ADOPTION AND USE OF E-PAYMENT IN REVENUE COLLECTION BY
MACHAKOS TOWN SUB-COUNTY GOVERNMENT FOR SMEs

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DECLARATION
This research project is my original work and has not been presented for award of any degree in any other institution of learning.

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DEDICATION

I dedicate this research project to my late mother for her love of education, my father for his blessing for the pursuit of further studies, my brothers and sisters for pushing me hard in school, the loving mother of my children Zainab for her love and respect of knowledge, and my son Barak and daughter Mariam for bringing happiness in life and for their inquisitiveness whenever they see a book or a computer.
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ABSTRACT
The research sought to identify the extent of adoption and use of e-payment for revenue collection Machakos Town Sub-county's SMEs. This was examined by looking at how communication and information on e-payment reach the SMEs owners, finding out if SMEs owners faces any communication barriers in the adoption and use of e-payment of revenue, identifying challenges facing Machakos Town Sub-county government in revenue collection from SMEs, establishing SMEs managers' user perception of e-payment of revenue system and highlighting the benefits of using e-payment of revenue by Machakos Town sub-county SMEs and the county government. Rogers' Diffusion of Innovations Theory, Castells' Network Society Theory, and Davis' Technology Adoption Model are the key theories, the study was anchored on. Descriptive research method explained the extent in adoption and use of e-payment of revenue by Machakos Town Sub-county for its SMEs. The sample size of 389 SMEs was arrived at using Yamane (1967) formula from the SMEs population of 15,120 that saw a response of 291 SMEs. The sample size for the Machakos Town Sub-county office was 10, where six responded. The tools of collecting data were close-ended and open-ended questionnaires, which provided quantitative and qualitative data respectively. Test and re-test ensured reliability as calculated using Pearson's correlation coefficient formula, while validity was through use of SMART objectives and variables as contained in the questionnaires for data collection. Quantitative analysis was done through Microsoft office Word and Excel data processor. Thus the MKS Town Sub-county Government uses various IEC means to inform and communicate with SMEs owners, there are various benefits of e-payment of revenue for both the MKS Town Sub-county Government and the SMEs. However, there are challenges to which the researcher recommends ways of addressing them to maximize benefits and attain close to 100% adoption and use of the e-payment system.
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LISTS OF ABBREVIATIONS

ACH: Automated Clearing House
ATM: Automated Teller Machine
B2B: Business-to-business
B2G: Business-to-government
BI: Behavioral Intention
CBD: Central Business District
CRA: Commission for Revenue Allocation
DIT: Diffusion of Innovations Theory
E-Cash: Electronic Cash
E-payment: Electronic payment
EU: European Union
GoK: Government of Kenya
Govt: Government
ICT: Information and Communication Technology
IEC: Information, Education and Communication
IPSL: Integrated Payment Services Ltd
IT: Information Technology
KBA: Kenya Bankers Association
Kshs: Kenya Shillings
MKS/Mks: Machakos
M-payment: Mobile phone payment
M-POS: Mobile Point of Sales
No.: Number
Nos.: Numbers
NPS: National Payment System
P2B: Person-to-business
P2G: Person-to-government
P2P: Person-to-person
PEOU: Perceived Ease of Use
PU: Perceived Usefulness
POS: Point of Sales
SMART: Specific, Measurable, Attainable, Realistic, and Timely objectives
SMEs: Small and Medium-sized Enterprises
SPSS: Statistical Package for Social Science
TAM: Technology Acceptance Model
WBG: The World Bank Group
CHAPTER ONE

1.0 INTRODUCTION

1.1 Overview

This chapter contains the background of the study on adoption and use of e-payment of revenue by SMEs in Machakos Town Sub-county, problem statement, research objectives, research questions, justification, scope and limitation, and operational definitions of terms.

1.2 Background of the study

Kenya is a developing nation that embraced a devolved system of government after the March 2013 general election, with devolution of resources and services to the counties a key aspect in line with the provisions of the Constitution of Kenya 2010. The country gained independence from the United Kingdom (UK) on 12 December 1963 and embraced a Majimbo (quasi-federal) devolved system of government, according to Kamunde-Aquino (2014). However, the provision that allowed devolved regions to levy independent regional revenue was repealed and they became fully dependent on grants from the central government. Similarly, Hornsby (2012) says that Kenya attained independence with a more decentralized set of institutions and administrative systems. Regional constitution had little legitimacy and the then ruling party, KANU was determined to dismantle it before it became effective and so the government abolished regionalism in 1964. Regionalism is now called devolved or county government.

The Constitution of Kenya 2010 Article 1 creates two levels of governments namely: the national and the county government with the objects of devolution outlined in Article 174 being mainly to promote social and economic development, provision of proximate and easily accessible services throughout Kenya. Article 186 contains the respective functions and powers of the two levels of government. All in all, increasing availability of revenue becomes a key issue and hence the place of e-payment in revenue collection and management in counties.

Small business or SME can be defined by comparison with other businesses, by sales figures, asset value, market share, or number of employees. The businesses are mainly independently owned, have capital from limited number of individuals, operate in a local areas like a corner shop, and generally not dominant in its field. Employees various from 1 to 10 or even to 100 and include retail shops, service firms like restaurants and trade agencies, according to Kibera (1996). However, Kibera says the
difference by size can be misleading as it leaves the definition quite open. Small businesses are also defined by revenue or profit, number of employees, extent of operations and are mainly individual-owned enterprises David (2010). David continues that the EU (European Union) classifies small and medium-sized enterprises (SMEs) as having fewer than 250 employees, small market share, owner-managed, independent of large concern, less formalized, exempt from certain state regulations and they operate in a small market area.

The benefit of SMEs include self employment, family security, creation of wealth, seedbeds for future large businesses, flexibility, complimenting big enterprises, offering specialized service, few overhead cost, lean staff, easily set and dissolved, according to both Kibera (1996) and David (2010). The two, also lists SMEs disadvantages as poor management, little finance from banks and lacking in professionalism even though they spur entrepreneurship.

There is a trend where ICT (Information and Communication Technology) and in particular, e-payments are increasingly used in governance. Drivers for information and communication technology adoption, refers to ICT as a myriad of stand-alone media, that includes telephone and mobile telephony, radio, television, video, tele-text, voice information system and fax, as well as computer-mediated networks that links a personal computer to the internet, according to Wangwe (2007) cited in Apulu & Latham (2010). He adds that ICT is an integrated system that incorporates the technology and infrastructure required to store, manipulate, deliver and transmit information. Adeosun et al (2009) also cited in Apulu & Latham (2010) simply describe ICT as working with computers. ICT enables the adoption and use of e-payment system.

Electronic commerce is also known as e-commerce, e-payment and e-business. Electronic commerce can be defined as any economic or business activity that uses ICT based application to enable the buying and selling of products and services and to facilitate the transaction of business activities between and among businesses, individuals, governments or other organizations (Fink & Disterer, 2006).

The World Bank Group (2012) says ICTs do spur growth, reduce poverty, improve governance, make development more open and accountable and transform service delivery, while supporting innovation for growth, jobs and competitiveness. So, since Kenya is a member of the global community it is no exception regarding the use of ICTs in e-payment.
The researchers is interested in identifying methods used in collection of revenue with emphasis on what need to be done for and by the stakeholders in Machakos Town Sub-County who include SMEs owners and managers, the public and the sub-county government. This is anchored on the use of e-payment of revenue in neighboring counties: Nairobi City County that uses e-jijipay (e-payment) to collect revenue, Kiambu County e-payment of business revenue, particularly in Thika Municipality where there is reported increase in revenue collection. A report entitled Kiambu County launches integrated card payment system. (2015, April 15) says, the Government will undertake an e-readiness survey in the counties. It adds that the then Cabinet Secretary for ICT Dr. Fred Matiang’i said during the launch of the Kiambu Huduma Card in Kiambu town that the county digital card enables citizens to pay for services online and transform revenue collection. He added doing business in the analogue way was long gone and there was no need of escorting cash in armoured cars as revenue collection was on digital platform (e-payment).

Since the advent of devolved system of government as outlined by the Constitution of Kenya 2010 and after the 2013 general election, Machakos County Government has put in place a system to implement maximum and effective collection of revenue across the county. In 2015, Machakos County Government tendered for an intergraded county revenue collection and management system for four sub-counties of Machakos Town, Kathiani, Kangundo and Matungulu as posted on the website machakosgovernment.com/documents. One of the key requirement being the provision for multiple payment options across different providers including mobile money platforms, digital kiosks, banks, e-payments options (online transactions) and agents automated and with automated reconciliation functions. So, indeed e-payment of revenue has received attention in the sub-county.

In a study by Egesa & Musau (2016), reported on usage and ICT application on customer service in Machakos County Government, which also covered mobile point of sale (M-POS) for market revenue and parking fees collection. However, the study was for the Machakos County Government and sub-counties. Another study by Okiro (2015) in Nairobi County regarding the effect of e-payment system on the government found that e-payment has elicited interest. So, use and adoption of e-payment in revenue collection in counties is taking root in Kenya after the 2013 election, and the more the reason to look at Machakos Town Sub-County Government on the same, particularly for SMEs.
1.3 Problem statement

The World Bank Group (2012) says benefits of e-payment include making collection of revenue easier, quicker and reduction of corruption by increasing transparency. This has a direct correlation on utilization of resources for development. Kibera (1996), Gupta (2006) and David (2010) emphasize the benefit of small businesses or SMEs as drivers of socio-economic development as they supplement national government and large investors in creating employment and contribute to payment of revenue to local governments.

Counties neighboring Machakos like Nairobi City, Kiambu and Kajiado have embraced e-payment of revenue and have been lauded for it. A paper of counties using e-payment entitled, e-Governance and e-Payment Systems: Counties go tech in bid to reach the coveted Ksh. 50 billion target (2016, March 24) reported that Kiambu County managed to collect Kshs. 2.1 billion in financial year 2014/2015 against a set target of Kshs. 718 million. The CRA estimated it as a 60% jump in revenue collected attributed to automation of revenue collection.

A paper by Ooko (2015) for CRA reported that Kiambu was among the top five counties in Kenya that had made great improvements in revenue collection, attributed to e-payment.

So, it is important to see how e-payment of revenue is going on in the Machakos Town Sub-County, particularly for and by SMEs, since the sub-county hosts the Machakos County Government headquarters. Machakos Town Sub-County uses both manual and e-payment systems to collect revenue, while e-payment is more efficient and beneficial as outlined by The World Bank Group (2012) and as reported for Kiambu County. There is concern that Machakos Town Sub-County lags behind neighboring counties on e-payment of revenue by SMEs.

Okiro (2015) research points that e-payment adoption by county governments in Kenya is new and there are challenges, there is a limited study and information, therefore there is a knowledge gap and need for study on e-payment in revenue collection by SMEs in Machakos Town Sub-County. So, how does communication and information on e-payment reaches the SMEs?

The researcher also seeks to find out if there are communication barriers responsible for the reluctance to embrace e-payment, and how to address them. Are the
perceived usefulness and perceived ease of use by the SMEs owners and managers a factor on the extent of adoption and use e-payment of revenue system?

1.4 Research Objective
1.4.1 Main objective

The main objective of the research was to identify the extent of adoption and use of e-payment for revenue collection by Machakos Town Sub-county's SMEs.

1.4.2 Specific objectives

1. To find out how communication and information on e-payment reaches the SMEs owners.
2. To investigate SMEs managers' user perception of e-payment of revenue system.
3. To explore benefits of using e-payment of revenue by Machakos Town Sub-County SMEs.

1.5 Research questions

The general research question was how to identify the extent of adoption and use of e-payment for revenue collection by Machakos Town Sub-county's SMEs. The research specifically aimed to answer the following key questions:

1. How do SMEs owners in Machakos Town Sub-county receive information and communication on e-payment of revenue?
2. What is the SMEs managers' user perception of e-payment of revenue system?
3. What benefit do Machakos Town Sub-County's SMEs get for using e-payment of revenue system?

1.6 Justification

This study was anchored on the Constitution of Kenya 2010, which sets in place a new landscape in Kenya's structure of governance vis-à-vis national and devolved government. The Constitution of Kenya 2010 outlines the CRA mandate in Article 216 on revenue allocation and collection. So, revenue collection needed to be interrogation.

On its part, the Machakos County Government has initiated e-payment of revenue across other sub-counties like neighboring Mavoko, Kangundo and Kathiani. So, there was need to study how SMEs in Machakos Town Sub-County, which is the
county headquarters use e-payment in paying for services like: land rates, single business permits (SBP), parking fees, building permits, billboard and advertisements, liquor licensing and health inspection fees.

People are increasingly doing away with manual paper work in accounting where electronic or computerized system replace cash payment of bills, fees and services to government entities with mobile telephone money transfer namely: Safaricom M-pesa and Airtel money using a given pay bill number and the given SMEs or customer account number or name. In addition, there is the use of banking transfer of money to pay for services and government revenue like the Equity Bank's Equitel and use of credit and debit cards or use of POS electronic gadgets to pay for county revenue for car parking, buses/matatu parking and market fees. Morawczynski (2010) has highlighted benefit of M-Pesa payment in Kenya and M-pesa is a key e-payment of revenue tool provided by Safaricom mobile telephone company in Kenya.

The Machakos Town Sub-County, Machakos County Government and local SMEs stand out as the immediate beneficiaries of the study on e-payment of revenue due to an open and more accountable automated revenue management system. Kenyan Government, interested parties, citizens, development partners and investors can benefit from the same study in Machakos Town Sub County or elsewhere in the country.

E-payment of revenue by SMEs in Machakos Town Sub-County study provided the researcher, other researchers and academicians wider, deeper and more knowledge in regards to understanding issues surrounding the e-payment system, particularly at the local business level and, generally at the county and national levels. It also provides scholars and future researchers with relevant literature and reference materials on e-payment system either in Machakos County or in other counties. The information would form a basis for comparative study in the use, spread and adoption of ICTs and in particular e-payment and management of revenue.

E-payment has become a key issue on matters to do with management of finances and governance in Kenya's national and devolved government levels. Machakos is one of the 47 counties in the Republic of Kenya and therefore could not be left behind in deployment and implementation of an e-payment of revenue.

The study helped in creating awareness about e-payment of revenue's challenges, benefits and how communication addresses them for maximum returns for
stakeholders in the county government who include the businesses, the citizens and both the devolved and national governments in Kenya. The role of communication in e-payment as a development component remained central in the research.

1.7 Scope and limitation

The research looked at adoption and use of e-payment in revenue collection by Machakos Town Sub-county for SMEs since the 2013 election that ushered in devolution in Kenya.

There was perceived sensitivity by business owners to disclose how they transact business to researchers in regards to payment of taxes, fees, licenses and land rates to both the county and the national governments. This was linked to fear that the information could be used to the SMEs detriment. Also, some revenue officers or government offices proved uncooperative in availing information regarding e-payment or the amount collected by the sub-county for fear to be seen to be failing or protect vested interests or corruption, if any. To address the perceived fear, the researcher assured respondents that whatever information they provided is solely for academic purpose and for use to address the challenges in e-payment for their benefit and not to their detriment.

Exclusive permission was sought from relevant authority like: the University of Nairobi, government offices and departments in the national government, Machakos County Government and the Machakos Town Sub-County revenue department for authorizations to get the assistance required for the study. These helped researcher obtain the information that the respondent were otherwise not readily willing to provide, particularly the revenue officers and those who run SMEs in Machakos Town-Sub County. Business owners and managers permission were sought before administering questionnaires and interviews to workers.

It is envisaged that the study had a limited area of coverage and SMEs in Machakos CBD, Kenya Israel, Mutituni Market and Katoloni Market, and the County revenue department was central to the proposed study.

The researcher prepared for unanticipated occurrences like unpredictable weather conditions, political campaigns, business peak time and took care not to interfere with the smooth running of business while seeking information from respondents. Respondents were interviewed at own leisure and were given humble time to respond. The data collection was between 2nd and 7th August 2017.
1.8 Operational Definitions of Terms

Airtel Money: Mobile money transfer services including m-banking and pay bill via Airtel Mobile Telephone Company

CARDS: Debit, Credit and Smart cards facilitated by banks and mobile phone system of money transfer and payment.

Equitel: Mobile money transfer service by Equity Bank mobile phone platform

E-commerce: Business activities using ICTs to enable buying, selling or paying for service or products. Also include mobile money transfer, Kenya's banking service called PesaLink, smart card payment and POS.

ICT: Information and Communication Technology is an extended term for Information Technology

M-Pesa: Mobile money transfer, banking and pay bill via Safaricom Mobile Telephone Company

Online/internet payment: Example paypal

PesaLink: Kenya's banks mobile phone and card technology for interbank transfer of cash

POS: Point of Sales services in markets, bus stages and people parks.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Overview

This chapter looks at literature review from other places and countries on e-payment, studies on successful E-payment, M-payment, and ICTs use by SMEs, theoretical framework that discusses Diffusion of Innovation Theory, Network Society Theory, Technology Acceptance Model and finally conceptual framework.

2.2 Literature Review from Other Places and Countries on e-payment

E-payments system is generally categorized into three: credit & debit cards; electronic cash; micropayment system; and session-level protocols for secure communication, (Maiyo, 2013). A debit card allows a bank customer to spend money from the deposit, while a credit card holder pays or buys goods or services by borrowing money on the strength of the card. Electronic cash uses the debit card system and are backed by a bank account. A micropayment system is an e-commerce system that pays on line for very small transactions such as an application download. Session-level protocols ensure there is communication that facilitate e-payment using internet or electronic communication. E-commerce has also been defined as any economic or business activity that uses applications based on Information and Communication Technology (ICT) to enable the buying and selling of products and services and thus facilitating the transaction of business activities between and among businesses, individuals, governments, or other organizations (Huy & Filiatrault, 2006).

A USA-based bank, Citi Bank says electronic payment is specifically designed to automate, integrate and simplify payables processing. It allows one to achieve all the benefit associated with paying supplies using the automated clearing house (ACH) an electronic check payments or buyer-initiated purchasing card. It lists benefits like reduce cost on paper check processing, rebates, improve control and timing of disbursement and advanced fraud protection.

A post on the Kenya’s Kassfm website on 7 February, 2017 said that the Kenya Bankers Association (KBA) has fully started operation of a payment technology subsidiary, the Integrated Payment Services Ltd (IPSL). This e-payment system was formed in 2012. The KBA under the National Payment System (NPS) Act formed the IPSL to address challenges of integrating retail payments in Kenya with backing from
the banking sector and using financial technology including mobile phone, ATM, Internet banking, Agency banking, Bank branches and POS. The new product is mainly centered on mobile phone and card technology and is called PesaLink. According to Kenya's IPSL website, PesaLink provides a 24 hour, 7 days a week (including public holidays) platform enabling customers to send money from as low as KSh. 10 to as much as KSh. 999,999 at a low fee. Initially, PesaLink will be a person-to-person (P2P) service, but will eventually provide person-to-business (P2B) and business-to-business (B2B) services.

A study by Morawczynski (2010) shows that in Kenya, the mobile money transfer system has been useful to the economy. For example, M-Pesa service enables subscribers to use their mobile phones to carry out a number of transactions such as pay for goods & services and pay bills. The use of mobile payment technology requires basic knowledge to use and is therefore used by individuals and majority of SMEs operations in Kenya. It requires one to have a mobile phone, register with mobile phone company, and pay or receive money at a registered mobile money agent or agent financial institution, of course with a mobile phone. Besides M-Pesa there is also Airtel money, and Equitel mobile money transfer services across Kenya, which use more or less similar system.

2.3 Studies on Successful E-payment, M-payment and ICTs use by SMEs

There are others countries both developed and developing countries, which have used e-payment in collection of revenue and succeed. There are a number of studies done by graduate Master and PhD students, and other scholars on e-payment of revenue, mobile phone money transfer, and use of ICTs by SMEs and county governments in Kenya. Egesa & Musau (2016) study on E-Service & Devolution: Usage of ICT Application on Customer Service Delivery in Machakos County Government, Kenya showed that Machakos County Government has successfully adopting the use of e-service and the lessoned learnt can be applied on e-payment of revenue by Machakos Town Sub-county for SMEs.

Gathumbi (2015) study on Factors Affecting Electronic Payment Adoption by Matatu Owners Saccos in Nairobi City County MBA (Thesis) – University of Nairobi found that there were challenges in the use of e-payment in the Matatu sector, which is an example of SMEs. However, the e-payment system has to overcome many challenges cited by user like need for knowledge on use of the system, time consuming
system as the system was not deemed friendly or easy to use. The challenges notwithstanding, the study on the Matatu Owners Saccos in Nairobi City County showed that a successful embracing of e-payment of services would improve returns and cash management in SMEs public transport sector.

Morawczynski (2010) study on Examining the adoption, usage and outcomes of mobile money services: The case of M-Pesa in Kenya (Thesis) Scientific and Technology Studies – The University of Edinburgh showcased the success of m-payment using the various option provided by Safaricom Mobile Phone Company. These include paying of bills, buying goods, money transfer services electronically. In fact, M-payment using M-Pesa is the most widely used e-payment system in use as has been adopted by banks, financial institution and business outlets across Kenya.

Ochola (2013) study on E-commerce Adoption among Micro, Small and Medium sector in Nairobi, Kenya PhD (Thesis) – School of Business Kenyatta University found that service, retail and hospitality oriented SMEs are more amenable to e-commerce adoption. So, in Nairobi, SMEs are seen to have embraced e-commerce.

Okiro (2015) study on The Effect of E-Payment System by the Nairobi County Government MBA (Thesis) University of Nairobi found that the e-payment system would significantly influence revenue collection performance by Nairobi City County Government and increase revenue collection. The five study and papers beat a path to the study on e-payment of revenue by SMEs, and in this case for Machakos Town Sub-County.

2.4 Theoretical Framework
2.4.1 Diffusion of Innovations Theory [DIT]

The study on e-payment is basically based on Rogers's Diffusion of Innovations Theory is concerned with new products, which are goods, services or ideas perceived by potential users as new, although they might have been around for sometimes, according to Kotler & Armstrong (1994). He describes adoption process as a mental process. The five stages of adopting a new product or innovations include awareness, interest, evaluation, trial and adoption as a regular user.

Awareness is when one gets to know of an innovation or a new product in the market. Interest is when one shows liking for it. Evaluation involves getting to ask questions regarding to its advantages compared to what exists. Trial stage involves
testing the new product or innovation regarding what it is claimed to offer compared to existing products, and finally adoption involves one becoming a user of the innovation or new product.

Rogers (1983, p164) says innovation-decision process has five stages namely: knowledge, persuasion, decision, implementation and confirmation. Knowledge occurs when an individual is exposed to innovation's uses and functions. Persuasion occurs when an individual forms either a favorable or an unfavorable attitude towards the innovation. Decision is when an individual chooses to adopt or to reject the innovation. Implementation is putting the innovation into use, and confirmation occurs when one seeks more reinforcement on innovation but reserves the right to make other decision if not satisfied.

Figure 1: Time of adoption of innovations (Source: Rogers, EM (1983 p247))

The diagram above indicates the five adopter categories normal distribution curve. Firstly, the innovators who are termed venturesome, risk takers like to try new ideas. Secondly, are the early adopters who are guided by respect, opinion leaders and adopt early but carefully. Thirdly, the early majority who are deliberate, although rarely leaders and adopt new idea before the average person. Fourthly, the late majority are sceptical and fifthly, the laggards who are traditional and suspicious to change.

Rogers says the rate of adoption of new product or innovation is determined by one; perceived attributes of innovations like relative advantage, compatibility, complexity, trialability and observability as compared to the existing products. Secondly, type of innovation decisions like if optional, collective or based on authority also play a role. The third is communication channels like mass media or interpersonal.
Fourthly, is nature of social system like norms or degree of network interconnectedness and lastly is the extent of change agent's promotion efforts.

In the context of this study, the new products or services or innovations refers to e-payment of revenue by SMEs. Of interest, is the adoption and use of m-payment and e-payment of revenue, the factors determining the use like availability, ease of use and how they fit in the existing system without hindering SMEs but allowing them to tap in the advantages of ICTs and e-payment. Also, other factors like phase of adoption, communication and information used to increase level of adoption and use of e-payment would be looked at based on the DIT.

In DIT, communication is important in embracing innovation, in this case e-payment of revenue by SMEs in Machakos Town Sub-county. The means of information, education and communication on e-payment of revenue by Machakos town sub-county SMEs were highlighted by the owners and managers and also by the Machakos town sub-county government officers.

In DIT, barriers to adoption and use of innovation are highlighted in order to be addressed, for the embracing of the new idea or technology. In this case, e-payment of revenue as opposed to cash payment of revenue to the county office.

2.4.2 Network Society Theory

The network society theory describes a social structure as one based on networks operated by ICTs, based on microelectronics and digital computer networks of information on the basis of knowledge accumulated in nodes of the networks, according to Castells & Cardoso (2005). A network is a formal structure (Monge & Contractor, 2004). A network has nodes, which are interconnected and are in fact the points of intersection. Networks are open structure, which keep evolving by adding or removing nodes as the program in the network performs its function.

Castells (2010) says the global economy is now characterized by the almost instantaneous flow and exchange of information, capital and cultural communication and that the Internet has brought a new social and economic development. For example, we now have e-payment as a result of ICT advancement fueled by Internet and use of mobile phones.
Scholars including Castells argue that the global networks include some people and territories, while excluding others and so lead to a geography of social, economic, and technological inequality. Therefore, create a generational divide between those born before the Internet Age (1969) and those who grew up being digital.

Kenya has not been left behind in the Castells envisaged network society; it has embraced e-payment, m-payment and the most recent inter banking money transfer called PesaLink – that moves money across mobile phone, Internet banking to pay for goods and services at any time.

In the context of e-payment of revenue, the communication departments, telecommunications, mobile telephone and financial institutions, together with the people executing the payment act as nodes, as in the network society envisaged by Manuel Castells. Therefore, commercial banks and financial institutions, mobile money transfer telecoms like Safaricom M-Pesa and Airtel money, Huduma digital centres, digital kiosks in Machakos town, revenue offices and officers are essential in enabling e-payment of revenue are vital part of the Network Society Theory.

The place of ICTs with their accompaniment like the Internet, computers, telephone, financial services and knowledge with nodes like offices and POS play a role in the adoption and use of e-payment by SMEs in Machakos Town.

Where ICTs have enabled a network society, e-payment of revenue thrives.

2.4.3 Technology Acceptance Model [TAM]

The adoption and use of e-payment in revenue collection can be predicted by Technology Acceptance Model (TAM) proposed by Davis in 1986. TAM was rooted in the Theory of Reasoned Action (TRA) (Fishbein & Ajzen 1975), a psychological theory that seeks to explain people’s action as influenced by various factors: belief, attitude, intentions and behavior. Also playing a similar role is the Theory of Planned Behavior (Adjen, 1991: Adjen & Fishbein, 1980).

Regarding TAM, perceived characteristics of technology have been identified as a key variable to explain potential users' adoption intention and usage behavior. This is also called Behavioral Intention (BI), defined as a cognitive decision making process to perform behavior or action (Dass & Pal, 2011). As different adopters might perceive attributes of technology in different ways, their consequent behavior related to the use of the technology might be different. So, potential users' perception of the technology influences its adoption. TAM introduced two aspects: one, perceived ease of use
(PEOU) and two, perceived usefulness (PU) as the most significant determinants of Behavioral Intention (BI) to use ICTs, in this case various e-payment systems or models.

According to TAM, perceived ease of use refers to the extent or degree to which an individual believes that using a particular technology would be free of physical and mental efforts or face hardships and hard efforts. So, individual perception on use of e-payment will involve only minimum efforts.

Perceived usefulness refers to the extent or degree to which an individual believes that using a particular technology would enhance one's performance (Davis 1986). The hypothesis, H3, was tested.

TAM as applied in many studies has found that PEOU and PU significantly relate to computer usage (Lu et al. 2003; Tengku Siti Aisha et al. 2005). So, TAM can predict user acceptance of e-payment by examining the consumers' behavior toward the technology.

On the adoption and use of e-payment of revenue by Machakos town SMEs, the research examined the PU and PEOU of e-payment technology on the owners and managers of SMEs in Machakos Town Sub-county. It showed the status regarding the adoption and use of e-payment by small businesses. However, TAM also helped examine other factors besides PU and PEOU in enhancing e-payment.

There are two underlying models used in the research on the adoption and use of innovation and technology, for example e-payment. These are DIT and TAM, and a common aspect with the two is how the potential user perception of the technology influences its adoption. So, TAM compliments DIT in the sense that the two theories deal with innovations and in this particular case ICT or e-payment system. Both TAM and DIT also address the issues of perceived attributes of technology or innovations like PEOU, PU and compatibility, complexity, trialability and observability of the whole e-payment innovative system.
The diagram shows the relationship among variables. The core construct of this framework are adopted from DIT and TAM since e-payment relies on IT or ICT. Looking at DIT, Network Society Theory and TAM theories, the researcher established a close link between the independent variables, intervening variables and the independent variable that is the adoption and use of e-payment of revenue by SMEs. ICTs enable e-payment services to diffuse, spread in Kenya, and in this case in Machakos Town Sub-County for SMEs. IT system in sub-county revenue department and staff provide POS gadgets, while mobile phone companies' money transfer and banks enable e-payment of revenue by local SMEs. Communication on e-payment benefits, overcoming e-payment challenges and addressing e-payment communication barriers, knowledge, perception, decision and government policy about e-payment facilitate adoption and use of e-payment of revenue by SMEs.
In TAM, the PU and PEOU play a key role in explaining adoption and use of e-payment in a positive way as they act as means of persuasion. In DIT, the five stage of innovation-decision process: knowledge, persuasion, decision, implementation and confirmation all play a role together with nature of business, technology, government policy and communication in the extent of adoption and use of e-payment.

Of great importance here, is how the knowledge on e-payment relies on communication as a means of persuasion. In addition, SMEs managers' perception and government decisions influenced the implementation of e-payment in revenue collection by Machakos Town Sub-county for SMEs.
CHAPTER THREE

3.0 METHODOLOGY

3.1 Overview
The chapter contains the research design, research site, research approach, research method, data need, types and source, population, sampling, sample size and data collection, data analysis, data presentation, reliability and validity, and finally ethical consideration.

3.2 Research Design
A research design is a master plan that specifies the methods and procedures for collecting and analyzing the needed information (Zikmun, 2003). It constitutes the blueprint for collection, measurement and analysis of data (Kothari, 2003). Generally, statistical methods are used, which involve selection, collection and organization of basic facts into meaningful data, and then summarizing, presentation and analysis of data into useful information (Francis, 1996).

Descriptive survey is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2003). It is used to collect information on people's attitude, opinions, habits or any variety of education or social issues (Orodho and Kombo, 2002).

To actualize the research design, the researcher employed a systematic process of selecting the survey area, used questionnaires to collect data, and used statistical formulas, methods to record, analyze data into useful information before presenting the research finding and recommendations.

3.2.1 Research Site
The research covered Machakos Town Sub-County Government Office and the following market centres in the sub-county namely: Machakos Town CBD, Mutituni Market, Katoloni Market and Kenya Israel Centre, with the main focus on e-payment of revenue by SMEs. This site was arrived at based on largest area, relevancy of research questions and objectives, homogeneity of study population and accessibility in line with (Orodho & Okombo, 2002).
3.2.2 Research Approach

The study used mixed method approaches with questionnaires, which were both open-ended and close-ended as sources of qualitative and quantitative data respectively. The respondents to the questionnaires were Machakos Town Sub-County Government officers and Machakos Town’s SMEs owners or managers as identified in the research site and the sample number given.

3.2.3 Research Method

The descriptive method zeroes on Machakos Town Sub-county as the case study area. The data collected through descriptive method described the state of affairs in regards to adoption and use of e-payment of revenue in Machakos Town Sub-county by SMEs within the centres and markets identified. After collection of the data, the findings answered the research question and helped formulate important principles of knowledge and in the recommendation of solution in line with the research objectives.

3.2.4 Data needs, types and source

Data was basically primary and secondary. Primary data are those which are collected afresh and for first time. Secondary data are those already collected by someone else and already passed through the statistical process Kothari (2008). The study majorly relied on primary data from the field regarding adoption and use of e-payment in Machakos Town Sub-County by SMEs collected from SMEs owners or managers and from the town sub-county officers. However, the study also used secondary data on SMEs and e-payment of revenue found in libraries, Internet and government records to mainly help in comparison, further understanding and analysis of data.

3.2.5 Population, Sampling, Sample size and Data collection

A population is the entirety of people or items (members) being considered and a sample is representation section of the population (Francis, 1996). The sample selected was necessary due to time, manpower and resources limitations.

The non-probability sampling design and purposive sampling method was used. This method purposely targeted a group of people believed to be reliable for the study (Kombo and Tromp, 2016). It fitted in the research as SMEs owners or managers and the sub-county government officers, who provided the required information that is both
quantitative and qualitative. This also fitted into the descriptive method that sampled broadly and engaged participants deeply to capture important aspects and variation on e-payment of revenue.

On sample size, there was no universal formula for calculating this. However, the best approach was based on two factors: one, large size to give more precise information on a population and two, above a certain size there is little extra information even after one increases the sample size. Thus the researcher used the following formula.

Yamane (1967) simple formula for calculating sample size

\[ n = \frac{N}{1+N(e^2)} \]

Where \( n \) is sample size,
\( N \) is population size,
And \( e \) is level of precision or acceptable sampling error.

So, substituting this formula in which the population (N) of SMEs was 15,120 according to Machakos Town sub-county Government (14,000 registered and 1,120 unregistered SMEs). With ±5% precision (sampling error) and assuming 95% confidence level and \( p=0.5, e=.05 \) the sample size was 389.

However, the different strata of businesses and distribution in the sub-county were representative, in addition to sampling of the sub-county finance office.

Sample size at the Machakos Town sub-county Government was set at 10, however, six officers responded to the questionnaires given to them.

Pretesting of the questionnaire was done with eight SMEs, with two each from the four areas of research site and two county revenue officers, which are not selected participants for the main questionnaires. This enabled refining of questions before administering to the sample respondents.

3.2.6 Data Analysis

Data analysis is processing of data to make meaningful information (Saunders, Lewis and Thornbill, 2009). The data was recorded in tables and charts before analysis. After data collection, sorting and coding was entered into the Statistical Packages for Social Science (SPSS) for analysis. SPSS analysed the quantitative data, while qualitative data was coded thematically, then both quantitative and qualitative data were triangulated to see if they agree or disagree. Coding and sorting removed redundant
data. Microsoft Office Word and Excel data processor was also used to analyse and present data. Comparison of information was done in the period before and after adoption and use of e-payment of revenue by SMEs. This identified trends on adoption and use of e-payment to be able to show benefits, identify and address challenges.

### 3.2.7 Data Presentation

Quantitative data was presented in tables, pie charts, bar charts all accompanied by summarized explanation in relation to the literature, while qualitative data was mainly presented through description and discussion with conclusions.

### 3.3 Reliability and Validity

Reliability is the consistency of a set of measurement items (Cronbach, 1951). This will be measured by coefficient correlation of a set using the statistic formula – Cronbach’s coefficient alpha for measuring consistency and homogeneity of scale.

The formula is as follows:

\[ r = \frac{\sum xy - \sum x \sum y}{\sqrt{\left(\sum x^2\right) - \frac{\left(\sum x\right)^2}{N}\left(\sum y^2\right) - \frac{\left(\sum y\right)^2}{N}}} \]

- \( r \) = correlation coefficient
- \( x \) = first test or set
- \( y \) = re-test
- \( N \) = number observed

Using the formula, first the researcher calculates the simple mean from a set, then variance from mean, and coefficient correlation. Result of 0.7 to 1 shows strong positive correlation and therefore a strong reliability.

The researcher used test-retest on a given sample, intra observation over time, alternate form, different wordings of the questions to respondents, check internal consistency and inter observation method for two or more respondents. These test whether the questionnaires give consistency result. Also the reliability on PEOU and PU will be tested using Cronbach alpha formula, as the data will be in two sets.

Validity is the accuracy and meaningfulness of inference, which are based on the research results (Mugenda and Mugenda, 2003). Validity is measuring what the research sets to measure and not some other related variables (Litwin, 1995). Validation
was also achieved by subjecting the data from respondents for feedback and correction, and ensuring variables and objectives are SMART. The objectives are specific on communication barriers, challenges, benefits, on means of e-payment communisation and user perceptions about e-payment. The objectives were also easily measured and attainable as per the questionnaires in the given research timeframe.

3.4 Ethical Consideration

On the part of the researcher, ethical consideration included assurance to respondents that the research was for academic purpose. Confidential business information was not disclosed to third party entities and at all times permission was sought from SMEs owners or managers before conducting the research.

Both the SMEs owners and the sub-county government officers were requested to be truthful to the best of their knowledge.

Letters authorizing the research were sought from relevant authorities. Defence of the research proposal, issuance of certificate of fieldwork; see Appendix V, defence of final project and certificate of correction; see Appendix VI, to ensure high academic standards.
4.0 RESULTS AND DISCUSSION

4.1 Overview

This chapter contains sample and response rate, demographic factors on adoption and use of e-payment – age, gender and education, IEC to SMEs on e-payment of revenue, communication barriers to adoption and use of e-payment, none-communication challenges, addressing barriers to e-payment, SMEs user perception on e-payment and benefits of e-payment of revenue for MKS Town Sub-county Government and its SMEs, and finally descriptive statistics.

4.2: Sample and Response Rate

As illustrated in the table below the target sample size for the study on adoption and use of payment of revenue by SMEs in Machakos Town Sub-county was 389 SMEs. The researcher sent out 400 questionnaires to SMEs and the respondents stood at 291, a response rate of 72.75 %. Thus the response rate of 72.75 %.and a none response rate of 27.25 %.

Katoloni centre has the highest response rate of 76.66 %, Machakos Town CBD has the lowest response rate of 70.52 %, with Mutituni and Kenya-Israel lying in between the two.

The table in the next page is about the questionnaires sent to the SMEs owners in Machakos Town Sub-county and the number of respondents and none respondent per given centre as shown:
<table>
<thead>
<tr>
<th>Mks Town Sub-county</th>
<th>Questionnaire Given out</th>
<th>No. of Respondents</th>
<th>Response Rate %</th>
<th>Non Respondent</th>
<th>Non Respondent Rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mks CBD</td>
<td>190</td>
<td>134</td>
<td>70.52 %</td>
<td>56</td>
<td>29.47 %</td>
</tr>
<tr>
<td>Mutituni</td>
<td>60</td>
<td>44</td>
<td>73.33 %</td>
<td>16</td>
<td>26.66 %</td>
</tr>
<tr>
<td>Katoloni</td>
<td>60</td>
<td>46</td>
<td>76.66 %</td>
<td>14</td>
<td>23.33 %</td>
</tr>
<tr>
<td>Kenya-Israel</td>
<td>90</td>
<td>67</td>
<td>74.44 %</td>
<td>23</td>
<td>25.55 %</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>291</td>
<td>72.75 %</td>
<td>109</td>
<td>27.25 %</td>
</tr>
</tbody>
</table>

Table 4.2.1: SMEs Sample Size Table (Source: Author)

The pie chart depicts the SMEs owners respondents on e-payment of revenue to the Machakos town sub-county government, with the response rate at 72.75 % (261.9\(^0\)) and the none response rate at 27.25% (98.1\(^0\)).

From the intened sample size of 389, this is 74.0 %, and a response rate of over 50% is acceptable in a descriptive research, according to Mugenda and Mugenda (2003) and also Kothari (2004) a response rate of 50 % is adequate for a descriptive study.
The Table 4.2.2: shows the number of questionnaires sent to the county officers regarding e-payment of revenue to the Machakos Town Sub-county was 10, with those who responded being six in number. Thus the response rate of 60% and none response rate of 40%.

The table below is about the questionnaires sent to the Machakos Town Sub-county office regarding e-payment of revenue by SMEs owners, showing the number that responded and those who did not respond.

<table>
<thead>
<tr>
<th>Machakos Town Sub-county</th>
<th>Questionnaire Given out</th>
<th>No. of Respondents</th>
<th>Response Rate %</th>
<th>Non Respondents</th>
<th>Non Respondent Rates %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mks sub -county off</td>
<td>10</td>
<td>6</td>
<td>60.00 %</td>
<td>4</td>
<td>40.00 %</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>6</td>
<td>60.00 %</td>
<td>4</td>
<td>40.00 %</td>
</tr>
</tbody>
</table>

Table 4.2.2: Sub-county Sample Size Table (Source: Author)

Figure 4.2.2: Pie Chart on MKS Sub-county Response Rate (Source: Author)

The piechart above shows the Machakos Town Sub-county Government respondents to the questionnaires about e-payment of revenue to the county government by SMEs owners in the same town. It illustrate a response rate of 60% (2160) and the none response rate of 40% (1440).
According to Mugenda and Mugenda (2003) and also Kothari (2004) a response rate of 50% and above is adequate for a descriptive study.

4.3 Democratic Characteristics factors on adoption and use of e-payment

This focused on how such factors like age, gender and education of the SMEs owner or manager in Machakos Town Sub-county impacted on the adoption and use of e-payment of revenue to the Sub-county Government. The three demographic factors are examined further in the following sub headings in 4.3.1 on age, 4.3.2 on gender and 4.3.3 on education respectively.

4.3.1. Age factors on adoption and use of e-payment of revenue by MKS town SMEs

Out of the 291 SMEs owners respondents in Machakos Town, whose age ranged from 15 to those over 45 years of age, with all of them saying they knew about e-payment of revenue to the Machaakos Town Sub-county Government and over 95% said they have used e-payment of revenue to the county government and cited M-Pesa, M-POS and internet banking. The age group with the most SMEs owners using e-payment being 25 to 29, 30 to 34 and 35 to 39 with over 97% rate. The lowest age group using e-payment of revenue being age 15 to 19 followed by age 45 and above.
SMEs owners age table and e-payment of revenue to the Machakos Town Sub-county Government:

<table>
<thead>
<tr>
<th>Age Group in years</th>
<th>Respondents No.</th>
<th>No. using e-payment of revenue.</th>
<th>% using e-payment of revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 to 19</td>
<td>3</td>
<td>2</td>
<td>66.66%</td>
</tr>
<tr>
<td>20 to 24</td>
<td>28</td>
<td>27</td>
<td>96.42%</td>
</tr>
<tr>
<td>25 to 29</td>
<td>49</td>
<td>48</td>
<td>97.95%</td>
</tr>
<tr>
<td>30 to 34</td>
<td>72</td>
<td>70</td>
<td>97.22%</td>
</tr>
<tr>
<td>35 to 39</td>
<td>69</td>
<td>67</td>
<td>97.10%</td>
</tr>
<tr>
<td>40 to 44</td>
<td>61</td>
<td>59</td>
<td>96.72%</td>
</tr>
<tr>
<td>45 and above</td>
<td>9</td>
<td>7</td>
<td>77.77%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>291</strong></td>
<td><strong>280</strong></td>
<td><strong>96.21%</strong></td>
</tr>
</tbody>
</table>

*Table 4.3.1: Age factor on e-payment of revenue by MKS town SMEs (Source: Author)*

![Bar graph on age and e-payment of revenue by MKS town SMEs](image)

*Figure 4.3.1: Bar graph on age and e-payment of revenue by MKS town SMEs (Source: Author)*

The graph illustrates the various age sets using e-payment of revenue to the Machakos Town Sub-county Government. It shows age groups 25 to 29, 30 to 34 and 35 to 39 with highest users rate and age group 15 to 19 with the lowest user rate.
Thus the the SMEs owners aged from 20 to 44 years of age registered the highest use of e-payment or revenue to the Machakos Town Sub-county Government.

4.3.2 Gender factors on adoption and use of e-payment of revenue by MKS town SMEs

Out of the 291 SMEs respondents on use e-payment of revenue, 148 were males and 143 were females representing 50.85% (1833.1°) and 49.14% (176.9°) respectively. Thus gender is not a key factor on e-payment of revenue by SMEs in Machakos Town Sub-county.

Gender table and e-payment of revenue:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Respondents</th>
<th>Response rate</th>
<th>Know of e-payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>148</td>
<td>50.85%</td>
<td>148</td>
</tr>
<tr>
<td>Female</td>
<td>143</td>
<td>49.14%</td>
<td>143</td>
</tr>
<tr>
<td>Total</td>
<td>291</td>
<td>100%</td>
<td>291</td>
</tr>
</tbody>
</table>

Table 4.3.2: Gender factor on e-payment of revenue by MKS town SMEs (Source: Author)

Figure 4.3.2: Pie chart on gender and e-payment of revenue by MKS town SMEs (Source: Author)
The pie chart shows almost equal numbers of male and female SMEs owners as ones using e-payment of revenue to the Machakos Town Sub-county Government. However, slightly more male than female pay revenue using e-payment. Male 50.85% (183.10) and female 49.14% (176.90).

Gender was not a major influence on adoption and use of e-payment of revenue according to SMEs owners in Machakos Town.

4.3.3 Education factors on adoption and use of e-payment by MKS town SMEs

This research showed that 76.19% of SMEs owners with primary level education uses e-payment of revenue, 97.38% for those with secondary level of education, 97.40% for those with post secondary and not university education and 100% for the SMEs owners and managers who have university education.

The table indicates that 100% of SMEs owners use e-payment in paying revenue to the Machakos Town Sub-county Government, followed by those with post-secondary and not university education, and secondary education at more than 97%. SMEs owners with primary education indicated the lowest use of e-payment in revenue collection at 76.19%.

The table below shows the level of education and use of e-payment of revenue:

<table>
<thead>
<tr>
<th>Education level</th>
<th>No. of respondents</th>
<th>No. using e-payment</th>
<th>% using e-payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>21</td>
<td>16</td>
<td>76.19%</td>
</tr>
<tr>
<td>Secondary</td>
<td>153</td>
<td>149</td>
<td>97.38%</td>
</tr>
<tr>
<td>Post secondary &amp; not university</td>
<td>77</td>
<td>75</td>
<td>97.40%</td>
</tr>
<tr>
<td>University</td>
<td>40</td>
<td>40</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td><strong>291</strong></td>
<td><strong>280</strong></td>
<td><strong>96.21%</strong></td>
</tr>
</tbody>
</table>

**Table 4.3.3: Education factor on e-payment of revenue by MKS town SMEs**  
(Source: Author)
Figure 4.3.3: Bar graph on education and e-payment of revenues by MKS town SMEs (Source: Author)

The graph above shows a comparison of the SMEs owners respondents compared to the number that uses e-payment of revenue to the Machakos Town Sub-county Government, based on education levels.

So, education influence on the adoption and use of e-payment of revenue by SMEs in Machakos Town Sub-county increased with the SMEs owners level of education.

4.4 Information and Communication to MKS town SMEs on e-payment of Revenue

Communication to SMEs owners in Machakos Town Sub-county on e-payment of revenue is basically through the following means: via the government directive communicated via media advertisements, through one-on-one oral communication between the county revenue staff and the SMEs owners or managers – both in the office and in the field. There is also the other aspect of disseminating e-payment knowledge and information through training, but both the county government officers and the SMEs owners or managers greatly agree training on use of e-payment is greatly lacking.
According to the Machakos Town Sub-county officers, county directive and advertisements are the most effective means of communication to SMEs owner about e-payment of revenue.

County officers indicated dessemination of information and communication on e-payment to SMEs as indicated in the table below:

<table>
<thead>
<tr>
<th>County Govt. IEC on e-payment to SMEs</th>
<th>No. of respondents</th>
<th>% rate of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>County govt. directive</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>One on one with (oral communication) SMEs owners</td>
<td>5</td>
<td>83.33%</td>
</tr>
<tr>
<td>Advertisements</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Training and seminars</td>
<td>1</td>
<td>16.66%</td>
</tr>
<tr>
<td>Total no. of county officers respondents</td>
<td>6</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Table 4.1: MKS town sub county IEC on e-payment of revenue to SMEs*
(Source: Author)

![Bar graph on County IEC on e-payment to SMEs in MKS town](image)
(Source: Author)
The bargraph illustrates the methods used by the Machakos Town Sub-county Government regarding information, education and communication on e-payment of revenue to the town's SMEs owners.

The most popular methods of IEC by the Machakos Town Sub-county Government to the SMEs in the town are county directives and advertisements, with training the least used.

However, SMEs owners and managers indicated that they also get to know about e-payment of revenue to the Machakos Town Sub-county Government through other sources, including and not limited to friends and colleagues, and through their banks and financial services providers. According to the SMEs owners, the most popular IEC method on e-payment of revenue is the county government directive for them to pay revenue using e-payment, followed by county government advertisements via billboards, local radio and mobile advertisement vehicles. One on one oral communication by Machakos Town Sub-county Government officers contributes over 34%, with information from friends, colleagues and SMEs owners banks constitute about 27% of IEC on e-payment of revenue to the county government.

Table shows SMEs sources of IEC on e-payment of revenue to the Machakos Town Sub-county Government:

<table>
<thead>
<tr>
<th>SMEs Source of IEC on e-payment</th>
<th>No. of respondents</th>
<th>% rate of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>County government directive</td>
<td>291</td>
<td>100%</td>
</tr>
<tr>
<td>One on one with county officers oral communication</td>
<td>100</td>
<td>34.36%</td>
</tr>
<tr>
<td>Friends &amp; colleagues of SMEs</td>
<td>50</td>
<td>17.18%</td>
</tr>
<tr>
<td>Banks</td>
<td>30</td>
<td>10.30%</td>
</tr>
<tr>
<td>Through advertisements</td>
<td>240</td>
<td>82.47%</td>
</tr>
<tr>
<td>Via business training</td>
<td>5</td>
<td>1.71%</td>
</tr>
<tr>
<td>Total no. of SMEs respondent</td>
<td>291</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Table 4.4.2: MKS town SMEs sources of IEC on e-payment of revenue (Source: Author)*
The graph illustrates the popularity of methods of IEC on e-payment of revenue to the Machakos Town Sub-county Government, according to the town's SMEs owners. Most popular IEC method is County Government directive on e-payment followed by advertisement, with the least popular IEC method being training by the county government.

Thus there are a variety of methods of IEC about e-payment of revenue by SMEs in Machakos Town Sub-county, with government directive and advertisement as the most popular, and training is least used.

4.5 Communication Barriers Facing MKS town SMEs on Adoption of e-payment of revenue

County government officers cited lack of phones as a communication challenge, fear of embracing innovation or technology by some SMEs, people's expectations and false assumption regarding e-payment of revenue. The SMEs owners expectation on use of e-payment of revenue to the Machakos Town Sub-county Government was said to be that they thought they would not be expected to go and pick their trade licenses from the county officers, while false assumption meant everything would be on the spot. Fear of technology surrounding e-payment and Expectation & false assumption
were listed as the biggest communication challenges facing the SMEs owners when it comes to payment of county revenue.

This is indicated in the table below:

<table>
<thead>
<tr>
<th>Communication barrier to e-payment of revenue</th>
<th>No. of respondents</th>
<th>Respondent rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of phones</td>
<td>2</td>
<td>33.33%</td>
</tr>
<tr>
<td>Fear of technology</td>
<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>Expectation &amp; false assumption</td>
<td>3</td>
<td>50%</td>
</tr>
<tr>
<td>Lack of training</td>
<td>2</td>
<td>33.33%</td>
</tr>
<tr>
<td>Total no. of county officer respondents</td>
<td>6</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Table 4.5.1: Communication barriers on e-payment of revenue by MKS town SMEs (Source: Author)*

![Communication barriers on e-payment](image)

*Figure 4.5.1: MKS cited com. barrier on e-payment of revenue by SMEs (Source: Author)*

The bargraph in Figure 4.5.1: illustrates the communication challenges facing SMEs owners regarding using e-payment to pay for revenue to the Machakos Town Sub-county Government. It reinforces the Table 4.5.1.
On their part, over 60% or 175 of the 291 of the SMEs respondent cited lack of training by the Machakos Town Sub-county Government as the biggest communication barrier to the adoption and use of e-payment of revenue.

The Machakos Town Sub-county Government officers cited SMEs owners fear of technology, expectation and false assumption as two of the biggest challenge to adoption and use of e-payment of revenue.

4.6 None Communication Challenges Facing MKS town County Govt on Adoption of e-payment of revenue

Over 70% or 205 of the 291 of the SMEs respondents cited the cumbersome demand of having to collect license from the county office even after paying revenue using whatever available e-payment platform, as a barrier. Whereas, all the six Machakos Town Sub-county officers, who respondent to the questionnaires said the issue facing them was how to make e-payment of revenue 100% from the current stated 85%.

4.7 Addressing communication barriers on e-payment of revenue for SMEs in MKS town

Both the SMEs owners and the Machakos Town Sub-county officers gave their suggestions on addressing barriers to e-payment of revenue by the town's SMEs. The biggest communication barrier to the adoption and use of e-payment of revenue by SMEs in Machakos Town Sub-county is having to go and pick their licenses at the county offices even after payment for them electronically. So, Machakos Town Sub-county officers who responded 100 % recommend for availing online or electronically the trade license. Then 50 % of respondents recommend addressing fear or technology and both address expectations and false assumptions regarding e-payment of revenue by SMEs in Machakos Town. Finally 33.33 % advocate training on use of e-payment of revenue.
Thus, addressing the communication barriers to e-payment of revenue by the MKS Town Sub-county Government for SMEs is indicated in the table below:

<table>
<thead>
<tr>
<th>MKS county addresses com. barriers to e-payment of revenue for SMEs</th>
<th>No. of respondents</th>
<th>Respondent rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training on e-payment</td>
<td>2</td>
<td>33.33%</td>
</tr>
<tr>
<td>Address fear of technology</td>
<td>3</td>
<td>50.00%</td>
</tr>
<tr>
<td>Address expectations &amp; false assumptions</td>
<td>3</td>
<td>50.00%</td>
</tr>
<tr>
<td>Avail online/electronic licenses</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Total no. of respondents</td>
<td>6</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Table 4.7.1: MKS town sub-county officers suggestions on addressing com. barrier on e-payment of revenue by the town's SMEs (Source: Author)*

![Bar graph](image-url)  

*Figure 4.7.1: Bar graph on MKS town sub-county officers' suggestions on addressing communication barrier to e-payment of revenue by the town's SMEs (Source: Author)*
The bar graph illustrates the information on addressing communication barriers to adoption and use of e-payment of revenue by SMEs in Machakos Town Sub-county, clearly showing the most popular method as provision of license electronically, followed by addressing fear of technology and false expectation and assumptions, with least method being training on e-payment of revenue.

Thus the Machakos Town Sub-county Government officers say that availing online the trade licenses or electronic licenses would address the need by the SMEs in the town going to physically collect the licenses at the county offices.

The SMEs in Machakos town also suggested the following to address the communication barriers they face in adoption and use of e-payment of revenue to the town's county government. Most SMEs recommend training, followed by availing license to their premises with both at more than 90%. Closing following this is availing licenses online with over 70% support by SMEs and finally the least popular to address communication barriers on e-payment of revenue being more advertisements with just over 30% support by SMEs.

This is as indicated in this table:

<table>
<thead>
<tr>
<th>SMEs suggested solution to com. barrier on e-payment of revenue</th>
<th>No. of respondents</th>
<th>Respondent rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training on e-payment</td>
<td>278</td>
<td>95.52 %</td>
</tr>
<tr>
<td>Avail trade license to SMEs premises</td>
<td>269</td>
<td>92.44 %</td>
</tr>
<tr>
<td>Avail license on line or electronically</td>
<td>211</td>
<td>72.50 %</td>
</tr>
<tr>
<td>More advertisements</td>
<td>90</td>
<td>30.93 %</td>
</tr>
<tr>
<td>Total no. of respondents</td>
<td>291</td>
<td>100 %</td>
</tr>
</tbody>
</table>

*Table 4.7.2: MKS town SMEs suggestions on addressing com barrier to their e-payment of revenue to the county government (Source: Author)*
Figure 4.7.2: Bar graph on of MKS town SMEs suggestions on addressing com barrier to their e-payment of revenue to the county government

The bar graph Figure 4.7.2: help to illustrate Table 4.7.2: by use of infographic for clarity and making visible the popularity or unpopularity of recommended ways of addressing barriers to adoption and use of e-payment of revenue in MKS town by SMEs.

So, also the SMEs owners in Machakos Town Sub-county are in agreement that availing online or electronically the trade licenses after they pay the revenue through e-payment would address their need to go and physically collect the documents at that county offices.

4.8 SMEs User Perception on e-payment of revenue to MKS town sub-county government

This section on SMEs user perception was looked at under both the perceived easy of use – that stands at over 85% of the SMEs respondents and the rest were under perceived usefulness in accordance to TAM.

So, over 80% of SMEs respondents said that e-payment of revenue to the Machakos town sub-county government is convenient, easy to use, faster, safe and useful to their businesses. A majority of the Machakos town sub-county SMEs said that they found the adoption and use of e-payment of revenue to the county government as
private and confidential as they were able to transact their payment from their mobile phone or bank account.

SMEs owners cited safety, ease to use, faster, useful to business, and convenience as the biggest benefit of using e-payment of revenue and privacy and paying from bank or phone as the least beneficial to them.

The table below shows how the SMEs respondents listed their perception regarding e-payment of revenue in Machakos Town Sub-county:

<table>
<thead>
<tr>
<th>SMEs User perception of e-payment of revenue</th>
<th>No. of respondents</th>
<th>Respondent rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient</td>
<td>233</td>
<td>80.06%</td>
</tr>
<tr>
<td>Ease to use</td>
<td>250</td>
<td>85.91%</td>
</tr>
<tr>
<td>Faster</td>
<td>247</td>
<td>84.89%</td>
</tr>
<tr>
<td>Safer</td>
<td>270</td>
<td>92.78%</td>
</tr>
<tr>
<td>Useful to business</td>
<td>240</td>
<td>82.47%</td>
</tr>
<tr>
<td>Private &amp; confidential</td>
<td>150</td>
<td>51.54%</td>
</tr>
<tr>
<td>Pay from phone or bank anytime</td>
<td>147</td>
<td>50.51%</td>
</tr>
<tr>
<td>Total no. of SMEs respondents</td>
<td>291</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4.8.1: SMEs user perception of e-payment of revenue to MKS town (Source: Author)

Figure 4.8.1: Bar graph on SMEs user perception of e-payment of revenue to MKS town (Source: Author)
The bargraph in Figure 4.8.1: illustrate the benefits of using e-payment of revenue by SMEs owners to the Machakos Town Sub-county Government, and reinforces Table 4.8.1.

The Machakos Town SMEs owners listed their perception on e-payment of revenue to the Machakos Town Sub-county Government, which are also benefit they derive from using e-payment system.

4.9 Benefit of e-payment of revenue to Machakos Town sub-county government

County officers highlighted that e-payment of revenue enhanced revenue collection, with 85% of SMEs having shifted from cash payment, that one can pay from anywhere in the world, it was a faster service, it significantly reduced lost of revenue and evasion of revenue payment, and that one can pay at the click of a button.

The most benefit of e-payment of revenue according to the Machakos town sub-county officers are both enhance revenue collection and that it is faster compared with cash payment of revenue. The next two benefits are reducing cost of business and that any SMEs owner can pay county revenue from anywhere. The least benefit of e-payment of revenue being one can pay at the touch of a button.

The table shows what the Machakos town sub-county officials cited as the main benefit of e-payment of revenue.

<table>
<thead>
<tr>
<th>County officers cite benefits of e-payment</th>
<th>No. of respondents</th>
<th>Respondent rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced revenue collection</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>85% of revenue paid is via e-payment</td>
<td>4</td>
<td>66.66%</td>
</tr>
<tr>
<td>Pay revenue from anywhere</td>
<td>5</td>
<td>83.33%</td>
</tr>
<tr>
<td>Faster</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Reduce business cost</td>
<td>5</td>
<td>83.33%</td>
</tr>
<tr>
<td>Reduce payment of revenue evasion</td>
<td>4</td>
<td>66.66%</td>
</tr>
<tr>
<td>Pay at touch of button</td>
<td>3</td>
<td>50.00%</td>
</tr>
<tr>
<td><strong>Total no. of county officers respondents</strong></td>
<td><strong>6</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Table 4.9.1: Benefits of e-payment of revenue to MKS town sub-county (Source: Author)*
The graph illustrates and simplifies the benefits of e-payment of revenue by SMEs to the Machakos Town Sub-county Government, according to the officers who responded to the questionnaires on e-payment.

Thus the Machakos Town Sub-county Government list a number of benefits regarding the adoption and use of e-payment of revenue by the town's SMEs, with the main one as enhanced revenue collection.

4.9.1 Descriptive and Inferential Statistics

After the data on e-payment of revenue by SMEs owners to the Machakos Town Sub-county Government was collected, it was entered in text form in the Microsoft word processor that include Microsoft Word and Excel. The former generated tables and the latter generated graphs -- pie charts, simple and multiple bar graphs suitable for descriptive statistics and basic inferential statistics. There was also the analysis on the first set of questionnaires administered to gauge reliability and validity after the two sets were subjected to tests.

The test-retest analysis was done after the first four questionnaires were given on 27 July 2017 to one set of SMEs owner in Machakos Town CBD, in Mutituni, in Katoloni and in Kenya-Israel. Then on 1 August 2017, another four questionnaires were given to another set of different SMEs in the four research sites above. The two sets of
questionnaires elicited more or less similar response from the SMEs owners they were sent to.

Intra observation for two sets of questionnaires was done in relation to the questions and how the SMEs responded, showed that there was clear understanding of the questions.

On validity test established to establish what the researcher set out to measure, that is the measure on adoption and use of e-payment established several aspects like the Machakos Town Sub-county Government IEC on e-payment of revenue, communication challenges facing SMEs on e-payment, none communication barriers to adoption and use of e-payment, the SMEs perception on e-payment of revenue in particular both the SMEs PEOU and PU of the e-payment, and finally benefits of e-payment of revenue as cited by both the county revenue department and the SMEs in Machakos Town.

After the questions in the pre-trial stage of the questionnaires were found to contain what was needed in terms of reliability and validity after the respondents feedback, reaserch observation and test-retest there was no need to change the questionnaires for use at the data collection stage.
CHAPTER FIVE

5.0 SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview
This chapter contains the summary of the findings, conclusion and recommendations regarding the research on adoption and use of e-payment of revenue collection by Machakos Town Sub-county Government for SMEs.

5.2. Summary of the Findings
The research shows that the Machakos Town SMEs owners between 20 years to 44 years age brackets showed the highest rate of adoption, use and embracing of e-payment of revenue to the county government. This is indicated in table 4.3.1 and figure 4.3.1.

Gender is shown not to have had a major impact on adoption and use of e-payment of revenue by the SMEs in Machakos Town Sub-county as inicated in table 4.3.2 and figure 4.3.2.

Education is a key factor in the adoption and use of e-payment of revenue by SMEs in Machakos Town Sub-county, with those SMEs owners who have attained secondary education, post-secondary education but not university level, and those educated upto university level registering over 97 %. The adoption and use of e-payment of revenue increased with level of education with university registering 100 % use. This is indicated by table 4.3.3 and figure 4.3.3.

IEC method regarding the e-payment of revenue by the Machakos Town Sub-county Government to its SMEs are mainly advertisement and directive by the government, with one on one oral communication next and the least popular method being training regarding e-payment of revenue. Table 4.4.1 and figure 4.4.1 indicate the IEC on e-payment of revenue by Machakos Town Sub-county Government to its SMEs. In addition the SMEs owners said that they received information or got to know of e-payment of revenue to the MKS Town Sub-county Government via friends and colleagues and their banks. Table 4.4.2 and figure 4.4.2 shows the information.
The main communication barriers to the adoption and use of e-payment in revenue collection by the Machakos Town Sub-county Government for its SMEs were listed as having to physically collect the trade licenses from county offices rather than downloading or accessing them online even after paying for them through the various available e-payment platforms. In addition, lack of training on e-payment of revenue by the Machakos Town Sub-county Government was another barrier. Others challenges cited by the county government are fear of embracing innovation or technology by SMEs, people's expectations and false assumption regarding e-payment, and SMEs owner having to go to county office to pick license even after paying electronically. Table 4.5.1 and figure 4.5.1 reinforce the communication barriers to the adoption and use of e-payment of revenue by SMEs owners in Machakos town sub-county.

The communication barriers to the adoption and use of e-payment of revenue by SMEs in Machakos town sub-county were mainly addressed through most popular suggesting -- availing trade license online or electronically to SMEs, followed by addressing fear of e-payment technology and dealing with both people expectation and false assumptions about e-payment of revenue to MKS Town Sub-county Government by the SMEs. Tables 4.7.1 & table 4.7.2 and figure 4.7.1 & figure 4.7.2 illustrate addressing communication barriers on e-payment of revenue for SMEs in Machakos Town.

The Machakos Town Sub-county SMEs' PEOU and the adoption and use of e-payment of revenue was established as over 85% of the Machakos town SMEs owners said that they found the e-payment system of paying revenue to the county government easy to use. Also over 80% of the Machakos town SMEs said that they found the e-payment system of paying revenue to the county government was convenient, useful to their businesses, faster, easy to use and safer compared with cash payment. Table 4.8.1 and figure 4.8.1 illustrate SMEs perception on adoption and use of e-payment of revenue in Machakos town sub-county.

In addition, the Machakos Town Sub-county Government lauded the adoption and use of e-payment of revenue by its SMEs and said that it reduced cost of collecting revenue, revenue collection using e-payment stood at 80%, it reduced paperwork, it improved control, efficiency and accountability. Table 4.9.1 and figure 4.9.1 illustrate the benefits of using e-payment compared to cash payment of revenue to the Machakos town sub-county government. However, the main challenge was education on use of e-payment of revenue and that was largely limited.
The natures of e-commerce in the study, on the adoption and use of e-payment in revenue collection by Machakos Town Sub-county Government for SMEs was found to be mainly under Business-to-Government (B2G) and Person-to-Government (P2G). Under (B2G), it is clear that the SMEs as small partnership or limited companies are businesses who pay revenue to the county government. Similarly, under (P2G) SMEs under sole proprietorship pay revenue to the county government, hence (B2G) and (P2G) respectively.

5.3 Conclusion

The extent of adoption and use of e-payment in revenue collection by Machakos town sub-county's SMEs is that, one, the county government has embraced and facilitated e-payment with 80% of its revenue sourced via e-payment system. Two, the SMEs are aware of e-payment as directed and communicated to by the county government and via other sources, and in fact use it in paying revenue. Higher education increases the adoption and use of e-payment with university educated SMEs owners in Machakos Town embracing the system 100%. Gender factors is not a key factor on adoption and use of e-payment, while those SMEs owners between 20 and 44 years of age showed highest levels of adopting and using e-payment in revenue collection in Machakos town. Both entities, that is the county government and the SMEs listed a number of benefits in the use of e-payment. The county government reported that it enhanced revenue collection, reduced revenue evasion, reduced paper work and revenue losses, whereas the SMEs lauded e-payment as faster and quicker, safer, convenient, easy to use, and allowed them to pay from location compared to cash payment. However, the challenges cited by SMEs include network issues and lack of training on use of e-payment, whereas the county government cited fear of embracing innovation or technology by some SMEs, people's expectaions and false assumptions and limited training on e-payment. The research has contributed to knowledge as it shows that although, the county government system is only about four years in Kenya, it has embraced the use of ICT and e-payment. The SMEs have also embraced ICT and e-payment in business and making payment to the government. Finally, the research can be used as reference by researcher and scholars on use of ICT and e-payment by small businesses for services and revenue to government as the extent of adoption and use of e-payment by SMEs is addressed.
5.4 Recommendations

The researcher recommends that the Machakos Town Sub-county Government embarks on concerted training efforts to SMEs on the adoption and use of e-payment of revenue, as it what the SMEs respondents and county officers respondents cited as largely lacking. Particular emphasis should be put on dispelling fear of embracing technology and e-payment, addressing issues of people's expectations and false assumptions about e-payment, and on the benefits of e-payment of revenue to the SMEs in order to attract them to fully embrace the innovation that is e-payment. In turn it would increase revenue collection from what the county officers stated as it stood at 85% to 100%, thus increase compliance and e-payment efficiency. This would enhance revenue collection and avail more revenue for use and to the benefit of the Machakos town sub-county SMEs, residents and the government.

As cited by the Machakos Town Sub-county officers, the county government should facilitate SMEs who lack mobile phones to enable them transact their e-payment of revenue. This can also be substituted by the use of mobile Point of Sales (M-POS) gadgets, particularly for the very small business.

A solution should be found on the complaint by over 80% of the Machakos Town Sub-county SMEs that they are forced to collect trade license from the county office even after paying revenue via the various e-payment platforms available to them – particularly the mobile phone money transfer and internet banking. This will discourage the SMEs owners or manager from having to waste time and other resources seeking their hardcopy trade license at the county officers. Hence, the county government should put in place a system that allows the downloading of trade licenses or other payment receipts at the cyber cafes near the SMEs, put in place a system that allows SMEs to download the their licences or payment receipts at their offices, and also a system that allows SMEs to have their licences or payment receipts download to them at the bank whenever payment is via internet banking or money transfer. Similarly, after paying revenue via the mobile phone money transfer, there should be a specifically designed receipt or payment license to address the need of SMEs leaving their business and going all the way to the county offices to only pick a payment document or licence.

A study should be done to establish why the Machakos Town Sub-county Government has not moved from its e-payment compliance of 85% to 100% compliance, according to the county revenue officers. The same county revenue officers cited enhanced revenue collection and easy of doing business as a key advantage of e-
payment both to the SMEs and the county government, hence, further research would show what need to be done to reap more benefits.

About 10% of the SMEs said that the Machakos Town Sub-county Government stopped collection of certain revenue in early 2017, particularly matatus, boda boda transporters and market stalls. Other says the payment that they used to do via M-POS has fizzled out. This calls for research to ascertain whether it is one of the reason why revenue collection via e-payment has not reached 100% compliance.
REFERENCES


APPENDICES

Appendix I: Machakos Town SMEs Questionnaire

Dear respondent, I am a University of Nairobi, MA Communication Studies student, doing a research on "Adoption and use of e-payment in revenue collection by Machakos Town Sub-county Government for SMEs" The information you provide will remain confidential.

1. What is the name of your SME business? _____________________________.
2. Where is the business located? ________________________.
3. Tick whether you are business owner or manager or both:
   
<table>
<thead>
<tr>
<th>Owner</th>
<th>manager</th>
<th>Owner &amp; manager</th>
</tr>
</thead>
</table>

4. Tick next to your gender Female ___ Male ____.
5. Tick your age bracket:
   
   Below 15 year-old
   15 to 19-year-old
   20 to 24-year-old
   25 to 29-year-old
   30 to 34-year-old
   35 to 39-year-old
   40 to 44-year-old
   45-year-old & above

6. Tick your highest education level:
   
<table>
<thead>
<tr>
<th>Primary school</th>
<th>Post secondary &amp; not University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary school</td>
<td>University</td>
</tr>
</tbody>
</table>

7. Tick the business you engage in:
   
   | Bar or restaurant | Supermarket | Cosmetics |
   | Chemist or medical | Transport | Vehicles & cycle |
   | Retail shop | Agency banking | Agri-based |
   | Wholesale | Clothing | ICTs-based |
8. If ICT-based tick where applicable:

<table>
<thead>
<tr>
<th>Electronics</th>
<th>Cyber café &amp; internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers</td>
<td>phone money transfer</td>
</tr>
<tr>
<td>Mobile phones</td>
<td>Pay phone services</td>
</tr>
</tbody>
</table>

9. If Manufacturing or repair tick appropriately:

<table>
<thead>
<tr>
<th>Carpentry</th>
<th>Welding</th>
<th>Garage</th>
<th>Cycle assembling</th>
</tr>
</thead>
</table>

10. Tick type of business ownership:

<table>
<thead>
<tr>
<th>Sole proprietorship</th>
<th>Partnership</th>
<th>Limited company</th>
</tr>
</thead>
</table>

11. Does the business own the building? Tick Yes ___ or No ___

12. Indicate estimate annual turnover in Kshs __________

13. Does your business use ICTs in your transactions? Tick Yes ___ or No ___

14. Does your business pay any charges/rent/lease/license fee/ to county government? Tick Yes ___ or No ___.

15. Do you pay revenue directly to revenue office or officers? Tick Yes __ No __

16. Which method do you use to pay you revenue to county government?

Tick appropriately:

<table>
<thead>
<tr>
<th>Cash to office</th>
<th>Other phone transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash in market</td>
<td>POS machine</td>
</tr>
<tr>
<td>Credit/debit card</td>
<td>Paypal</td>
</tr>
<tr>
<td>M-Pesa</td>
<td>Bank counter</td>
</tr>
<tr>
<td>Airtel money</td>
<td>Bank PesaLink</td>
</tr>
</tbody>
</table>

17. Tell us how your business got to know about e-payment of revenue to the Machakos Town Sub-county Government?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
18. What persuade you to use of either cash payment or e-payment?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

19. What is your perception on e-payment as a user in terms of ease of use and usefulness to your business?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

20. Who determines your choice of payment?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

21. Are there communication barriers to your adoption and use of e-payment of revenue system? If so, list them

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

22. List down challenges other than communication your business face in paying revenue to the Machakos Town Sub-county Government

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

23. Are there any benefits you gain for using e-payment in your business?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
24. What would you recommend to the revenue department to do, to make e-payment more accepted by businesses in Machakos Town Sub-county?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

25. Compare business before and after introduction of e-payment of revenue in Machakos Town Sub-county

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

26. Answer the following:
   i) Are you trained to use e-payment? Yes ____ or No ___
   ii) If yes, who trains you? _________________________________
   iii) Are there motivational factors for using e-payment?
       ___________________________________________________________________
       ___________________________________________________________________
       ___________________________________________________________________
   iv) Do other businesses you know of use e-payment? Tick Yes __ or No ___.
   v) Is it simple to use e-payment? ______
   vi) In case there is breakage is it reported immediately? (Indicate time _____)
   vii) How suitable is it for you to use e-payment?
       ___________________________________________________________________
       ___________________________________________________________________
       ___________________________________________________________________

Thank you for your participation.
Appendix II: Machakos Town Sub-county Office Questionnaire

Dear respondent, I am a University of Nairobi, MA Communication Studies student, undertaking a study on "Adoption and use of e-payment in revenue collection by Machakos Town Sub-county Government for SMEs". The information you provide will remain confidential and is for academic use only.

Kindly, answer the following questions to facilitate the study.

Tick either Yes or No or N/A for not applicable, or list and state briefly where applicable.

1. Name your work department at the Machakos County Government

2. Tick next to your gender: Female ☐ or Male ☐

3. Tick your age bracket.

| Below 15 year-old | | 15 to 19-year-old | | 20 to 24-year-old | | 25 to 29-year-old | | 30 to 34-year-old | | 35 to 39-year-old | | 40 to 44-year-old | | 45-year-old & above |
|---|---|---|---|---|---|---|---|---|---|---|---|

4. Indicate your highest education level ____________________

5. Indicate position you hold in the county government ____________

6. Give the total number of registered SMEs____ and the unregistered SMEs _____ in Machakos Town Sub-county.

7. Tick from the sources of revenue for the county government:

<table>
<thead>
<tr>
<th>Market fee</th>
<th>Lease fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single business license fee</td>
<td>Land rates</td>
</tr>
<tr>
<td>Billboards &amp; signpost fees</td>
<td>Car parking fee</td>
</tr>
<tr>
<td>Health inspection fees</td>
<td>Matatu stage fee</td>
</tr>
<tr>
<td>Water and sewerage fee</td>
<td>Others</td>
</tr>
</tbody>
</table>
8. Tick the mode of payment preferred by the SMEs in Machakos Town Sub-county:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cash</td>
<td></td>
</tr>
<tr>
<td>e-payment</td>
<td></td>
</tr>
</tbody>
</table>

9. How does the information about methods of e-payment from you reach the SMEs in your county? Tick appropriately:

- [ ] i). Training
- [ ] ii). Advertisement
- [ ] iii). Door-to-door
- [ ] iv). Government directive

10. What benefit has the county government got from using e-payment in revenue collection from SMEs?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

11. How do you use communication to persuade SMEs to adopt and use e-payment of revenue?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

12. What are the barriers of communication to the adoption and use of e-payment in Machakos Town Sub-county?

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

_____________________________________________________________________

57
13. What challenges other than communication are experienced by SMEs in using e-payment to pay revenue to the county government?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

14. List down how you address challenges facing SMEs in payment of revenue to the county government
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

15. Compare situation before and after the county government adopted e-payment of revenue:

<table>
<thead>
<tr>
<th>Before adoption and use of e-payment</th>
<th>After adoption and use of e-payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>i).</td>
<td>i).</td>
</tr>
<tr>
<td>ii).</td>
<td>ii).</td>
</tr>
<tr>
<td>iii).</td>
<td>iii).</td>
</tr>
<tr>
<td>iv).</td>
<td>iv).</td>
</tr>
</tbody>
</table>

16. What is the future of e-payment for Machakos Town Sub-county government?
_____________________________________________________________________
_____________________________________________________________________

17. Comment about use of ICT by the Machakos County Government
_____________________________________________________________________
_____________________________________________________________________

18. What is your general assessment of e-payment of revenue in Machakos Town Sub-county?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Thank you for your participation.
### Appendix III: Research Timeframe

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept note, proposal writing and revision with supervisor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defense and corrections</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field work and data collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data analysis &amp; report writing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultation with supervisor, correction writing final report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix IV: Research Budget

<table>
<thead>
<tr>
<th>NO.</th>
<th>CORE ACTIVITIES</th>
<th>ITEMS/PARTICIPANTS</th>
<th>TOTAL (Kshs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Consolidation of Literature</td>
<td>Internet, Library research &amp; books, Travelling Expenses</td>
<td>5,000, 5,000</td>
</tr>
<tr>
<td>2</td>
<td>Design &amp; Development</td>
<td>Typing &amp; photocopying, Binding, Stationary materials</td>
<td>5,000, 5,000, 10,000</td>
</tr>
<tr>
<td>3</td>
<td>Consultancy</td>
<td>Data Processing &amp; analysis</td>
<td>10,000</td>
</tr>
<tr>
<td>4</td>
<td>Research induction &amp; training,</td>
<td>Fee for assistant</td>
<td>10,000</td>
</tr>
<tr>
<td>5</td>
<td>Pilot testing &amp; Familiarization</td>
<td>Sample questionnaires</td>
<td>10,000</td>
</tr>
<tr>
<td>6</td>
<td>Main field data collection (one month)</td>
<td>Food &amp; accommodation, Transport, Video camera</td>
<td>10,000, 20,000, 20,000</td>
</tr>
<tr>
<td>7</td>
<td>Data processing &amp; correction</td>
<td>One research assistant</td>
<td>10,000</td>
</tr>
<tr>
<td>8</td>
<td>Contingency</td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>130,000</strong></td>
</tr>
</tbody>
</table>

*Source (Researcher) 2016/2017*
Appendix V: Certificate of Fieldwork

UNIVERSITY OF NAIROBI
COLLEGE OF HUMANITIES & SOCIAL SCIENCES
SCHOOL OF JOURNALISM & MASS COMMUNICATION

P.O. Box 30197-00100
Nairobi, GPO
Kenya

REF: CERTIFICATE OF FIELDWORK

This is to certify that all corrections proposed at the Board of Examiners meeting held on 26/5/2017 in respect of M.A/PhD. Project/Thesis Proposal defence have been effected to my/our satisfaction and the project can be allowed to proceed for fieldwork.

Reg. No: K50/81610/2015
Name: Benjamin Kimeu Wambua
Title: Adoption and Use of E-Payment in Revenue Collection by Machakos Town Sub-County Government for SMEs

SUPERVISING

Dr. Consolata Mutisya

ASSOCIATE DIRECTOR

Dr. Samuel Siringi

DIRECTOR

Dr. Samuel Siringi

SIGNATURE

1/8/2017

SIGNATURE

11/8/2017

SIGNATURE

18/8/2017

SIGNATURE 

DATE

DATE

DATE
Appendix VI: Certificate of Corrections

UNIVERSITY OF NAIROBI
COLLEGE OF HUMANITIES & SOCIAL SCIENCES
SCHOOL OF JOURNALISM & MASS COMMUNICATION

REF: CERTIFICATE OF CORRECTIONS

This is to certify that all corrections proposed at the Board of Examiners meeting held on 30th Nov 2017 in respect of M.A/PhD. Project/Thesis defence have been effected to my/our satisfaction and the project/thesis can be allowed to proceed for binding.

Reg. No: K50/8610/2015
Name: BENJAMIN KIMEU WAMBUA
Title: ADOPTION AND USE OF E-PAYMENT IN REVENUE COLLECTION BY MACHAKOS TOWN SUB-COUNTY GOVERNMENT FOR SMES

DR. CONSOLATA MWITISYA
SUPERVISOR

SIGNATURE
DATE: 7th Dec. 2017

ASSOCIATE DIRECTOR

SIGNATURE
DATE

DIRECTOR

SIGNATURE/STAMP
DATE
Appendix VII: Turnitin Originality Report

Turnitin Originality Report

- Processed on: 08-Dec-2017 18:25 EAT
- ID: 892646665
- Word Count: 11634
- Submitted: 1

ADOPITION AND USE OF E-PAYMENT IN REVENUE COLL....

By k50/81610/2015 Benjamin Kimeu W.

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