time savings, development of system components, availability of IT staff and system maintenance which had had contributed to transforming the tax administration process thus increasing the level of compliance. This findings agree with (Harris & Nahashon, 2015) that tax authorities as a government agency are turning to e-government led solutions such as electronic tax filing since improves the delivery of public services and fiscal status without higher costs.

From the regression analysis model on the effect of digitization on tax compliance by SMEs study found that there exists statically significant association between tax digitization and tax compliance by SMES as evidenced by p values 0.000 at 95% confidence level. This therefore implies that digitization in tax administration can be used

to predict the tax compliance by SMEs in Nairobi CBD. These findings concur with Madola (2013) who in his research on ITMS adoption by SMEs in Nairobi between the years 2008 and 2012 who concluded that e-filing technology was useful and its availability motivates small business owners to comply with their tax obligations, particularly because they find the online system efficient as compared to the manual system.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusion, recommendations, limitations, suggestions for further research and implication of the study to the theories, practice and the government.

5.2 Summary of the Study

The study's objective was to establish the effect of digitization in tax administration on tax compliance by small and medium sized enterprises in Nairobi County. The study used field data to derive findings. The demographic information results indicated that majority of the employees had worked for their firms for longer periods hence had proper understanding on matters related to tax compliance by the business . The findings also indicated that the number of employees had over time increased which was a good indicator of growth. Furthermore, most enterprises were found to have been in existence for between 11-20 years which is a long period thus a good sign of sustainability.

The findings the different attributes of real time such as the company can access any form of tax information from the comfort of the office at any particular time, the firm can make enquiries in tax related issues through the KRA active platform at any given time and immediate updating of tax information due to use of digital platforms has eliminated unnecessary delays (produced an overall mean of 4.096 implying that the business had indeed enjoyed real time transactions due to digitization.

The analysis on data analytics with the respondents strongly agreeing with statements such as the company uses the information available at the KRA website to understand how they can improve their tax profiles, data analytics has enabled the firm to operate more efficiently through appropriate risk assessment, the use of tax data analytics has helped the tax function of the company to make easier decisions to improve strategy, the business analyses the available data to predict macroeconomic trends and thus make adequate strategy changes and not sure about others such as the firm has been able to identify able to identify high risk companies for audit. On the extent to which the digitization has been useful in the preventions of business risks, the respondents agreed that digitization has enabled the organization to identify problematic transactions thus increasing accountability in making tax submissions, the risks associated with specific business transactions undertaken by the company have been reduced recorded while the business properly manages the various risks due to the availability of information on public domain was ranked last. It can therefore be said that the use digitization has largely contributed to reduction of tax risks more so through early detection of problematic transactions and proper management of tax information

When asked to state whether technology moderates the relationship between digitization in tax administration and tax compliance, the respondents stated that the organization is committed to adopting modern technology to improve its business activities, considerable time is saved because of technology employed in tax administration, full compliance has prevented the business from unnecessary disruptions by tax agents thus enabling it to plan, with digitization, the business properly manages the various risks due to the availability of information on public domain, the top management in our establishment

knows the technology benefits in enhancing tax compliance and our firm had competent IT staff that can transform the organization towards digitization. The regression analysis output produced a R square values of 0.396 implying that tax compliance can be explained to an extent of 39.6% by variation in digitization. Also, at 95% confidence level, the models were found to be significant as depicted by a p value of (p=0.000) implying that digitization in tax administration has a significant impact on compliance.

5.3 Conclusions of the Study

The study findings revealed that the digitization of tax administration have a positive and association with tax compliance thus the investigation alluded that an increase in the utilization of the resources in the in KRA tax administration tax system such as real time and data analytics enables SMEs to promptly make remittances thus protecting them from potential consequences associated with non compliance. The study also notes that the information in digitized platform has been of use SMEs in terms of analyzing taxation trends and the potential task risks that could be faced thus take the necessary precautions.

The study also established that technology influences the relationship between digitization and tax compliance. It comes out clear that digitization would not have been successful without continuous technological inventions and therefore the two factors are interdependent. The study cites the need for hiring competent IT staff for continuous improvement of the digitization platforms so as to improve the organization's tax compliance activities thus facilitating smooth flow of business operations.

5.4 Implications of the Study

The research will be of benefit to taxpayers in general, Kenya Revenue Authority and also it can be used in future for the formulation of policies that benefit both the government and entrepreneurs

5.4.1 Implications for practice and Industry

The study will enable KRA to curb the challenges of disruption in the tax world which is becoming more and more apparent even as the organization seeks to keep up with voluminous. This study will give insight to KRA on the progress made so far in bringing on board tax payers through digitization to increase tax compliance. It will enhance the understanding of the Revenue Authority of the SME sector, which will enable them develop strategies to enhance compliance. It will also point out the challenges faced by taxpayers, with regards to the use of new tax remittance platforms thus bringing greater efficiency in tax collection.

5.4.2 Implications for policy

The study would used in the assessment of the existing tax compliance policies to ascertain whether they have increased tax compliance by businesses, both large and small enterprises so as to articulate areas of improvement or eliminate redundant policies. This will aid policy formulation and implementation by Kenya government and KRA in the field of tax compliance thus increasing revenue collection. This will consequently serve as a guide or reference for other government departments and ministries as they undertake modernization programs to enhance revenue inflows.

5.5 Recommendations of the Study

According to the findings, the research recommends that KRA should develop training program specifically made for SMEs that addresses challenges they encounter with regards to taxation so that they can acquire knowledge on the digitized tax administration system. SMEs should be educated on how to use the KRA portal and sensitized on the different resources available in the platform for full and effective utilization. This will improve tax compliance in terms of filing and payment of taxes due from them and enable small and medium sized enterprises to design their business decisions accordingly.

The study also recommend for continuous improvement and safeguarding of the digital platform to mitigate tax frauds and cybercrime which the system is vulnerable. This can be achieved through enhancement of security features and real time security surveillance

5.6 Limitations of the Study

Because of confidentiality policy of different firms, it was difficult to obtain all the required information on tax related issues as some of the respondents were seeking approval from their bosses or business owners. This also explains why the researcher was only able to receive back 85.8 % of the questionnaires issued. The research focused one respondent firm leaving aside others which could be more resourceful. This could have left out important information that is vital for the study. The knowledge on the available tax compliance by different enterprises might be varying.

5.7 Areas suggested for further Research

Further research should be conducted to test and validate the research findings using the qualitative approach to ascertain if the same findings hold. Further research should be conducted on more potential predictors of compliance since in this study, 60.4 5%

variance in tax compliance remained unexplained. The same study can also be carried out using a wider population to include firms of all sizes and not only SMEs

Since the study was highly quantitative, a qualitative study with an interview guide would have generated detailed qualitative data that capture opinions, believes and value expressions by respondents. A detailed study of ways improving tax compliance should be carried out

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APPENDICES

Appendix I: Letter of introduction

UNIVERSITY OF NAIROBI

COLLEGE OF HUMANITIES & SOCIAL SCIENCES

SCHOOL OF BUSINESS

Telephone: 4184160-5 Ext 215 Telegrams: "Varsity'" Nairobi Telex: 22095 Varsity	P.O. Box 30197 Nairobi, KENYA

10/4/2019

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

INTRODUCTORY LETTER FOR RESEARCH
CECILIA MUMBUA KATUA– REGISTRATION NO. D66/8483/2017

This is to confirm that the above named is a bona fide student in the Master of Science in Entrepreneurship and Innovations Management (Msc. Entrepreneurship & Innovations Management) option degree program in this University. She is conducting research on *"Digitization of tax administration, technology and tax compliance by small and medium sized enterprises in Nairobi Central Business District".*

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the research project. The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence.**

Your assistance will be highly appreciated.

Thank you.

Jane Muturi

For: Msc. Entrepreneurship and Innovations Management Co-Ordinator, School of Business

Appendix II: Questionnaire

This questionnaire has been designed to collect responses on digitization of tax administration, technology and compliance by small and medium sized enterprises in Nairobi Central Business District. Please read carefully and answer the questions as honestly as possible. The information gathered will be used purely for the purpose of academic research and will be treated with utmost confidence.

Section A: Demographic Information

1. Please indicate your gender:

(a) Male   ( )   (b) Female   ( )

2. What is your highest level of education?

(a) Diploma   ( )   (b) Bachelor's degree   ( )

(c) Master's degree ( )   (c) PHD   ( )

3. Please indicate your age bracket:

    (a) Less than 30years   ( )   (b) 31 - 40years   ( )

    (c) 41 – 50years   ( )   (d) Above 50 years   ( )

5. How long have you worked in the organization?

    (a) Less than 10years ( )

    (b) 11 to 20years   ( )

    (c) 21 to 30years   ( )

    (d) Over 30years   ( )

Section B: Digitization of tax administration

6. Indicate your opinion on the various aspects of digitization in tax administration as indicated below by ticking the appropriate box. Use the rating criteria: *1. Strongly Disagree (SD), 2. Disagree (D), 3. Moderate extent (U), 4. Agree (A), 5. Strongly Agree (SA)*

Real time	Responses				
	1	2	3	4	5
The company can access any form of tax information from the comfort of the office at any particular time					
Tax clearance certificates are downloaded from the KRA portal any time when required.					
The company can make enquiries in tax related issues through the KRA active platform at any given time					
The immediate updating of tax information due to use of digital platforms has eliminated unnecessary delays					

Data analytics	Responses				
	1	2	3	4	5
The company uses the information available at the KRA website to understand how they can improve their tax profiles					
The business analyses the available data to predict macroeconomic trends and thus make adequate policy changes					
The firm has been able to identify able to identify high risk companies for audit					
Data analytics has enabled the firm to operate more efficiently through appropriate risk assessment					
The use of tax data analytics has helped the tax function of the company to make easier decisions to improve strategy					

Prevention of Tax risks	Responses				
	1	2	3	4	5
The risks associated with specific business transactions undertaken by the company have been reduced					
Digitization has safeguarded the business from tax compliance risks					
The risks of loss of tax submission documents have been eliminated with the introduction of the online tax submission systems					
With digitization, the business properly manages the various risks due to the availability of information on public domain					
Digitization has enabled the organization to identify problematic transactions thus increasing accountability in making tax submissions					

Section C: Technology

Technology	Responses				
	1	2	3	4	5
Our organization is committed to adopting technology to improve its business activities					
Considerable time is saved because of technology employed in tax administration					
Full compliance has prevented the business from unnecessary disruptions by tax agents thus enabling it to plan					
Online taxation has reduced filing costs considerably					
The top management in our organization is aware of the benefits of technology in enhancing tax compliance					
Our firm had competent IT staff that can transform the organization towards digitization					

<u>Section D Tax Compliance</u>

Using a Likert scale of **1- Strongly disagree, 2-Disagree, 3- Moderate extent, 4-Agree, 5=Strongly Agree**, please indicate with a tick the extent to which digitization has resulted in improved tax compliance

Tax Compliance	Responses				
	1	**2**	**3**	**4**	**5**
The business has been filing returns before filing deadlines					
The business submits the correct self-assessment of taxes owed					
The company makes timely payments of the owed taxes without any enforcement activity					
The business does not indulge in any tax evasion activity					
The business understands well the benefits of adhering to tax compliance laws					
Given a chance, I would not file my returns					

Appendix III: Map of area of research