

**FACTORS AFFECTING THE ADOPTION OF E-COMMERCE IN
KENYA: A CASE STUDY OF CONSUMER PERSPECTIVE IN THIKA
TOWN**

By

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Nairobi, in Partial Fulfilment of the Requirement for the Award of the Degree of Masters
for Development Studies.**

NOVEMBER, 2019

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DEDICATION

I dedicate this work to the entire Waweru Njatha family.

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Despite of the following acknowledgements, I take full responsibility for all the errors and omissions that might be in this project paper,

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LIST OF ABBREVIATIONS AND ACRONYMS

B2B	Business to Business
B2C	Business to Consumer
C2C	Consumer to Consumer
CAK	Communication Authority of Kenya
E-Commerce	Electronic Commerce
GDP	Gross Domestic Product
ICT	Information Communication Technology
OECD	Organization for Economic Co-operation and Development
UNCTAD	United Nations Conference on Trade and Development
SPSS	Statistical Packages for Social Sciences
SME	Small and Medium Enterprises
TAM	Technology Adoption Model
WTO	World Trade Organization

ABSTRACT

The rapid spread of internet has created a platform where business transactions are conducted over the internet. Driven by the growth of internet users, e-commerce provides local and global opportunities to businesses. However, its adoption has not been as anticipated in some countries. This study therefore sought to examine the factors affecting the adoption of e-commerce among consumers in Kenya in the case of Thika Town. The objectives of the study included: to identify e-commerce adopter characteristics; to establish the factors that enhance e-commerce adoption as well as establish the factors that hinder its adoption. The study was guided by the Diffusion of Innovation Theory and Technology Acceptance Model.

In terms of methodology, this study adopted a descriptive research design where primary and secondary data were gathered. Primary data was collected from the internet users by use of questionnaires. A sample size of 100 respondents was selected through systematic random sampling. The data collected was analyzed by use of Statistical Package for Social Sciences (SPSS) tool. Descriptive statistics specifically frequencies, cross tabulations, and percentages were used to describe the characteristics of the data which was presented in tables and charts.

The findings indicate that e-commerce has a relatively slow adoption rate among consumers. Consumers' demographic characteristics specifically; gender, age and income are found to have a significant influence on consumers' attitude and perceptions towards the adoption of e-commerce. Trust is established as a critical factor in the adoption of e-commerce due to the high levels of uncertainty and risks involved in virtual transactions. This study recommends that business owners should endeavor to build trust with their customers in order to help consumers overcome the perception of risk and uncertainties. Further recommendation is on the government to legislate consumer protection and cyber-crime laws to assure consumers of their online security.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The development and advancement of technology and the internet have consequently led to the development of electronic commerce. Internet development has created a platform and a dynamic operating environment where business transactions are conducted over the internet. Internet connections, therefore, become essential in online business transactions such as buying and selling of commodities as well as in communications. They facilitate the creation of great business opportunities in terms of gaining access to markets globally and as drivers of the economy (Lawrence and Tar, 2010), especially in developing countries.

The World Trade Organization (2013) defines e-commerce as “the buying or selling of products and services via computer networks by methods specially designed for receiving or placing of orders”. Although goods and services are ordered via computer systems, payments and delivery services are not necessarily transacted online. These purchases and sales are conducted via various mediums and devices including; personal computers, laptops, tablets, and mobile phones (UNCTAD, 2015). E-commerce has distinct models depending on the agents involved in the transaction it can be business to business (B2B), consumer to consumer (C2C) and business to consumer (B2C). According to Vargas-hernández (2015), the B2C model is considered to have the least transactions globally.

E-commerce, according to UNCTAD (2001), can create a platform for increased trade in developing countries and can be used as a tool for development upon adoption. It is also claimed that e-commerce can increase and improve the performance of developing countries in the international trade. In this case, e-commerce is expected to create global market opportunities for developing countries by increasing their access to information and their ability to subdue inefficiencies (Kinyanjui and McCormick, 2002). In addition, e-commerce is expected to benefit firms by reducing startup capital which makes firms in developing countries uncompetitive due to high transport cost and ineffective trade procedures. Through a reduction in operational and transactional cost, e-commerce is expected to facilitate firms in developing countries to diversify into new sectors and to efficiently participate in the international trade (Kinyanjui and McCormick, 2002).

The development of local e-commerce provides an economic advantage to the domestic real economy. It enhances the creation of more linkages with local industries and suppliers while reducing reliance on imports and increasing export opportunities. Local e-commerce also provides convenience to residents in terms of shorter shipping time, convenient payment options, a variety of products, and local content interface (UNCTAD, 2018).

The rise of the digital economy has increased the demand for online labor. It is, therefore, becoming a new income-generating venture for individuals with relevant skills and adequate connectivity thus creating employment opportunities (UNCTAD, 2018). In addition, e-commerce makes it easier for artisans and SMEs to have access to markets. Artisans who are mostly women, who are mostly marginalized, now have the opportunity to advertise as well as sell their products directly to consumers both locally and in the OECD markets (Goldstein, 2000).

E-commerce gains and prospects are however not automatic; there is a need for increased adoption and investment in the sector. E-commerce readiness differs between countries thus its benefits are not equally distributed. For example, the USA followed by Europe have the largest share with about 79% global e-commerce revenue while Africa and Middle Eastern region, have the smallest share with about 3% global e-commerce revenue (Alqahtani et al., 2012). Despite developing countries having the potential for e-commerce development, they are still lagging behind the developed countries. As compared to the European countries, E-commerce growth in Africa is slow but with a positive trend as the number of firms carrying out online business transactions, have increased over time (Mwencha, 2016).

1.2 Problem Statement

In the last few years, Africa has made incredible milestones in joining and linking to the world's broadband networks. It is estimated that 960 million Africans have access to mobile phones while 450 million have internet access (Internet World Statistics, 2018). There are high hopes that with the high mobile phones and internet penetration, Africa will seize the opportunity to enhance its e-commerce and e-economic fortune. Estimates projected that Africa's e-commerce market would rise from US\$8 billion in 2013 to US\$50 billion by 2018 (International Trade Center, 2015). However, this growth is the yet to be realized with current Africa's B2C global e-commerce share estimated to be 2.5% up with just 0.3% growth margin from 2.2% in 2013 (UNCTAD, 2015).

Kenya is ranked the third country in Africa with the highest internet penetration rate (after Mauritius and Nigeria) and with a vibrant ICT sector. Kenya boasts of 40.5 million internet users and a penetration rate of 89.4% (CAK, 2017). Fiber optic networks also continue to grow with increased network subscriptions. Despite Kenya being the third leading country in Africa in terms of ICT and internet users, it was ranked 114th place in the UNCTAD's B2C E-commerce index globally (UNCTAD, 2015). It was ranked after Mauritius (54th place), South Africa at (67th place), Egypt (68th), Tunisia (74th) and Morocco at (75th place). According to UNCTAD (2015) countries with higher internet penetration thresholds are expected to have higher e-commerce adoption rates. However, in cases where the anticipated does not occur, UNCTAD suggests that other inhibiting factors should be identified when developing e-commerce.

There is an anticipated relationship between internet penetration rates and e-commerce adoption rates. Highly internet connected countries are expected to have higher percentages of online shoppers. However, this is not the case in Kenya, there are concerns that e-commerce is being deterred by relatively slow uptake by the consumers. Businesses in Kenya have made efforts towards adopting online trading with an adoption rate of 39% by firms (Okadapau, et al., 2016). However, slow consumer uptake has rendered to the closure of a number of online retailing services (Mwencha, 2016). In addition, according to a consumer report by the US. Commercial Service for Export (2016) out of the estimated 40.5 million internet users, only about 5% of Kenyan consumers make online purchases. Little has been done to investigate factors that prevent Kenyan consumers from adopting e-commerce despite having access to internet services. This study, therefore, addressed this gap by investigating the factors that influence consumers' decision to adopt e-commerce in Kenya.

1.3. Research Questions

The overall question for this study was “What are the factors affecting the adoption of e-commerce by consumers?”

The specific questions include

- i. What are the characteristics of e-commerce adopters?
- ii. What are factors that enhance the adoption of e-commerce by consumers?
- iii. What are the factors that hinder the adoption of e-commerce by consumers?

1.4. Research Objectives

The overall objective of this research was to determine the factors affecting the adoption of e-commerce from a consumer’s perspectives.

The specific objectives are to:

- i. Identify e-commerce adopter characteristics.
- ii. Establish factors that enhance the adoption of e-commerce by consumers.
- iii. Identify factors that hinder the adoption of e-commerce by consumers.

1.5 Justification of the Study

Literature shows that studies on e-commerce development in developing countries especially in Africa are limited. Karake (2007) and Alqahtani et al., (2012) assert that literature on e-commerce in developing countries is extremely limited. Mutuku&Mahihu (2014) further acknowledge that little research has been done especially in Africa to reflect the growing populations, needs and characteristics of online consumers. Almousa (2013) and Kurnia (2006) further recommend a re- examination of e-commerce adoption from a consumer perspective in the context of a developing country by gathering more empirical data from various specific countries. It is from this inadequacy in empirical research that this study endeavored to contribute to the existing literature and to shed light on e-commerce issues in the context of an African country. This study therefore, aimed at filling knowledge gap in literature

In order to enhance the growth of the e-commerce sector, it is necessary to provide e-business owners with detailed information on consumers’ preferences, concerns and perceptions. Consumer information will enable enterprises to tailor their services to serve the purpose of the

consumers' thus stimulating acceptance of the trade. The main aim of the study thus is to provide online enterprises with adequate consumer information that they can leverage on.

E-commerce through digital networks has the potential to expand trade as well increase a country's Gross Domestic Product. Therefore, the government has a critical role to play in creating an enabling environment for e-commerce development. This study sought to inform the government on the roles it needs to play in order to enhance the adoption of e-commerce by its citizens. It further sought to stimulate the government to implement possible policy options that would enhance the growth of e-commerce.

1.6 Research Limitation

This study was conducted in Thika Town which has a large number of internet users; however, due to limited time and resources, only fewer cases were collected. Therefore, the findings of this study may lead to generalization and samples not reflecting the full spectrum of all e-commerce adopters' and non-adopters in the area. Secondly, the research focused on many variables, therefore discussions regarding empirical findings on the variables is limited thus in depth understanding of factors is lacking leading to generalization of information.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter consists of the theoretical literature review and empirical literature review. Theoretical literature review contains the theories relating to this study which help to explain the phenomenon of the study. Empirical literature review provides an analysis of other studies conducted on the subject matter.

2.2 Theoretical Literature Review

Theories play an important role in explaining and predicting a phenomenon. Several theories have been used to explain the acceptance and adoption of technology by individuals. Some of these theories include the Diffusion of innovation theory and Technology Acceptance Model; which the study found most suitable to explain and predict the adoption of e-commerce by consumers. The study reviewed the two theories.

2.2.1 Diffusion of Innovation Theory

The Diffusion of Innovation theory was developed by Rodgers in 1962. The theory offers an explanation as to how, why and at what rate innovations and technologies spread in a social system (Rodgers, 1962). The theory is concerned with new products and ideas or perceived new ideas and their rate of adoption.

Rodgers (1983) identifies an innovation-decision process through which individuals pass through in adopting an innovation: knowledge, persuasion, decision, implementation, and confirmation. In the knowledge stage, an individual realizes and acknowledges the existence of an innovation. Persuasion stage takes place when an individual develops a positive or negative attitude towards an innovation. In this stage, an individual's perception is influenced by the characteristics associated with the new product. Depending on the individual's attitude toward the product, the individual makes a choice on whether to adopt or reject the innovation. This occurs at the decision stage which is the third innovation-decision stage according to Rodgers. The most important stage is the implementation stage where an individual is involved in the actual and constant use of an innovation. Finally, in the confirmation stage, an individual seeks the opinion of others in regard to the innovation-decision but reserves the right to make the decision if satisfied or dissatisfied with a technology.

Further, Rodgers (1983) classifies the members of a social system on the basis of innovativeness. The classification includes; innovators, early adopters, early majority, late majority and the laggards. Innovators

include individuals who are willing to try out new innovations and ideas and are risk takers. The early adopters are opinion leaders and offer advice and information about a new product; their opinion is considered important. Early majority are hardly leaders but they adopt an innovation before most people. Late majority are skeptical and wait until other people have adopted an innovation. The laggards are traditional, skeptical and resistant to change. According to Rodgers individuals' characteristics influence their adoption decision and the overall spread of the technology in a society.

Rodgers (1995) identified five elements that determine the rate of adoption of an innovation includes (1) attributes such as relative advantage, compatibility, complexity, trialability, and observability. In this case, the adoption of a technology is dependent on its characteristics and how well it is considered user-friendly. (2) Reinvention; referring to the evolution of an innovation to meet the needs of individuals in a population. (3) Communication channels are considered important impersonal and interpersonal methods which spread information about a new innovation, for example, the mass media. (4) Time which determines an innovation's adoption rate in a given a social and time. Lastly are the social system network connections and norms.

The theory of diffusion has been used and refined by other researchers in their studies. Nutley (2002) for example, considers "routinization of the innovation". He argues that the constant use of a technology should be considered in theory rather than just the acceptance if a technology in a social system. Nutley emphasizes on "infusion" where full utilization of an innovation is included into the model. Nutley further identifies prior conditions that influence the adoption process such as experience, characteristics of the innovation, communication channels as well as the change agents involved. He argues that individual's decision to adopt a technology depends on their knowledge and experience with the new product. Greenhalgh (2004) incorporate fuzzy boundaries into the innovation attributes by Rodgers (1995). According to Greenhalgh, organizational structures and systems necessary for innovation full implementation. These include risk, task issues, the knowledge required to use the innovation, and customer care or support.

In this study, the innovation or perceived new product is e-commerce. The theory explains the processes through which an innovation is likely to undergo to experience full adoption by individuals. It, therefore, provides an overview of e-commerce metamorphosis in Kenya. Communication channels, such as social media have been of importance in creating awareness on the existence of this trade and in soliciting consumers in the Kenyan market. Currently, Kenya media channels are at the forefront in creating

awareness on the existence and relative advantages of e-commerce to consumers. However, only a few people among the 40.5 million internet users have adopted the technology. Therefore, based on Rodgers classification on members of a social system, the Kenyan population can be described as to be laggards and late majority. However, the theory is limited by the failure to recognize the presence and the roles that implementing institutions should play to ensure a faster adoption rate.

2.2.2 Technology Acceptance Model (TAM)

The adoption and usage of e-commerce can be predicted by the Technology Acceptance Model (TAM) developed by Davis in 1989. TAM is anchored on the Theory of Reasoned Action which was proposed by Fishbein and Ajzen (1975). Davis in his work opined that the use of a system or technology is a reaction that can be predicted by user motivation. This model suggests three factors that can be used to explain users' decision to accept or reject a technology: Perceived Ease of Use, Perceived Usefulness and Attitude towards using a system.

Davis (1989) defined Perceived Ease of Use as the “degree to which a person believes that using a technology will be free of effort”. In this case, individuals tend to adopt a technology when they perceive it to require lesser effort to use and learn. Perceived usefulness on the other hand, is considered as “the degree to which individuals believes that the use of a new technology would improve the performance of their task”. Individuals prefer a technology that they perceive to make their work easier as well as improve their effectiveness. These two elements of a technology are considered as factors that motivates the intended user to adopt the technology. For example, if virtual buying actually saves on time that would have been spent in traditional stores then consumers are likely to adopt it.

On the other hand, even if an individual finds a particular application useful, and at the same time perceives it to be too difficult to use, or efforts needed to use the technology outweigh the expected benefits then the application might be rejected. Perceived usefulness is therefore influenced by perceived ease of use; thus, a system is considered more useful if it's easier to use (Davis, 2000). Ease of use of a technology is therefore the key determinant and motivating factor of adoption. According to Davis, these two factors are subjects to external variables that are social, cultural, and political in nature. The proponent further identified actual systems features and capabilities as an external factor that directly influences user motivation

Perceived ease of use and perceived usefulness also determines and predicts the attitude of an individual towards system use and adoption. Attitude referring to an individual's positive or negative feeling about a particular system shaped by specific system's performance (Esmailpour, 2016) was hypothesized to be a major determinant of whether the user will accept or reject a technology. The ability of an individual to use a technology determines his/her reaction and attitude towards the technology. The easier it is for an individual to learn and use the technology, the more they are likely to develop a positive attitude towards using it. As noted by Davis (1989), capabilities determine ease of use, for example, proficient internet users are more likely to adopt e-commerce. In addition, Davis suggests that the convenience of a technology in terms of enhancing work performance and reducing task force fosters consumers to develop a positive attitude towards the technology which could lead to its adoption.

Later, Davis (1989), refined his model to include other variables that directly or indirectly influence the acceptance of a technology. Davis and Venkatesh (2000) refined the model and named it TAM2 which included additional constructs namely: social influence processes, and cognitive instrumental processes. Various other researchers have also modified TAM by adding their variables Lim (2000) for example modified TAM by adding; experience, self-efficacy, perceived risk and social influence variables. Celik and Yilmaz (2011) in their study on e-shopping acceptance extended the model by including perceived trust, perceived enjoyment, perceived information quality, and perceived service quality.

E-commerce is a technology that attempts to make shopping easier. However, a consumers' intention to purchase or repurchase from a website is determined by how well they are able to use and navigate through the online stores. Individual's characteristics such as literacy level and self-efficacy determine their ability to navigate and use e-commerce sites. In addition, consumers who desire to make their purchasing experience more convenient are more likely to adopt online purchasing. Perceived ease of use and perceived usefulness, therefore, influence consumers' decision to adopt e-commerce.

2.3 Empirical Literature Review

This section contains the empirical literature review which consists of thematically arranged studies conducted on the subject matter.

2.3.1. Characteristic of E-commerce Adopters

According to Donthu et al., (1999) a typical internet user is not necessarily a typical online consumer. E-commerce adopters are therefore significantly distinguished by their demographic and behavioral characteristics. Donthu (1999) further notes that there has been a shift in the e-commerce adopter characteristics, where previously the average consumer was a middle-aged male with higher education and purchasing power. The current consumers are more heterogeneous exhibiting diversity in their demographic and behavioral characteristics.

Gender is an important variable in examining e-commerce adoption. Gender differences are shown to have a considerable impact on technology adoption (Sayan et al., 2004; Hawapi et al., 2017). Sayan et al, (2004) for instances, notes that gender differences shape individuals' perceptions and attitudes towards a technology. Other factors such product type as noted by Ige (2004) were found to likely have an influence on gender purchase decision. For example, a study by Xue (2002) found that women are the majority adopters when it came to food and beverage shopping. On the contrary, a study by Akman and Rehan (2010), found that gender differences do not have an impact on e-commerce usage especially where individuals are professionals. Thus, Akman et al., (2010) conclude that gender differences are eliminated especially when individuals have a similar background in ICT usage.

The age of a consumer has been found to have an influence on online purchasing of products. A study by Hawapi et al., (2017) on Indonesian consumers, found that younger people tend to make simpler decisions in product buying, while older people make more complex decisions because they are careful in choosing products. In this case, younger people tend to be flexible when making purchase decisions and easily accept new products found in online stores. In addition, younger consumers show the willingness to accept new and creative ideas; they also show interest in using new technology and products presented in the market. Unlike older people, younger people also find it easy to use and navigate through the online stores. Further studies by Ratchford et al., (2001) found that e-commerce adopters include younger people who are more educated and with higher income. On the contrary, a study by Dillon and Reif (2004) found that

previous experience with internet purchase was the main determinant of adoption regardless of age.

Individuals' levels of income determine their purchasing power; studies by Akhter (2003) and Wong (2003) indicate that consumers with higher incomes make frequent online purchases. Hawapi et al., (2017) attributes the frequent purchases to the fact that high income people have the capacity to afford relatively high-priced commodities found in online stores. In addition, individuals with higher incomes are also in a position to make regular purchases as opposed to individuals with lower income. Further, Akhter (2003) mention that, high-income individuals prefer online purchasing because it is time-saving. However, according to Lowe (2003), low-income households also have an increased potential to access e-commerce services. According to Lowe, e-commerce sites offer relatively lower price offers that allow individuals from low income households to also to purchase from these stores. However, although the high income and low-income earners are able to purchase from online stores, there is a variance in the products purchased based on prices. Online stores are reported to offer variety of products that cater for individuals with different economic capacities. Thus, as indicated by Shiu et al., (2007), there are disparities in e-commerce adoption based on different income levels; these disparities are also reflected in ICT adoption (UNPAN, 2005).

Self-efficacy involves individual's ability and skills to purchase over the internet (Keisidou, 2011). On the other hand, Jaeger (2003) attributes self-efficacy with computer experience. According to Jaeger (2003), computer experienced individuals are proficient with ICT use and may enhance e-commerce adoption. In addition, consumers with internet knowledge find it easy to navigate through the online stores and are likely to purchase from them. Lichtenstein (2005) study on consumer adoption of internet banking found that respondents' familiarity and confidence in internet usage motivated them to adopt internet banking. However, as noted by Shahnwaz (2014) it is also likely for consumers with internet skills to be unwilling to purchase online despite being knowledgeable in electronic system use.

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2.3.2. Factors that Enhance E-commerce Adoption

This study categorizes the factors into four categories. They include: Product/ service characteristics, medium characteristics, process characteristics and consumer related characteristics

Medium characteristics describe the attributes of e-commerce that positively influence consumer's decision to purchase online. According to Luthfihadi & Bandung (2013) the easier it is to use an e-commerce site, the more it is considered friendly to shop and will be used by more consumers. A study on Croatian consumers by Renko (2015) found that consumers prefer e-tailing because it requires fewer efforts in terms of getting product information and purchasing. It also enhances their shopping experience and improves effectiveness. Douqing (2013) and Bauboniene (2015) also concluded that simplicity of a website and its usefulness are the significant determinants of e-commerce adoption. However, ease of use as noted by Shahnawaz, (2014) is not always a motivating factor. Shahnwaz (2014) study on mobile banking revealed that Pakistan consumers did not give any importance to electronic systems even with their literacy levels.

Web quality is associated with website features, design, information quality as well as its easy to use and navigate (Douqing, 2013; Gatautis et al., 2014). Web quality is closely related to ease of use as they are both concerned with an individual's perception of a website's usability. Some website designs have too many aesthetic features such that it affects usability. Other website designs may contain information overload that may result in confusion and lack of understanding. Thus, consumers prefer websites that they can easily navigate through and with relevant and clear information. A study by Douqing (2013), found that Chinese online consumers were willing to buy from a website that they perceived as easy to navigate through. Online stores should therefore, make their websites easy to search information with user-friendly web designs and easy language (Katawetawaraks & Wang, 2011).

Compared to traditional shopping, online shopping is available for 24hour services. Websites also provide immediate product information to consumers and help consumers to purchase products without visiting stores (Mittal, 2013). According to Bauboniene (2015), 72% of Lithuanian consumers prefer online shopping due to its convenience and simplicity. Khyzer et al., (2015) identified convenience as a significant factor that enhanced people's preference for

online shopping. Consumers in internet banking in Australia also cited convenience as their main reason for adopting internet banking (Lichtenstein, 2005)

The process through which a site delivers its services from information inquiry, product purchasing to delivery is a great determinant of consumer adoption of a particular e-commerce site. Lee et al., (1995) identified a fast response to consumer inquiry, reliable transaction processing, relevant introductions, customized services and consumer assurance as factors that increase consumers' propensity to purchase online. Customer service is a critical determinant of website adoption. A study by Gatautis et al., (2014) identified service quality as critical consumers' concern and determinant of their e-commerce website adoption. Douqing, (2013) in his study on Chinese consumers also noted that service quality from e-vendors fosters consumers to maintain a positive attitude towards online purchasing.

Consumers of internet banking according to a study by Lichtenstein (2005) highlighted the importance of responsive and personalized consumer care support in influencing their adoption decision. Although online transactions limit face to face transactions, quick response to consumers' concern enhances trust between the consumer and the seller. Efficient customer care services therefore, inform consumer purchase and repurchase decision making. In this case websites with responsive customer support system are considered for purchase or repurchase.

In order to reduce consumer's risk concerns, Katawetawaraks et al., (2011) suggest that sellers should have brand-named products or at least brand the product by their website name for example eBay. They further opine that selling reputed brand-named products increases website trust by consumers. Consumers tend to associate the authenticity and quality of products with their brands' names, thus make their purchasing decision based on the product brand available. Therefore, brand name and its reputation are considered a significant factor that influences customers purchasing decision (Lim and Dubinsky, 2004). On the contrary, according to Xue (2002), brand names are no longer relevant to consumers due to the availability of quality product information on the internet.

The presence and efficiency of delivery services, although considered a challenge to many developing countries, significantly contribute to e-commerce adoption. Gatautis et al., (2014) study on factors influencing adoption and intention to buy in a virtual environment; found that consumers consider delivery convenience in making online purchases. Improved and efficient

delivery services enhance consumer e-commerce adoption. According to Douqing (2013) consumers are willing to purchase online due to its convenience associated with the ability to obtain goods more easily and quickly through delivery services. Consumers prefer websites with faster delivery speed and make the right deliveries. Delivery services can be considered as the backbone of e-commerce because it is the main channel through which consumers receive their ordered products. However, many online enterprises, especially in developing countries, experience logistical and infrastructural challenges (Lawrence & Tar, 2010) which hinder them from making quick deliveries as they desire.

Product and services characteristics are concerned with knowledge about a product, product type, product quality as well the frequency in which the product is purchased. Products and services information provide consumers with knowledge of a product and assists in purchase decision making. Therefore, the availability of detailed information about a product and service according to Mittal (2013) has changed consumer' behavior from the traditional mode to on-site shopping. According to Park and Kim (2003), product information entails product attribute information, recommendation, service information, ordering and delivery information and promotion. Park and Kim noted that information feature in a site, determined consumer's loyalty to a particular site. In this case, product and service information quality was identified as the most significant among other factors. However, the delivery of this information is as important as its availability. Consumers according to (Katawetawaraks and Wang, 2011) do not like to be overwhelmed with information.

Internet buying helps consumers to evaluate commodity prices from different sites and get products at lower prices than buying from traditional stores (Katawetawaraks and Wang, 2011; Mittal, 2013). Consumers are able to compare prices by just navigating through the online stores in search of websites with lower prices for their desired product. In addition, unlike local stores, online shopping often offers lower prices for products that would have otherwise have a higher cost. Some websites, for example, eBay have product auctions and offers, such that they make good price offers for their product. Liang et al., (2017) study on consumer online purchase intention; found that price sensitivity increases consumer's intention to repurchase online. The study concluded that price is a critical factor that motivates consumer's purchase and repurchases intention.

Online stores provide consumers with a wide variety of products to choose from. Consumers are able to access products which would mostly be found only in online stores globally (Katawetawaraks & Wang, 2011). Liam & Lin (2008) and Cheung, (2001) insist that there are a variety and diverse range of products sold online. E-commerce allows consumers to purchase products which are not available in their local stores or websites. Bauboniene (2015), examined Lithuanian consumers and found that people aged between 25-34 years more often engaged in online shopping because of lower prices and greater product variety. This implies that the lower prices offered by online stores allows the middle-aged consumers to purchase from online stores.

2.3.3. Factors that Hinder the Adoption of E-commerce

Infrastructural factors are technical and technological elements of e-commerce that facilitate its development. They are considered as the major impediments to e-commerce development in many developing countries. Literature suggests that developing countries lack the infrastructural capacity to facilitate the growth of e-commerce. For example, limited postal services in Costa Rica as noted by Travica (2002) slows down delivery services in the countries.

Access to competitive forms of payment systems is an important driver to e-commerce. It allows consumers to make payments over the internet either through; credit, debit or smart card as well as online currencies (Lawrence & Tar, 2010). However, Efendioglu et al., (2004); Lawrence & Tar, (2010) and UNCTAD (2015) note that few people in developing countries have access to credit cards; thus, many users may be unable to make online purchases. According to UNCTAD (2015), less than 5% of people aged 15 years and above had access to credit in Africa and Asia in 2011. Efendioglu (2004) study on e-commerce development in China found that lack of credit cards and convenient means of payment was the main consumer issue. However, UNCTAD (2015) noted that the development of mobile money payment systems has provided an alternative payment mode to many African countries especially in countries with high financial inclusion. This has therefore enabled many consumers to access efficient and convenient modes of payments within these regions. In Kenya for example, 19% of total e-commerce transactions were conducted via mobile money in 2015 (UNCTAD, 2015).

E-commerce development requires adequate and convenient distribution and delivery channels that meet consumers' expectations (Lawrence & Tar, 2010). However, logistical problems are noted as critical impediments to the development of e-commerce in developing countries (Kalini

et al., 2016). Most developing countries have incompetent distribution and delivery systems (Lawrence & Tar, 2010) which are likely to collapse in case of high consumer demand (Kalini et al., 2016). For example, according to Travica (2002), Costa Rica, postal services are limited and their parcels take too long to be delivered and safely while buildings also lack numbers which can be referenced. Alqahtani et al., (2012) found that 46% of the Saudi Arabian consumers raised concerns about the poor postal and delivery services which render product delivery to be slow and late. However, there are rising innovations in delivery services especially by the private sector and foreign investors that leverage the e-commerce potential in developing countries (UNCTAD, 2015).

Issues of data privacy and security are a major impediment to e-commerce adoption according to Kabango (2015). Online availability and accessibility of enterprises data allow hackers to hack consumers' information. Online users are therefore concerned about the security of their information and this prevents them from accessing sites where they will be required to use their personal data or make online payments. According to Olusegun et al., (2006) the main barrier to the adoption of e-commerce in Nigeria, is security especially when it involves online payment methods. Cyber security is therefore considered a major concern to many consumers especially in many developing countries where consumer protection laws have not been fully implemented. In Kenya, for example, the government has formulated a legal regime for e-commerce with a new Act to deal with cybercrime, however, it has not been fully executed to make online consumers feel safe (UNCTAD, 2015).

Social impediments are informal in nature and associated with informal institutions. They are concerned with a consumer or society's behavior and attitude. According to Kshetri (2007), social barriers are the most difficult and time-consuming barriers to overcome because they involve attitude and behavior change.

Lack of awareness of the relative advantages of e-commerce is considered hindrance to e-commerce adoption. Consumer's knowledge and attitude towards e-commerce are enhanced by education and social influence (Kalini et al., 2016). Respondents of a study by Alqahtani et al., (2012) in Saudi Arabia reported of not being aware of the benefits of e-commerce and perceived it as difficult to use. This is supported by another study by Ahmed (2016) which found lack of knowledge and awareness of e-commerce benefits as inhibitors to e-commerce development.

Limited access to e-commerce information has led to little or no knowledge of e-commerce activities thus limiting adoption. Currently, the mass media has made efforts to create awareness while online enterprises also advertise their businesses online. However, e-literacy and awareness do not always lead to adoption as in the case of Pakistan as revealed by Shahnawaz (2014).

Trust is considered an important element of e-commerce. It builds the confidence of consumers to buy products or services virtually even when the e-vendor is unknown. Trust issues range from; trust in online payment, unknown sellers, and authenticity of the products and services ordered. The lack of online trust is one of the major reasons for the low adoption of e-commerce (Ahmed, 2016; Corbitt et al., 2003) in developing countries. To confirm that, a study by Alqahtani et al., (2012) in Saudi Arabia depicted that the issue of trust was a crucial aspect that prevented Saudi Arabian consumers from adopting e-commerce. Further findings by Efendioglu et al., (2004.), found that lack of transactional trust as a major concern among Chinese consumers.

Online shopping lacks tangibility of goods. Consumers trust and prefer goods that they can see, touch, feel or even try prior purchase. Unlike online stores, traditional stores give consumers an opportunity to confirm the quality of the products they want to purchase. A study by Alqahtani et al., (2012) found that respondents considered tangibility of goods in their purchases especially in clothes buying. Efendioglu et al., (2004) and Kshetri (2007) further identify lack of feel and touch as barriers that prevent consumers from purchasing online. This situation is further aggravated by poor return policy in many online stores as well as lack of physical stores where consumers can return the goods if they did not meet their expectations.

Cultural orientation of individuals determines their attitude towards a technology. It informs an individual's character, behavior, attitude, response as well as their perception towards the innovation. Shopping in most developing countries is an interactive process, where consumers and sellers build relationships referred to "guanxi" in Chinese culture (Efendioglu et al., 2004.). The idea of buying goods from an unknown seller who is miles away is considered as an alien culture. People in developing countries prefer face to face and direct contact (Lawrence & Tar, 2010); limited contact in e-commerce hinders its adoption. Sacha Consulting Group (2012) and Kshetri (2007) in their study identified limitation of personal contact as a barrier to e-commerce

adoption. Personal contact is believed to create trust and good relationships between the buyer and the seller thus creating a good market system.

According to Lawrence & Tar (2010), new technology in developing countries is received with suspicion, it is perceived as a means to destroy their way of life. Shopping is known to take place in marketplaces and payments made via cash. These cultural traits undermine e-commerce adoption. China, for example, depicts itself as a cash society with a “debt is not good” belief; this belief prevents them from using credit cards for their purchase even when they own them (Efendioglu et al., 2004.). Individuals and societies in most countries are not willing to change their way of life and accommodate new inventions. Alghamdi et al., (2013) and Kalini et al., (2016) in their studies identified resistance to change was a major social impediment to e-commerce adoption. Resistance to change is a significant social barrier even in literate and technologically advanced societies. Preference of traditional stores to online ones still persists.

Economic status of individuals influences their capacity to shop online. A large proportion of developing countries populations live below the poverty line. Increased poverty reduces consumer demand for goods and the internet becomes unaffordable for many people. Low income is a major impediment for e-commerce adoption in developing countries as indicated by Lawrence & Tar (2010). The per capita income of individuals determines their purchasing power. Higher incomes and living standards increase consumer demand (Kalini et al., 2016) and positively influence e-commerce. Low incomes in developing countries reduce their purchasing power and demand for goods. Shahnawaz (2014) study on m-commerce in Pakistan, found that low purchasing power and economic situations were some of the main reasons for the non-acceptance of m-commerce. Olusegun et al., (2006) study in Nigeria stressed on citizens low income as a significant factor influencing the adoption of e-commerce.

The access charges for internet use are relatively high for the low incomes citizens. According to Lawrence & Tar (2010), the monthly connection cost of the internet significantly exceeds a great number of the populations' monthly income. Lawrence and Tar (2010), claim that high internet charges have prevented the developing countries citizens from accessing the internet, thus hindering e-commerce development. Alqahtani et al., (2012) study found the concept of internet cost to have an effect on the consumer's decision to use e-commerce. However, the emergence of competitive telecommunications companies has led to reduced costs of internet charges for

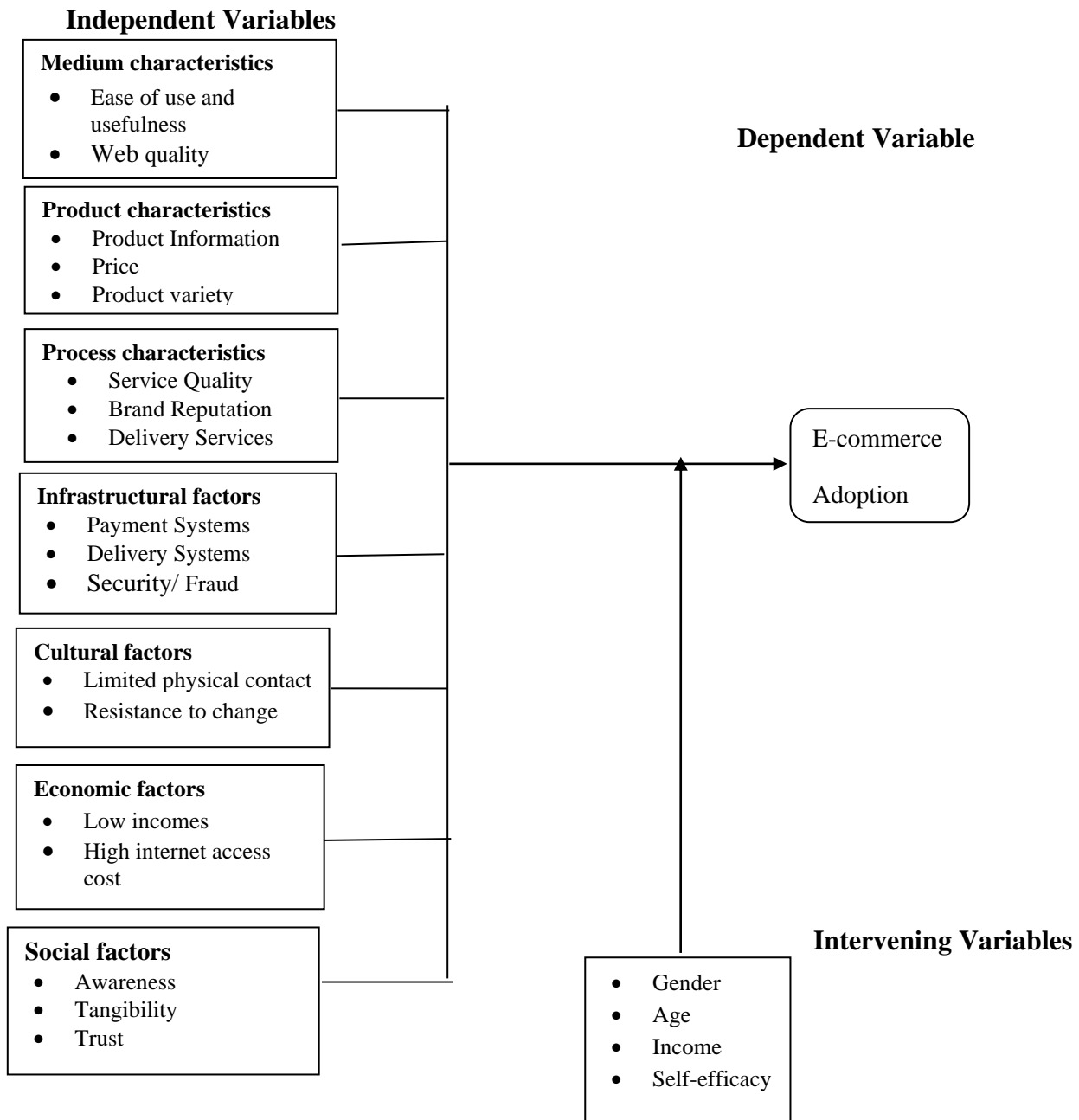
some countries. Kenya, for example, is receiving cheaper bundles from telecommunication operators (Mwencha, 2016) this has led to the increased number of internet users. However, cheaper internet services have not had a significant impact on e-commerce adoption among consumers.

2.4 Conceptual Framework

This study conceptualizes e-commerce as a great opportunity for businesses to gain access to the global markets. E-commerce is also expected create an avenue for artisans and SMEs to have access to markets thus creating employment opportunities. However, its adoption has been relatively slow. Therefore, this study seeks to establish the factors affecting e-commerce adoption as the independent variable while e-commerce adoption is the dependent variable (refer figure 2.1). The independent variable is divided into two main categories: the factors that enhance e-commerce adoption and factors that hinder adoption. Under these two categories sub divisions are made: Medium characteristics, Product characteristics, and Process characteristics which according to the study, consist of elements of e-commerce that the positively influence consumers to adopt e-commerce. On the other hand, Infrastructural factors, Cultural, Social and Economic factors consist of the external forces that hinder the adoption of e-commerce. The independent variables are aligned on the left side of figure 2.1.

Consumers' characteristics such as gender, age, income and self-efficacy are crucial in determining whether an individual's demographic and behavioral characteristics influence their perceptions and attitudes towards e-commerce adoption. These variables according to literature have a direct relationship with the independent variable. They therefore act as the intervening variables in the study.

Figure 2. 1 Conceptual Framework



Source: Author's Conceptualization (2018)

2.5 Summary and Critique of the Literature Review.

The literature review focuses on the characteristics of e-commerce adopters as well the factors that enhance and hinder e-commerce adoption. The available literature does not illustrate the level of e-commerce uptake in the study countries but notably indicate that it is relatively low especially in the developing countries. Literature attributes the slow e-commerce uptake in developing countries to factors such as low income, infrastructural challenges such as poor internet connections, resistance to change, security and fraud as well as lack of awareness. Although literature provides numerous factors that hinder e-commerce adoption, there is no consensus on the level of influence of these factors on adoption. In addition, these impediments are generalized in the context of developing countries and therefore cannot be used to draw conclusions on the factors hindering adoption in a specific country. Further, these impediments cannot also be used formulate solution for slow adoption in other countries.

The literature also highlights the factors that enhance e-commerce adoption. These factors constitute of e-commerce characteristics that positively influence consumers to adopt e-commerce. Features such as web quality, availability of information, delivery services, easy transaction processes among other features are highlighted in the study. Literature on these factors enables online business owners to understand consumers' preferences as well as the areas they should improve on in order to attract more consumers. However, consumers', e-commerce characteristics preferences differ per individuals and therefore great analysis and understanding is required in order to come up with e-commerce sites that cater for all individuals.

The literature review also looks at the consumer characteristics that influence e-commerce adoption. Age, gender, income and self-efficacy are identified as some of the characteristics that have a great impact on e-commerce adoption. Literature shows that, consumer demographic characteristics influence their perception towards e-commerce as well their adoption decision. However, this literature review has not paid attention to education which is an important factor that influences technology adoption.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section describes the strategies that were employed in this study. It consists of the research design, study site, target population, sampling and sampling procedures, research instruments, and data collection techniques as well as data analysis procedure.

3.2 Study Site Description

Literature shows that most studies on e-commerce are conducted in major cities of the studied countries. In most cases there are big gaps between the urban and rural areas especially in terms of connectivity and access to reliable internet as well as in literacy levels. In order to reduce location biasness, this study was carried out in a semi-urban location; a location that has the elements of both an urban area and a rural area.

The study was therefore conducted in Thika town constituency which is a metropolitan town in Kenya. Thika town is a constituency within Kiambu County. It is located 45km from Nairobi city which is the capital city of Kenya. According to a report by the Kiambu County Government (2015), Thika Town infrastructural status is modern with available connectivity options such as fiber and Wi-Fi. In addition, internet disconnections are rare and internet users enjoy access to reliable internet connections. Therefore, Thika Town is suitable for this study because it offers adequate internet connectivity to the internet users who are the target population of this study. In addition, mobile coverage and cyber presence is high (Kiambu County Government, 2015), this allows majority of Thika Town residents to have access to internet services.

According to 2017 population projections by the County Government of Kiambu, Thika town has a total population of 207, 020 people with a large number of literate youths (County Government of Kiambu Integrated Development Plan, 2013- 2017). There is also a large number of consumers as exhibited by the solid network of wholesale, retail chain supermarkets, grocery stores and numerous shopping malls present in Thika Town Kenya Information guide, (2015). Therefore, the availability of solid network connectivity and a consumer base provides a rationale to carry out this study in this location.

3.3 Research Design

A research design is the plan and structure a study conceives appropriate in its quest to obtain answers to research questions. This research was designed as a cross sectional descriptive study. Cross-sectional studies also known as descriptive surveys; aim at collecting data for the purpose of answering questions concerning the phenomena under study. It is further concerned with describing the characteristics of individuals or groups (Kothari, 2004). Descriptive survey was considered appropriate for this study because of its objective to collect data that describes the identified phenomena by inquiring from individuals about their perceptions, attitudes, values or behavior. It was further considered suitable because it describes the interrelationships between characteristics of consumers. In addition, Kothari (2009) notes that surveys are more efficient and economical in gathering information on respondent's opinions and attitudes. According to Mugenda (2003), use of survey enables collection of quantifiable data from a sample population in order to find out the actual status of that population with respect to the identified variables.

3.4 Target Population

Target population is defined by Mugenda (2003) as that population which a researcher wishes to generalize. Target population, therefore, is that specific population from which desired information is sort. According to Mugenda (2003), 50% of a population is recommended in case there is no estimate available for the proportion of the target population assumed to have the desired characteristics. Therefore, the study assumed that 50% of Thika Town populations are internet users. Thus 50% of 207, 020 Thika town's total population according to the County Government of Kiambu Integrated Development Plan, 2013- 2017 is 103,510 which this study considered as the number of internet users.

3.5 Sample size

The sample size in this study was determined by an approach based on precision rate and confidence level. The following sampling formula by Yamane (1967) and D. Israel (2009) is used.

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

Where: n=Optimum sample size

N = Population size

And e = Probability of error

When n is the sample size. N is the population size, which is 103,510 and (e) is the margin error, given at 10%: which means that every value obtained from the population and expressed in percentage will be between 10% less or high. The confidence level is assumed at 90%. Hence, putting all the appropriate values into consideration with the formula above, the sample size is 100 internet users.

3.6 Sampling Procedure

The study used systematic random sampling method where members of the population were selected at equal intervals. In systematic sampling, one unit of the population is selected on a random basis and more elementary units from that population are chosen at evenly spaced intervals until the researcher gets the desired number of units. The researcher systematically selected respondents who were between the ages of 18-70 years regardless of gender. However, in order for the researcher to obtain data from the internet users only, a question on whether a respondent used internet services was asked, this enabled the researcher to identify her target population and continue with the interview. In this regard, every individual along the street who was above 18 years and below 70 years and who confirmed to be an internet user was regarded as a respondent. The respondents were selected from different locations radiating from the center of the town towards the four directions of a compass (North, South, East, and West). The researcher began by randomly selecting the first unit of the population as the first respondent. More respondents were selected at equal intervals of every 5th individual who met the criterion until the researcher got a total number of 100 respondents.

3.7 Data Collection Techniques

This study relied on both primary and secondary sources of data. Secondary data of both qualitative and quantitative nature were gathered from existing literature materials including: books, government reports, journal articles and websites among other sources. Electronic sources were also considered important sources of data.

On the other hand, primary data of both qualitative and quantitative nature was collected from internet users in Thika Town. Questionnaires were used as the key data collection tools.

According to Mugenda and Mugenda (1999) questionnaires provide relatively objective data and are hence effective. This study used open and closed ended questionnaires (refer appendix I) to collect data from the internet users.

The researcher administered the questionnaires to the selected respondents. In this case the researcher was able to establish a rapport as well as explain the meaning of items that may not have been clear to the respondents. The first part of the questionnaire entailed a section on respondent's demographic characteristics. The second part comprised of closed ended questions which were measured with a 5-point Likert scale. Finally, the questionnaire had an open-ended section with questions that allowed the participants to describe their attitude and perceptions towards e-commerce and provide any other relevant information (see appendix I).

3.8 Validity and Reliability of the Instrument

Validity refers to the degree to which an instrument accurately measures what it's supposed to be measured (Kothari, 2004). To ensure validity of the instrument, the researcher shared the information in the questionnaire with the supervisor in order to establish the relevance of the questions. A pilot study with ten participants from a different location was also carried out. The pilot study assisted in identifying vague and ambiguous questions that needed to be revised. The results indicated that the greater part of the questionnaire was relevant and easy to understand and respond to within the stipulated time. Ambiguous questions that were identified, were refined prior to the actual study

Reliability is defined as a measure of the degree to which an instrument produces consistent results (Mugenda and Mugenda, 1999). An instrument is considered reliable when it is able to accurately and consistently measure a variable overtime. To ensure the reliability of the instruments, an analysis of the data from the pretest was done. Few cases were analyzed to test whether the results yielded data that was consistent with the concepts being studied. Results of the analysis indicated the appropriateness of the method of analysis used.

In addition, the study used Cronbach Alpha test to measure the internal consistency reliability of the questionnaire. The items of the study were scored and individually aggregated in order to get the total score of the instrument. The Cronbach Alpha test results yielded were as shown in table 3.1.

Table 3. 1 Reliability Test Results

Factors	Number of Items	Cronbach's Alpha	Comment
Medium Characteristics	3	0.869	Reliable
Product Characteristics	3	0.808	Reliable
Process Characteristics	3	0.852	Reliable
Infrastructural Factors	3	0.604	Reliable
Cultural Factors	2	0.527	Reliable
Economic Factors	2	0.622	Reliable
Social Factors	3	0.682	Reliable
Overall	19	0.906	Reliable

Source: Pilot Study (2018)

According to Cooper & Schindler (2010) a Cronbach Alpha of 0.5 is acceptable and the instrument is considered suitable for data collection. The results of this pilot yielded a reliability of 0.9, indicating that the data collection instrument was reliable and suitable for data collection.

3.9 Data Needs

The data needs table contains the three specific research questions of the study, the data required to answer the questions, the source of the data, type of the data as well as the instrument to be used in collecting the data. Table 3.2 provides an overview of the research objectives, data acquired from the literature review and the methodology of the study.

Table 3. 2 Data Needs Table

Research Question	Data Needed	Source	Type of Data	Instrument
What are the characteristics of e-commerce adopters?	Age Gender Income Self-efficacy	Survey Respondent	Quantitative	Questionnaire
What are the factors that enhance the adoption of e-commerce?	Medium characteristics Process characteristics Product characteristics	Survey Respondent	Quantitative	Questionnaire
What are the factors that hinder the adoption of e-commerce?	Infrastructural factors Social factors Cultural factors Economic factors	Survey Respondent	Quantitative & Qualitative	Questionnaire

Source: Author Conceptualization (2018)

3.10 Data Analysis and Presentation

Data analysis includes examining, sorting, tabulating, testing as well as recombining quantitative and qualitative evidence in order to address the objectives of the study (Yin, 2009). After data collection, the researcher conducted data cleaning and sorting in order to identify incomplete and inaccurate responses, corrections were made to improve the quality of the responses. The data was coded and entered into computer for analysis using the Statistical Packages for Social Sciences (SPSS) version 20. SPSS was used for data analysis. Quantitative data was analyzed through descriptive statistics specifically percentages, frequencies and cross- tabulations. Analyzed data was then presented in form of tables and charts.

3.11 Ethical Considerations

Ethical considerations involves how a researcher chooses to treat participants and the information they provide (Walliman, 2011).The researcher ensured that the research was conducted in an ethically responsible way. She began by obtaining an introductory and permit letter from the Institute for Development Studies, University of Nairobi. This letter introduced the researcher, confirmed her student status as well as the kind of research they were carrying out. It therefore acted as an authoritative statement that allowed the researcher to conduct the research.

While in the field, the researcher introduced herself and made it clear to the respondents that the research was for academic purposes only. Further, the researcher, gave the respondents the free will to decide whether to or not to participate in the study and she also assured them of the confidentiality of the information they provided. The researcher also ensured that the research took the minimum time possible in order to avoid disrupting the participants' life. In addition, the researcher observed absolute sensitivity and did use any kind deception to persuade respondents to participate in the study.

CHAPTER 4

DATA ANALYSIS RESULTS AND DISCUSSIONS

4.1 Introduction

The study sought to establish the factor affecting e-commerce adoption in Kenya. The objectives of the study included: To identify e-commerce adopter characteristics, to establish the factors that enhance e-commerce adoption as well as the factors that hinder e-commerce adoption among consumer. In this chapter, the findings of the study based on the objectives are presented.

4.2 Response Rate

The research survey sampled 100 respondents drawn from the target population of 103, 510 internet users in Thika Town, Kenya. The researcher was successfully able to get responses from the 100 respondents. However, only 96 questionnaires were duly filled and considered for analysis while 4 were disregarded due to incomplete information. Therein, the researcher was able to analyze data from the 96 respondents which represents a response rate of 96%. According to Mugenda and Mugenda (2003), a response rate of greater than 70% is very good and adequate for statistical testing and reporting.

4.3 Demographic Information of Respondents

The study sought to identify the demographics of respondents with the aim of establishing whether respondents across all demographics participated in the study.

4.3.1 Gender Distribution

This study sought to analyze the gender of the respondents. This information was necessary in order to ascertain that both female and male gender participated in the study. It was also important as it addressed the first objective of the study; which sought to establish the influence of gender on e-commerce adoption.

The analysis of data indicate that majority of the responses were obtained from the female respondents. We found that, 48% of the respondents comprised of male respondents, while 52% comprised of female respondents. The results show that there is almost an equal number between the number of male and female internet users that participated in the study. However, slightly more females than males participated in the study female (52%) and males (48%). Nonetheless, this number is considered gender representative and unbiased for drawing conclusions.

4.3.2 Age of the Respondents

We sought to establish the composition of the respondents in terms of age. Age factor is necessary in research as it is used to understand respondents' characteristics especially in terms of behavior and attitude. Age is also factored as one of the factors influencing e-commerce adoption; and therefore, response on respondent's age is necessary in establishing the relationship between age and e-commerce adoption. In this regard, respondents were asked to indicate their age as provided in the age brackets. The results are as presented in Table 4.1

Table 4. 1 Age of the Respondents

Age	Frequency	Percentage (%)
18-25	28	29
26-30	32	33
31-35	19	20
36-40	3	3
41-45	7	7
45-50	4	4.
>51	3	3
Total	96	100

Source: *Survey Data (2018)*

We found that majority of the respondents were between the ages of 26-30 years at 33%, 29% of the respondents were between 18-25 years, 20% were between 31-35 years, 3% were aged between 36-40 years, 7% were between 41-45 years while 4% indicated to be between 45-50 and 3% indicated to be above 51 years. From these findings, it was clear the respondents were distributed across all age brackets as provided by the study. It was also confirmed that they were active internet users and consumers and hence could constructively contribute to the study on factors that influence their decision to purchase online. In addition, the presence of diverse age groups in this study is anticipated to provide a full spectrum of the influence of age on e-commerce adoption.

4.3.3 Level of Education

We also sought to establish the level of education of the respondents with aim of establishing whether respondents across all the educational levels participated in the study. In addition, education is considered a significant indicator of literacy levels of individuals which might

influence their use of technology. We asked the respondent to indicate their highest educational level attained. The results were as presented in Table 4.2

Table 4. 2 Education Level of the Respondents

Level of Education	Frequency	Percentage (%)
None	1	1
Primary	2	2
High School	16	17
College/Technical Training	32	33
Bachelor Degree	37	39
Graduate Degree	8	8
Total	96	100

Source: Survey Data (2018)

The target population comprised of individuals with different educational qualifications. Majority of the respondents were literate and hence could respond to the questions of the study. We found that 39% had undergraduate degree, 33% had attained college education, 17% had attained high school education, 8% had acquired post graduate education while 2% had attained secondary education and 1% had acquired primary education. These results indicate that majority of the respondents had at least middle level education and hence were able to constructively contribute to the information sought by this study. These findings also imply that the respondents were quite literate and therefore knowledgeable in the use technology. Level of education also determines an individual’s perception on the ease of use of a technology as well as their attitude towards its use.

4.3.4 Occupation of the Respondents

Analysis of the respondent’s occupation was also considered important in this study. It sought to establish whether respondent’s occupational status, influenced their purchasing behavior and attitude towards e-commerce. Respondents were therefore asked to indicate whether they were either employed, self-employed or had any other economic status for example being a student. The results were as presented in Table 4.3

Table 4. 3 Occupation of the Respondents

Occupation	Frequency	Percent (%)
Employed	47	49
Self-Employed	41	43
Others (Students)	8	8
Total	96	100

Source: Survey Data (2018)

The analysis reveals that majority of the respondents were employed (49%), 43% were self-employed while 8% indicated to be students. These results show that majority of the respondents were employed and hence had a stable source of income. This implied that respondent had some purchasing power and could be active consumers. These findings further implied that the respondents were in a position to make regular purchases because of their stable sources of income. However, it is not in all situations that a stable source of income guarantees that an individual will actually make regular purchases. We therefore sought to establish whether individual's occupational status influenced their purchase decision making. The findings of this study provided a representative number of individuals from different occupations who were in a position to constructively contribute to the study on the factors that inform their purchasing decision.

4.3.5 Income of the respondents

Income of the respondents was an important demographic variable in this study because it sought to investigate whether income influenced consumers' online purchasing decision. It sought to understand the influence of income one-commerce adoption. In this regard, we asked the respondents to indicate their income per month as provided in the income categories.

Table 4. 4 Income of the Respondents

Income per month (Ksh)	Frequency	Percent (%)
1000-20,000	36	38
20,000-40,000	20	21
40,000-60,000	12	13
60,000-80,000	6	7
>100000	5	5
No income	2	2
Did not Disclose	15	16
Total	96	100

Source: Survey Data (2018)

The findings of this study indicated that 33% of the respondents were middle income earners who earned between Ksh20,000-40,000 (20%) and Ksh40,000- 60,000 (13%). 7% earned Ksh60,000-80,000 while 5% indicated to earn more than Ksh100,000. However, majority of the respondents indicated that they earned between Ksh1000-20,000 (38 %), 2% did not have any income while 16% of the respondents were not willing to disclose their income.

These results indicate that majority of the respondents had an income and therefore possessed some purchasing power which could inform their purchasing decision. In addition, these results show that the respondents of the study possessed some purchasing power and could therefore constructively contribute to the objective of study on the influence of income on e-commerce adoption. Further, the income results indicate that the participants of the study were from different economic backgrounds and could therefore provide a full spectrum of the impact of individual's income level on e-commerce adoption.

4.4 Factors Affecting E-commerce Adoption

The purpose of this study was to establish the factors affecting the adoption of e-commerce. The study therefore sought to establish whether the respondents who had access to internet services had adopted e-commerce. Respondents who indicated that they were internet users, were asked to indicate whether they had ever purchased online. Although we established that all the selected respondents were internet users, we also established that not all had previously purchased online. We therefore found that out of the total number of internet users, 60.4% of the respondents had never shopped from online stores while a total of 39.6% had at least made online purchases. We therefore established that online buying has a relatively slow uptake among Thika Town consumers.

Further, we sought to establish the rate at which consumers had adopted e-commerce. In this regard, the study sought to find out the frequency in which a respondent made online purchases. We therefore asked the respondent to rate the number of times they purchased online using; never, rarely, sometimes, very often, and always as indicators. The results are as shown below

Table 4. 5 Respondents Responses on how Often they Shop Online

	Frequency	Percent (%)
Never	58	60.4
Rarely	20	20.8
Sometimes	11	11.5
Very Often	6	6.3
Always	1	1.0
Total		100.0

Source: *Survey Data (2018)*

We established that online purchasing had a relatively slow uptake by the people of Thika Town at an adoption rate of 39.6%. In this regard, 20.8% indicated that they rarely purchased from online stores while 11.5% indicated that they occasionally did. Therefore, a total of 32.3% mentioned that although they had purchased from online stores, they only occasionally did so. Among the 32.3% respondents, are those who mentioned that they had only purchased ones and never repurchased. This implies that although e-commerce has been accepted by these particular respondents, they have not fully considered it as their regular mode of shopping. However, this can be considered as a positive trend with possible milestones towards fully adopting e-commerce.

On other the hand, only 7.3% of the respondents confirmed to have fully adopted e-commerce. They reported that they had embraced online buying as their regular mode of shopping. These respondents also mentioned that they perceived online shopping as convenient and time saving as compared to traditional mode of shopping. Therefore, driven by convenience, they sought to purchase their services and products from online stores. We therefore established that although e-commerce has been accepted by a larger consumer group, it has not been fully adopted as a mode of purchasing. The rate of repurchase is relatively slow thus inhibiting adoption. We therefore established that there is a gap between individuals who have accepted e-commerce and those who have integrated it in their regular purchase decision making.

4.5 Consumer Characteristics and E-commerce Adoption

4.5.1 Gender of the Respondents

Gender is regarded as an important variable when examining technology adoption. Researchers such as Sayan et al., (2009) and Hawapi et al., (2017) found that gender had a considerable impact on technology adoption. We therefore sought to establish the influence of gender on e-commerce adoption. The results are as presented in Table 4.6

Table 4. 6 Relationship between Gender and E-commerce Adoption

Gender	E-commerce Adoption					
	Yes		No		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Female	13	26.0	37	74.0	50	100.0
Male	25	54.3	21	45.7	46	100.0
Total	38	38.6	58	60.4	96	100.0

Source: Survey Data (2018)

The findings indicate that majority of the e-commerce adopters were male respondents at 54.3% while only 26% of the female respondents had adopted e-commerce. In this regard, we found that 45.7% of the male respondents had not adopted e-commerce while the larger 74% of the female counterpart had also not adopted e-commerce. We therefore established that there exists a gap between the percentage of male respondents that have adopted e-commerce to that of female respondents. The findings of this study differ with the findings of Akman et al., (2010) which argue that gender differences in e-commerce adoption do not exist especially where individuals are literate and with knowledge in ICT. This study established that the respondents both male and female were literate and had the same background in ICT; however, their perception and adoption of e-commerce greatly differed.

We found that the male respondents had a positive attitude towards e-commerce and considered it as their immediate alternative mode of shopping. According to the male respondents, online shopping was convenient as compared to visiting the local stores; especially in terms of saving time as well as the 24 hours shopping convenience. They further mentioned that online stores provided with a variety of products that they could otherwise have not found in most local stores.

In addition, majority of the male respondents indicated that they trusted online services and they had overcome the perceptions of risks and uncertainties.

On the other hand, the female respondents, were the least adopters of e-commerce. Although majority of these female respondents were aware of e-commerce activities, they were apprehensive in adopting it. Unlike their male counterparts, female respondents did not trust online activities as well as the products offered. Some of the female respondents indicated that they did not feel safe conducting online transactions. They perceived online transactions as being risky and full of uncertainties especially due to fraud and product uncertainty. The female respondents indicated that they could not trust what they could not see or touch and therefore preferred purchasing goods they could physically confirm that their quality met their expectations. Majority of the female respondents who had purchased from online stores, indicated that their purchase decision was informed by the affordable and cheaper prices offered.

We therefore established that both the male and female respondents had varying perceptions about e-commerce which influenced their adoption decision. The male respondents were impressed by the convenience offered by online stores while the female consumers lacked trust in online transactions. Therefore, we found that the e-commerce adoption gap that exists between the male and female respondents was particularly as a result of the varying perceptions and attitudes toward e-commerce.

4.5.2 Age of the Respondents

To further understand the influence of consumers' characteristics on e-commerce adoption; the study particularly sought to establish the influence of age on adoption. We therefore sought to analyze the age of the respondents in relation to e-commerce adoption. The findings are as shown in Table 4.7

Table 4. 7 Relationship between Age and E-commerce Adoption

Age	E-commerce Adoption					
	Yes		No		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
18-25	9	32.1	19	67.9	28	100.0
26-30	15	46.9	17	53.1	32	100.0
31-35	10	52.6	9	47.4	19	100.0
36-40	0		3	100.0	3	100.0
40-45	3	42.9	4	47.1	7	100.0
46-50	1	25.0	3	75.0	4	100.0
>51	2	40.0	3	60.0	5	100.0
Total	38	39.6	58	60.4	96	100.0

Source: Survey Data (2018)

The analysis of the data indicate that the majority of the e-commerce adopters were middle aged respondents between the ages of 31-35 years at 52.6%. They were followed by respondents between the ages of 26-30 years at 46.9% and 40-45 years at 42.9%. A further 40% above 51 years respondents had adopted e-commerce while 32.1% and 25% of the respondents between the ages of 18-25 and 45-50 years respectively had also adopted e-commerce.

These findings indicate that middle-aged individuals between the ages of 31-35years and 26-30years were the majority e-commerce adopters. In this regard, we also found out that, majority of the respondents in this age brackets were employed hence had a stable source income and a relatively higher one. This implies that they possessed some purchasing power that allowed them to make regular online purchases. The findings of this study are consistent with the findings by Donthu (1999) who found that middle- aged males with purchasing power were the majority adopters of e-commerce.

On the hand, respondents between the ages of 18-25 years were the least adopters of e-commerce at 32.1%. Respondents in this age category indicated a positive attitude towards e-commerce adoption and showed willingness to purchase from online stores. They mentioned that they considered online shopping as an effective, creative and convenient mode of shopping. However, most of the respondents in this age category mentioned that they did not have a stable source of

income and their monthly income was generally low. They also indicated that reduced purchasing power hindered them from making regular online purchases. Nonetheless, for some of the respondents, the lower prices offered for some commodities allowed them to make occasional online purchases.

Respondents between the age of 36-40 years and 46-50 years were reluctant to adopt e-commerce despite also having a higher income. They reported that they had no interest in making online purchases; rather they mostly considered visiting local stores. According to these respondents, local stores offered them what they needed, they therefore did not need to purchase from online stores. In this regard, we established that individuals in this age group are resistant to change; thus, their hesitance to purchase from online stores.

We therefore established that among the younger respondents, income significantly hindered their purchasing decision despite having a positive attitude towards e-commerce. In addition, among the middle-aged respondents, income level was found to be the leading factor that enhanced their adoption decision. We therefore established that the age of the respondent had a relatively lower influence on e-commerce adoption as compared to income.

4.5.3 Income of the Respondents

Income levels determine individuals' purchasing power thus determining their purchase decision making. This study therefore sought to establish the influence of income on e-commerce adoption. The results are as shown in Table 4.8

Table 4. 8 Relationship between Income and E-commerce adoption

Income (Ksh)	E-commerce Adoption					
	Yes		No		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
1,000-20,000	5	13.9	31	86.1	36	100.0
20,000-40,000	8	40.0	12	60.0	20	100.0
40,000-60,000	7	58.3	5	41.7	12	100.0
60,000-80,000	6	100.0	0	0	6	100.0
>80,000	2	40.0	3	60	5	
No income	2	100	0	0	2	100.0
Did not disclose	8	53.3	7	46.7	15	100.0
Total	38	39.6	58	60.4	96	100.0

Source: Survey Data (2018)

The analyses in this study depict that individuals with higher income are likely to be the majority e-commerce adopters. The findings indicate that respondents earning between Ksh60, 000-80, 000 were the majority adopters at 100% adoption rate. They were followed by individuals earning between Ksh40, 000-60,000 at 58.3%. This indicates that respondents, who possessed a higher purchasing power, had a higher propensity to purchase from online stores. This is because they could afford to make regular purchases as well as the products offered in online stores.

A relatively higher number of respondents earning between Ksh20,000-40,000 had also adopted e-commerce. Although they did not possess high purchasing power as did the higher income earners, 40% of the middle-income earners, indicated that they had made online purchases. Respondents in this income category mentioned that they perceived online products to be more affordable as compared to the ones in the local stores. In this regard, products offered in online stores were reported to have flexible prices that catered for respondents with lower incomes. This

allowed some of the middle-income respondents to also make online purchases. The availability of flexible price offers, could also be attributed to the 100% purchase rate by respondents with no income as well as 53.3% of those who did not disclose their income.

On the hand, individuals earning between Ksh1,000-20,000 were the least adopters of e-commerce at 13.9%. Respondents in this income category reported a lower purchasing power that hindered them from making online purchases. We established that despite online stores offering flexible prices that catered for different income categories, individuals' purchasing power determined their shopping decision making including how often, where and when they could make purchases

We therefore established that higher income determined individual's purchasing power and positively influenced their online purchasing decision. In this regard, individuals with higher income are able to make regular purchases as compared to individuals with lower incomes despite online stores offering flexible prices. This indicates income has a significant influence on e-commerce adoption.

4.5.4 Self- Efficacy

According to this study, self-efficacy refers to individual's proficiency in ICT, computer experience and internet skills. We were intentional in establishing the relationship between an individual's internet skills (by looking at how long an individual has used internet services) and e-commerce adoption decision making. Results are as presented in Table 4.9

Table 4. 9 Relationship between Self-efficacy and E-commerce Adoption

Self-Efficacy	E-commerce Adoption					
	Yes		No		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
< 6 months	0	0	1	100	1	100.0
1-2years	3	42.9	4	57.1	7	100.0
2-3years	3	42.9	4	57.1	7	100.0
3-4 years	4	20	16	80	20	100.0
>5 years	28	45.9	33	54.1	61	100.0
Total	38	39.6	58	60.4	96	100.0

Source: Survey Data (2018)

The results presented demonstrate the influence of respondent’s internet experience and knowledge on online purchasing decision. The findings indicate that 45.9% of the respondents with above 5years of internet experience were the majority e-commerce adopters. This is followed by respondent with 2-3 years (42.9%) and 1-2 years (42.9%) of internet experience. On the other hand, only 20% of respondents with 3-4 years of internet experience had purchased from online stores. Finally, respondent with less than 6 months of internet experience had not purchased from online stores.

We established that internet experience creates a sense of confidence in online activities for some respondents, this further motivates them to purchase from online stores. However, further findings indicated that even respondents with lesser internet experience had the capacity and willingness to purchase from online stores. This is portrayed by the 42.9% of the respondents with 1-2years who had made online purchases. On the contrary, only 20% of the respondents with 3-4years of internet experience had purchased online. We therefore established that internet experience was not a determinant of e-commerce adoption. Both respondents with higher and lesser internet experience had exhibited positive perceptions of e-commerce. Further, we found that having many years of internet experience did not translate to e-commerce adoption; while lesser experience did not deter adoption. Therefore, the findings of this study indicate that

internet skills and experience does not significantly influence a consumer’s decision to adopt e-commerce.

4.6 Factors that Enhance E-commerce Adoption

4.6.1 Medium Characteristics

E-commerce characteristics/features are perceived to influence an individual’s attitude towards e-commerce adoption (Esmailpour, 2016). Features associated with e-commerce websites positively or negatively influences consumers’ decision to purchase from online stores. We sought to establish consumers’ website preferences that positively influence their adoption decision. Thus, we asked respondents to rate the website characteristics that influenced them to adopt e-commerce. Table 4.10 shows the results.

Table 4. 10 Medium Characteristics

Medium Variable	Responses in Percentage of Frequency (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I prefer a website that is easy for me to use	5.3	2.6	7.9	28.9	55.3
I look for a website with available and clear information on their products	0	2.2	3.8	22.9	71.1
I look for a site that has high quality e-services	0	5.3	2.6	13.2	78.9
I am attracted to websites that have attractive designs and images	23.1	28.2	12.8	10.3	25.6
I look for websites that likely to make my shopping more effective	0	0	2.6	28.9	68.4

Source: Survey Data (2018)

From the study, we established that 82.2% (55.3% strongly agreed, 28.9 agreed) of the respondents agreed that the ease of use of e-commerce sites motivated them to shop from online stores. The respondents confirmed that a website’s accessibility and individual’s ability to navigate through online stores motivated them to purchase or repurchase from the particular

stores. In this regard, we found that some of the respondents who had not purchased from online stores, perceived them as difficult to use especially while making the orders. Thus, having websites that are easy to use is one of the prerequisites considered by consumers when making online purchase decision. Secondly, adequate and clear information regarding the website's services and products was considered an important feature by 94.4% of the respondents. This shows that consumers need to be adequately informed on the products available for them to make informed purchase decisions. In this regard, some respondents mentioned that misleading information regarding the features of a product or use of technical terms rendered them to mistrust the information and products on offer. Thus, the availability of useful and truthful information regarding products is necessary in order to create trust with consumers' and also to inform a purchase decision.

The quality of e-services rendered by online stores was regarded as an important aspect of e-commerce by 92.1% of the respondents who indicated that they made their online purchase decision based on the promise of quality services. The quality of services stretched to the ability of online stores to create user- friendly websites that are easy to navigate through and efficient consumer care mechanisms. In this case, majority of the respondent relied on referrals from people who had previously made online purchases to identify websites with quality e-services from which they could purchase from. Thus, websites with quality e-services were given preference and attracted more consumers.

In addition, a majority of 97.3% respondents indicated that their preference for online shopping was attributed to the fact that it made their work easier. According to some respondents, online buying increased their work efficiency by making the shopping experience easier and saving them time that would have been spent in traditional stores. This is consistent with Akhter (2003) and Lowe (2003) study which found that individuals with high and low incomes preferred online purchasing because it saved time and made their work easier. However, the efficiency associated with e-commerce is dependent on the ease of use of a website; the easier it to use a website, the greater its efficiency.

On the other hand, although consumers preferred websites with quality features, only 35.9% agreed on the need to have graphics and attractive features on the websites while a majority of 64.8% disagreed on the same. Respondents' indicated that some websites have too much

aesthetic features that overshadow the real information that the respondent was actually looking for. Therefore, preference was made to websites that were user-friendly with simple designs and language. These findings therefore conquer with Katawetawaraks & Wang (2011) observation on the need for e-commerce sites to increase their sites' usability and enhance their user-friendliness in order to attract more adopters.

4.6.2: Product Characteristics

The characteristics of products and services offered in online stores inform the consumers on their adoption decision. With the available option of purchasing from traditional stores, online stores are expected to offer more than what the traditional stores can offer in order to attract more consumers. Therefore, this study looks at the product-advantage that the online stores have in order to enhance adoption. The responses on product characteristics were obtained as in Table 4.11

Table 4. 11 Product Characteristics

Product characteristic Variable	Responses in Percentage of Frequency (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
I find online products cheaper	2.6	31.6	31.6	18.4	15.8
Online stores offer different variety of products that I can choose from	0	0	5.3	34.2	60.5
Information on the available products help me to make decisions on the product to buy	0	0	5.3	23.7	71.1

Source: Survey Data (2018)

A look at the product prices offered at the online stores showed that 34.2% of the respondents had purchased from online stores because they perceived their products to be cheaper as compared to those in traditional stores. However, another 34.2% did not consider online stores to have any price variance with the traditional stores; while 31.6% of the respondents were neutral. We established that the respondents' perceptions on online products prices differed according to the individual's economic potential. We also established that prices for products

offered at the online stores were flexible and catered for individuals from different economic backgrounds. In this case, prices offered in online store affected individuals differently and thus influenced their adoption decision differently. These findings are consistent with the study findings by Shiu et al., (2003) when looking at the influence of income on e-commerce adoption. According to Shiu, online stores have prices that cater for both high and low-income populations; therefore, price was dependent on an individual's purchasing power. Further, respondents mentioned that online stores enabled them to efficiently evaluate prices between various stores in order to make their purchase decision. This feature enhanced respondent's decision to purchase from online stores. Nonetheless, although price is a relative factor that influences adoption, price information provided by websites is considered vital in decision making.

Preference for online buying by 94.7% of the respondents was attributed to availability of variety of products offered at the online stores. Respondents indicated that online stores, unlike traditional stores offered variety of products that catered for their demands. In addition, online stores offered consumers the opportunity to ship products (from global stores) that were not readily available in the traditional stores. In this regard, respondents indicated that they preferred e-commerce sites that imported products on their behalf and made it possible to access unique products. Further, unlike in traditional stores where it is time consuming to move from one store to another in search of a product, online stores offered the convenience of viewing variety of products without physically the visiting stores.

Information availability is a key determinant to e-commerce adoption. A total of 94.8% of the study respondents indicated that adequate information of a product was vital in their purchase decision making. In this regard, respondents preferred that product information was clearly provided and should not be misleading. In addition, respondents mentioned that simple language should be used in describing products rather than the technical language which was rather complicated to understand. We therefore established that availability of product information and the wide variety of products offered in online stores enhanced consumers' decision to adopt e-commerce.

4.6.3: Process Characteristics

The mode through which an e-commerce site delivers its services to consumers determines the site's preference for adoption. Consumers prefer websites that can be relied upon to deliver quality services. This study sought to establish e-commerce process characteristics that influence consumers' decision to purchase online. The responses were obtained as in Table 4.12

Table 4. 12 Process Characteristics

Process Characteristics variable	Responses in Percentage of Frequency (%)				
	Strongly disagree	disagree	Neutral	Agree	Strongly Agree
I prefer to shop from a web store that is quick to respond to my concerns	0	0	2.6	26.3	71.1
I prefer to shop from a web store that is able to deliver my products faster	0	0	0	15.8	84.2
I prefer a website that brands the products it has in store	0	7.7	17.9	28.2	46.2
I prefer to shop from a website that has an easy transaction process	0	0	2.6	34.2	63.52
I like it when website customer are contacts me to confirm order	0	2.6	7.9	13.2	76.3

Source: Survey Data (2018)

The quality of services rendered by an online store is enhanced by the quality of the customer care services offered; 97.4% of the respondents indicated that they considered efficient customer care services offered by a website when making online purchasing decision. Respondents indicated that they identified their preferred site by the rate at which the customer care officials responded to their queries and assured them on the product choice they were making. In addition, to the efficient customer care services, most respondents (89.5%) indicated that customized customer care services made them feel safe to purchase from online stores. In this case, online service providers made direct contact with the consumers through phone calls for example to

confirm their order or respond to an inquiry. This enhanced buyer-seller relationship and also developed trust that positively influenced the adoption decision.

In addition, an easy transaction process characterized by easy mode of payment and efficient delivery services were considered important (97.7%) when making online purchase. Respondents mentioned payment on delivery and use of Mpesa (mobile payment services) as their most convenient mode of payments that had an easier transaction process as compared to e-pay. Further, in order to make the transaction process much easier for the consumer, we found that respondents considered convenient and efficient delivery services as necessary in the transaction process.

E-commerce offers convenience as a result of the delivery services offered. E-commerce offers two major modes of delivery services that is; the door-step delivery services or the pickup. In this case, 100% of the respondent considered efficient delivery services as an important element of e-commerce that influence their decision to purchase from online stores. Although some respondents mentioned occasional delays in the delivery services, they still greatly considered online buying because of the door-step delivery service offered. Nevertheless, preference was given to websites that have efficient delivery services.

Branding of products is aimed at enhancing consumers trust on the products offered in online stores. As portrayed by 74.4% of the respondents, selling products with brand names enhanced consumers purchase decision. Branding products, not only enabled consumer to efficiently select the products they would like to purchase, but it also affirmed consumers on the authenticity of the products in store. Therefore, websites with quality and branded products are trusted and consumers easily consider their products for purchase.

4.7 Factors that Hinder the Adoption E-commerce

4.7.1: Infrastructural Factors

The growth of e-commerce is dependent on the infrastructure available. The availability or unavailability of infrastructure influences consumers' e-commerce adoption decision. In this regard, respondents were asked to rate the infrastructural factors that hindered them from adopting e-commerce. Responses are as shown in Table 4.13

Table 4. 13 Infrastructural Factors

Infrastructural Factors Variables	Responses in Percentage of Frequency (%)				
Statements	Strongly disagree	disagree	Neutral	Agree	Strongly Agree
They take too long to deliver their products	9.1	25.3	14.1	15.2	36.4
My internet connection is poor	34.2	15.8	25.2	14.2	14.2
I am afraid that my account might get hacked or I get defrauded	3.8	15.0	20.2	32.8	28.2
I do not have means to make the payments as they require	12.0	15.0	20.0	26.0	27.0

Source: Survey Data (2018)

There is need for consumers to feel safe and protected when transacting online. In a statement on the consumers’ perception on online security including hacking of accounts and fraud, 61% of the respondents revealed their suspicions on the security of online transactions. The respondents expressed their fear of getting defrauded while others reported to have experienced fraud transactions. Fraud transactions mostly occurred when illegal websites were involved. Respondents reported that currently there are many ‘fake’ online stores that lure unsuspecting consumers to purchase from their stores; eventually, they defraud the consumer after initiating the transaction, they fail to deliver the ordered goods and take off with the initial payment. Such occurrences have barred some of the respondents from engaging in online transactions. In addition, some respondents were concerned about the privacy and security of their information. They felt that their information could be hacked once it was uploaded during online transactions. We therefore established that fraud and security concerns, led to mistrust of online services hence hindering consumers from adopting e-commerce.

According to some respondents (51.6%), online stores took too long to deliver their products. Some respondents reported that sometimes online stores can be unreliable especially when an order is needed urgently. Some of the respondents also reported that not only is the delivery slow but also the delivery charges are too high. A number of the respondents indicated that purchasing from online stores tend to be costlier as compared to local stores due to the ‘overcharged’

delivery charges. This prompts the respondents to purchase from local stores where they would not incur the extra cost. Although online stores cannot operate without including such charges, businesses should consider lowering their delivery charges to be more affordable.

E-commerce use requires stable and reliable internet services in order to navigate through the online stores and to make orders. In a statement on the influence of internet connection on e-commerce adoption, 50% (34.2% strongly disagreed and 15.8% disagreed) of the respondents disagreed that they experienced poor internet connections and that it influenced their adoption decision. 25.2% of the respondents were neutral while 24.8% agreed. Among the respondents who agreed with the statement, some of the respondents' reported that poor internet connections were confined in their areas of operation for example work place where they spent most of their time. They therefore, considered purchasing from local stores where they did not need any internet connections. Nevertheless, we established that poor internet connections were not a rampant phenomenon in Thika Town neither did it have a huge influence on e-commerce adoption.

4.7.2: Cultural Factors

The study sought to establish cultural factors that hinder e-commerce adoption. Respondents were therefore asked to rate the cultural factors that influenced their decision to adopt e-commerce. Results are as shown in Table 4.14

Table 4. 14 Cultural Factors

Cultural characteristic	Responses in Percentage of Frequency (%)				
	Strongly disagree	disagree	Neutral	Agree	Strongly Agree
I prefer the old way of visiting the local store	6.2	23.4	28.2	26.6	15.7
Online shopping limits my interaction with vendors	5.8	12.9	32.4	28.6	14.9

Source: Survey Data (2018)

Results of this study indicate that some respondents still preferred the traditional way of visiting the local store. A total of 42.3% respondents mentioned that they preferred visiting local stores

despite being aware of the existence of online stores. Some respondents revealed that they had no interest in online buying while others indicated that their immediate thought when they intended to purchase was to visit a local store. In this regard, online stores are encouraged to create more awareness on their services in order to keep a constant reminder on the availability of their services.

In addition, some respondents' (43.5%) especially female respondents were concerned that shopping from online stores limited their interactions with the vendors. Most female respondents preferred to keep their interactions with the vendors while their male counterpart indicated that virtual transactions saved them time that would have otherwise been spent bargaining in a local store. Further, some respondents indicated that they could not trust vendors with whom they did not have any physical contact with. This implies that, physical interactions did not only build relations but also developed trust with the vendors. We therefore established that, although online services are entirely virtual, direct communication should be enhanced between sellers and buyers in order to create some form of interaction and build trust.

4.7.3: Economic Factors

The economic status of individuals determines their purchasing power and thus influences their purchasing decision making. The study sought to establish the influence of consumers' economic status on their decision to adopt e-commerce.

Table 4. 15 Economic Factors

Economic Factors Variables	Responses in Percentage of Frequency (%)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Statements					
My monthly income is not enough to make regular online shopping	8.4	32.0	12.6	16.4	30.6
Using the internet to shop incurs a lot of internet charges and cost	7.4	48.4	16.2	18.2	9.8

Source: Survey Data (2018)

Individual's per capita income determines their shopping decision making. A total of 47% of the respondents indicated that low income hindered them from making online purchase while 40.4%

disagreed with the statement. Some respondents mentioned that despite their willingness to purchase from online stores, they could not afford to make regular purchases because of their low income. Further, some respondents mentioned that they perceived online products to be more expensive than their regular income could cater for especially because of the additional cost from delivery charges. On the other hand, 40.4% disagreed that income hindered them from making online purchases. These particular respondents indicated that they did not perceive online products to have a major price variance with the product prices offered at the local stores. In this case, we found that online stores, offered variety of products with flexible prices that catered for different income categories. In this regard, this study echoes the study by Lowe (2003) which found that e-commerce has increased the potential for low income households to also access e-commerce services. We therefore established that low income has a lesser influence on e-commerce adoption and may not be a major impediment to e-commerce adoption among Kenyan consumers as emphasized by Lawrence & Tar (2010) in their study on e-commerce impediments in developing countries.

Kenya has experienced increased broadband network connections and fiber optics continues to grow. In addition, there has been an emergence of a high number of internet services providers that competitively provide internet services to their subscribers at lower rates (Mwench, 2016). In this regard, 55.4% disagreed that high internet charges deterred them from making online purchases. Only 28% of the respondents indicated that high internet charges hindered them from purchasing from online stores. Therefore, unlike findings by Alqahtani et al., (2012) and Lawrence et al., (2010), that found the concept of internet cost has an influence on adoption, this concept is not consistent with the findings of this study.

4.7.4 Social Factors

The behavior, beliefs and attitude of an individual or society influence their response to a technology. This study sought to establish the influence of social factors on e-commerce adoption. Responses on social factors are as presented in Table 4.16.

Table 4. 16 Social Factors

Social Factors variables	Responses in Percentage of Frequency (%)				
Statements	Strongly Disagree	Disagree	Neutral	Strongly Agree	Strongly Agree
I don't think they are any advantages of doing my shopping online	6.4	8.8	26.4	28.4	30.0
I prefer to buy products that I can see and feel	13.6	14.8	20.4	28.4	22.4
I don't trust their products	2.0	16.2	18.4	28.8	34.6
I feel my online activities are not well protected and secured	9.1	13.6	18.8	24.2	34.3

Source: Survey Data (2018)

To attract many consumers, there is need for online entrepreneurs to inform their consumers on the benefits they stand to experience with online buying. Lack of awareness on the advantages associated with online purchasing was cited as an impediment to e-commerce adoption by 58.4% of the respondents. Some respondents mentioned that they had no idea on the advantages they stood to gain by shopping from online stores as compared to shopping from the traditional stores. In addition, according some respondents, online buying presented some challenges in its usability which overshadowed the potential benefits they stood gain from purchasing online. Other respondents also reported that they were not aware of the services rendered by online stores or how to go about making online purchases. Although there are media platforms advertising some e-commerce sites, this information seems not been reached many consumers; consumer uptake still needs to be encouraged. We therefore established that knowledge on e-commerce services and use is limited among consumers and this hinders its adoption.

Tangibility of goods was considered an important by 50.8% of the respondents who agreed with the statement, while 28.4% disagreed. Some of the respondents who agreed, indicated that they preferred goods that they could touch and see. They mentioned that some products such as clothes were necessary to try them on first in order to confirm their, fit, texture and color.

Therefore, respondents who preferred to purchase tangible goods could only turn to traditional stores which offered this choice. In addition, some respondents reported that they could only trust what they could see; they were apprehensive to purchase products they had not confirmed their quality and features.

Trust of online products emerged as a major impediment to e-commerce adoption with 63.4% of the respondents indicating that they could not trust products sold by online stores. First and foremost, lack of tangibility of products led to the lack of trust in online products. Respondents indicated that they could only trust a product they are not able to preview and confirm their quality. Some respondents also perceived online products to be of lower quality based on experience or information from friends and relatives. In this case, some respondents reported that the product images displayed in some online stores were deceptive and different from what was delivered. Further, some respondents expressed their bad experience in receiving products that were of lesser quality than had been described. Therefore, such incidences prevented consumers from repurchasing and purchasing from online stores and instead preferred to purchase from local stores where they perceived to be more trustworthy.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, conclusions and recommendations of the study. The various sections presented in this chapter are based on the research objectives which include: To identify the e-commerce adopter characteristics; to establish the factors that enhance the adoption of e-commerce and to investigate the factors that hinder its adoption. It provides a brief summary of the study, conclusions drawn from the main findings and lastly recommends actions to the entrepreneurs and government based on the findings of the field work.

5.2 Summary of the Key Findings

The purpose of the study was to establish the factors affecting e-commerce adoption. The specific objectives were to identify e-commerce consumer characteristics, to establish factors that enhance e-commerce adoption and factors that hinder the adoption of e-commerce in Kenya. This was achieved through descriptive design. Primary data was collected using semi-structured questionnaires. Descriptive statistics such as percentages, cross tabulations, frequencies and percentages were used to explain the characteristics of the data.

The findings of this study reveal that 60.4% of the respondents in Thika Town have never purchased from e-commerce sites despite establishing that all the respondents had access to internet services. On the other hand, 39.6% of the respondents indicated that they had previously made online purchases. However, out of the 39.6% who had an experience in online shopping, only 7% indicated to be regular users of e-commerce. Therefore, the 7% can be considered as the percentage of consumers who have actually adopted e-commerce. This indicates that although e-commerce has been accepted as a mode of shopping, only a smaller number of consumers have fully adopted it. We established that e-commerce adoption in Thika Town has experienced a relatively slow uptake regardless of the area having a large number of internet users and solid internet connections.

In regards to the consumer characteristics that influence e-commerce adoption, we found that gender, age and income influences consumers' perceptions, attitudes as well as the decision to adopt e-commerce. The study finding shows the significance of gender in e-commerce adoption;

more male than female respondents had adopted e-commerce. Further, age and income of the respondents were indicated as important factors that influenced e-commerce adoption. The study findings indicate that middle aged respondents between the ages of 26-30 years and 31-35 year were the majority e-commerce adopters. However younger respondents between the age 18-25 years exhibited a positive attitude towards e-commerce but were constrained by lower incomes. In the case of income, respondents with a stable source of income and higher one, were the majority adopters. This is attributed to the higher purchasing power that increased their potential to make regular online purchases. We also established that self-efficacy did not have a significant influence on e-commerce adoption; more respondents with lesser internet experience had also adopted e-commerce. The findings show that respondents with more internet experience had not necessarily adopted e-commerce as compared to respondents with lesser internet experience. In the case of consumer characteristics, we established that middle aged males with a higher income were the majority adopters of e-commerce.

The study further sought to establish the factors that positively influenced consumers' adoption decision. The major factors highlighted in the study are associated with e-commerce characteristics and features that positively influence consumers' online purchase decision making. In this regard, website features of an online store (analyzed as Medium characteristics) are shown to have a significant influence on a consumer's adoption decision. In this regard, respondents indicated that features such availability of adequate website information and high-quality services offered by an online store informed consumers decision to purchase online. In addition, respondents preferred websites that were easy to use and had the ability to make their shopping experience effective. Further, the study found that the characteristics of products offered in online stores positively influenced consumers decision to purchase from online stores. Respondents' decision to purchase from online stores was greatly influenced by the availability of variety of products offered as well the information provided on those products.

In addition, we also established that the mode through which e-commerce conducts its activities enhanced a respondent's adoption decision. Efficient delivery services were regarded as the most important aspect of e-commerce that significantly influenced the respondents' decision to purchase from online stores. Further, respondents preferred online stores that had efficient customer care services as well as an easy transaction process. We found that features and services associated with e-commerce significantly influences consumers' decision to purchase

online. Therefore, improved online services and its usability create a positive attitude towards e-commerce adoption.

We further sought to establish the factors that hinder e-commerce adoption. Among them are infrastructural factors which we found to have a significant impact on e-commerce adoption. In this case, we established that fraud and security developed a sense risk and uncertainties among consumers. This prevented consumers from initiating online transactions. Delivery services are the vital components of e-commerce; however slow and sometimes unreliable delivery services were indicated as factors inhibiting adoption. Further, cultural orientation influenced consumers' shopping habits and decision making. Majority of the respondents indicated that they still preferred the traditional mode of shopping as compared to online shopping. These respondents exhibited resistance to change, attributed to the idea of doing what is 'common'. Some of the respondent's especially female respondents also indicated that they preferred visiting the local stores because the virtual nature of online shopping limited their interactions with vendors.

We further found that the economic status of the respondents influenced their purchasing decision. In this case, we found that respondents with lower income were the least adopters of e-commerce. Although the study found that the price factor was relative to most individuals, respondents with lower income lacked the purchasing power to make regular purchases. Finally, among the factors that hindered e-commerce adoption, we established that social factors had the most significant impact on adoption. Majority of the respondents indicated that they neither trusted online products nor the transactions. They reported that risk and uncertainties associated with online products and transactions hindered them from making online purchases. Lastly, lack of tangibility of goods was also mentioned as barrier to e-commerce adoption; consumers preferred to purchase good that they could see or touch.

5.3 Conclusions

The results from the study show that even with the high number of internet users, e-commerce adoption in Thika Town is still relatively slow. Among the factors influencing adoption are the demographic characteristics of consumers. Gender was found to have a significant impact on e-commerce adoption; where male respondents were the most receptive to e-commerce adoption as compared to their female counterparts. Unlike the study findings by Akman & Rehan (2010), which indicate that gender has no influence on technology adoption, our study show that gender

has a significant influence on an individual's decision to adopt a technology. This study therefore, reckon with Donthu (1999) study which concluded that the average online consumer was middle- aged male with higher education and purchasing power.

We also found that the characteristics or features associated with e-commerce have a positive influence on its adoption. The medium characteristics of e-commerce; such as the ability to easily navigate through the online stores and its ability to make shopping more efficient and convenient, encouraged more consumers to purchase from online stores. The variety of product offered in online stores as well as the availability of adequate information regarding the products; were significant product characteristics that influenced consumers to adopt e-commerce. The process characteristics of e-commerce had the most significant influence on e-commerce adoption. Efficient delivery was given priority when it came to selecting a website to purchase from. Respondents considered delivery timelines and efficiency before making online orders. We therefore established that positive attributes of e-commerce site encourage consumers to consider making online purchases as opposed to visiting the local stores.

Social factors were established as the major impediments to e-commerce adoption. Trust issues emerged as the major consumer's concern where consumers did not trust the security of their online transactions as well as the products and vendors involved. The results of this study mimic the results of other studies by Corbitt, J. (2003) and Wei et al., (2009) who viewed trust as an important aspect which influence consumer's behavior and determines the success of e-commerce adoption. On the other hand, this study differs with the results of Olusegun et al., (2006) and Kshteri (2007) conducted in developing countries, whose results indicate that infrastructural and economic factors were the major barriers to e-commerce adoption in developing countries. In this regard, this study reckons with the Lawrence and Tar (2010) study which argued that social barriers are the most critical and time-consuming barriers to overcome.

5.4 Recommendations

5.4.1 Business Owners

E-commerce involves virtual transactions where buyers and sellers normally complete the transactions without necessarily having any physical contact. Trust therefore becomes important because it helps consumers overcome the perceptions of risk and uncertainties. Sellers should endeavor to build trust with their customers through enhancing privacy and data security to

reduce consumers worry about their personal information. In addition, sellers should guarantee consumers on the quality of their products by ensuring that they offer warrants that are accompanied by flexible and customer friendly return policies. Further, online businesses should also strive to deliver quality goods to consumers in order to reduce product uncertainty and enhance trust of their products.

According to this study, 39.6% of consumer had previous online purchase experience, however, only 7% had made regular repurchases. This indicates that, while consumers have made attempts to purchase from online stores, few of them repurchased. Therefore, business owners should create a platform for interactions with their consumers in order to identify areas that need improvement for customer satisfaction.

The study revealed that demographic characteristics of individuals influence technology adoption. In this regard gender and age of consumers influence their decision to adopt e-commerce. Therefore, this study recommends that business owners and web developers should take concern when designing their websites in order to capture the needs of all moderating factors such as age, gender, and education.

Online enterprises should endeavor to create more awareness on their existence and services as well as enhance e-literacy through reaching out to consumers. They should also aim to inform consumers on the advantages they stand to experience when purchasing from online stores. In this case, they should be more consistent in making advertisements geared towards marketing their services and also provide consumers with e-commerce purchasing guides and procedures.

Delivery services provide convenience and saves on time. Consumers reported that delivery services were slow; orders took too long to get delivered. This is a challenge especially where urgent orders are made. Therefore, online enterprises should improve on their delivery services by being more efficient and making sure that they deliver their orders as stipulated in their delivery timelines. In addition, online sellers should consider reducing their delivery services charges which make their products costlier than those in the local stores. The higher prices hinder consumers from purchasing from the stores and prefer local stores where they do not incur the extra charges.

5.4.2 The Government

The government has a role to play in ensuring trust and security is enhanced in order to encourage adoption. This can be done by creating awareness on cybercrime units or avenues available where consumers can report cases of cybercrime as well as online fraudsters in order to curb this vice as well as assure consumers of their protections.

The government should also formulate a legal framework with laws and regulations focusing on consumer protection, privacy and cybercrime in order to boost consumers' confidence in online transactions. Consumers are concerned about their security while conducting online transaction; they fear that their information could be hacked. Therefore, the government should not only put in place cybercrime units but should also ensure that they are fully functional and efficient in dealing with cybercrime cases.

Due to the booming number of illegal websites which defraud unsuspecting consumers; the government should license and legalize genuine online stores. After providing licenses, a trade mark that can help consumers to discern from which vendors they should purchase from should also be provided. In this case, legal websites will have an authentic trademark that differentiates them from the illegal ones thus preventing consumers from being duped by the illegal websites.

5.4.3 Recommendation for Further Research

This study identifies several areas of potential research. First, future studies should include qualitative research focusing on street interviews in order to facilitate in depth discussions and understanding on the factors that influence their e-commerce adoption decision. Secondly, future research can discuss the identified factors from the online enterprises point of view and explore the strategies these online enterprises are using to overcome the identified barriers. In addition, a comparative study on e-commerce adoption should be carried out in rural and urban areas in order to explore the rift between the factors affecting adoption in these two areas.

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APPENDICES

Appendix I: Questionnaire for Thika Town Internet Users

My name is Elizabeth Waweru, a post graduate student at the Institute for Development Studies, University of Nairobi. I am conducting an academic study on **Factor Affecting the Adoption of E-commerce in Kenya: A case study of consumer perspective in Thika town.**

This questionnaire is aimed at obtaining more information about your perceptions, opinion and experience with online buying. I would appreciate if you grant me 20 minutes of your time to answer the questionnaire. The information you give is confidential and will be used for academic purposes only.

Part A: Respondents information

Please tick the appropriate answer

1. Name:(Optional)
2. Gender: Male () b) Female ()
3. Tick your age bracket

18-25yrs	26-30yrs	31-35yrs	36-40yrs	40-45yrs	46-50yrs	51 and above

4. What is your highest level of education?

a) Graduate degree ()	d) High school()
b) Bachelor degree ()	e) Primary()
c) College or technical school training ()	f) None ()

5. What is your occupation?

- (a) Self-employed () b) Employed () (c) Other (s) specify ()

6. Please tick your average gross income per month.

Ksh1000-20, 000	
Ksh20, 000-40,000	
Ksh40,000-60,000	
Ksh60,000-80,000	
Ksh100,000 and above	

PART B: Online Activities

7. Do you use the internet?

Yes () No ()

8. How long have you used the internet? Tick where appropriate.

Less than 6 months	
1-2 year	
2-3 years	
3-4years	
5 years and above	

9. How many hours do you spend online in a day?

Less than 30 minutes	
1-2 hours	
2-3 hours	
4-5 hours	
More than 5 hours	

10. Have you ever bought anything online?

Yes () No ()

11. How often do you shop online?.....

a. Never () b. Rarely () c. Sometimes () d. Very often () e. Always ()

Part C

2.1 For these questions, please choose number 1-5, indicating how much you agree or disagree with the statement. Use the scale where 1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree and 5= Strongly Agree

12. What are the advantages of online shopping that encourage you to consider buying online? Please choose number 1-5, indicating how much you agree or disagree with the statement.

Item	Construct	1	2	3	4	5
1.	With online buying I am able shop any time of the day or night.					
2.	Online buying saves me money					
3.	It allows me to easily compare the price of a product from different online stores.					
4.	Online buying saves me time					

If other please specify.....

13. What website features do you consider when selecting a site to purchase from?

Item	Construct	1	2	3	4	5
1.	I prefer a website that is easy for me use					
2.	I look for a website with available and clear information on their products and services.					
3.	I look for a site that has high quality services					
4.	I am attracted to websites that have attractive designs and images					
5.	I look for websites that are likely to make my shopping more effective.					

If other, please specify.....

14. What motivates you to buy products online?

Item	Construct	1	2	3	4	5
1.	I find online products cheaper					
2.	Online stores offer different variety of products that I can choose from					
3.	Information on the available products helps me to make decisions on the product to buy					

If other, please specify.....

15. Which website services do you prefer when you are making online purchases?

Item	Construct	1	2	3	4	5
1.	I prefer to shop from a web store that is quick to respond to my concerns					
2.	I prefer to shop from a website that is able to deliver my products faster.					
3.	I prefer a website that brands the products it has in store.					
4.	I prefer to shop from a website that has an easy transaction process					
5.	I like it when website customer care contacts me to confirm my order.					

If other, please specify.....

Part D

2.2 For these questions, please choose number 1-5, indicating how much you agree or disagree with the statement. Use the scale where 1= Strongly Disagree, 2= Disagree, 3= Neutral 4= Agree and 5= Strongly Agree

15. What prevents/ would prevent you from shopping online?

Item	Construct	1	2	3	4	5
1.	They take too long to deliver their products					
2.	My internet connection is poor.					
3.	I am afraid my account might get hacked or I could get defrauded					
4.	I do not have means to make payments as they require					
5.	I don't trust their products					
6.	I prefer to buy products that I can see and have a feel					
7.	I don't think there are any advantages of doing my shopping online					
8.	Online shopping limits my interaction with the vendors					
9.	I prefer the old way of visiting the local store					
10.	My monthly income is not enough to make regular online shopping					
11.	Using internet to shop incurs a lot of internet charges and costs					
12.	I feel my online activities are not well protected and secured					

PART E

1. What is your experience with online buying?

(a) Good ()

If good, why/how.....

(b) Bad ()

If bad, why/how.....

2. What challenges do you experience when making online purchases?

.....
.....

3. What are your perceptions about online shopping?

.....
.....
.....

4. What other factors prevent you from buying products online?

.....
.....

5. Do you think the government of Kenya has a role to play in promoting the use of online shopping by its Kenyan consumers? Yes () No ()

If Yes, how.....

6. What would you prefer online businesses to include or not include in their services in order to encourage you to shop from their stores?

.....
.....