INFLUENCE OF E-CONSUMER SERVICES ON ADULT AND COMMUNITY EDUCATION IN NAIROBI COUNTY, KENYA

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DECLARATION

This thesis research is my original work and has not been presented to any other university for examination or award of any other degree.

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This research is dedicated to my parents: William Gakuru and Florence Wanjiru and my children: Wanjiru, Wambui and Gakuru.

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ABBREVIATIONS AND ACRONYMS

ACE	Adult and Community Education
CAWI	Computer Assisted Web Interviewing
EFA	Education for All
EPF	Education Policy Framework
ETR	Electronic Tax Register
ICT	Information and Communication Technology
IT	Information Technology
KRA	Kenya Revenue Authority
MDGs	Millennium Development Goals
MOEST	Ministry of Education Science and Technology
NACE	National Adult and Continuing Education
NALS	National Adult Literacy Study
NEPAD	New Partnership for Africa's Development
OECD	Organisation for Economic Co-operation and Development
RoK	Republic of Kenya
SDGs	Sustainable Development Goals
SMS	Short Message Service
UGT	Uses and Gratification Theory
UTAUT	Unified Theory of Acceptance and Use of Technology

ABSTRACT

This study aimed to investigate the influence of e-consumer services in Adult and Community Education Centres in Nairobi county Kenya. The study focused mainly on e-consumer services and how they influence the programmes run in adult and community education centres. The study was guided by four objectives that is: to determine the extent to which e-consumer services are used by adult and community education learners in Nairobi County, Kenya, To determine the influence of e-consumer services on teaching and learning activities in adult and community education, to determine the extent to which e-consumer services influence the implementation of ICT in adult and community education and to investigate the level of integration of e-consumer elements in Adult and Community Education. This guided on data collection and analysis. The study design used was mixed method, including a combination of quantitative and qualitative research techniques. The research was conducted among adult learners and instructors in selected adult education centres in Nairobi. Other people involved in the study included e-consumer service providers in selected cyber cafes, administrators in Huduma Centre in Nairobi, and Adult Education Officers of Nairobi County.

The review of related literature covered four main themes: contextual factors, teachers and learner factors, and institutional factors that addressed the study's objectives. Other relevant literature related to this study included an overview of the development of e-learning education. The use of e-consumer services by adult learners and how they influence teaching and learning in adult and community education centres. It will eventually lead to implementing ICT facilities in adult and community education centres. Finally, to investigate the level of integration of e-learning in adult education learning programmes. All this was reviewed to specify the knowledge gaps that the study needed to fill. Data was collected using questionnaires for the adult learners and teachers and interview schedules on the adult education officers, cyber café persons, and the Huduma Centre administrators. The research findings were analysed, both quantitatively and qualitatively. The quantitative data was processed and analysed with the help of the SPSS software programme and summarised into frequency tables and percentages. Qualitative data was subjected to content analysis from which relevant information was extracted. The analysis and findings based on the first objective revealed that adult learners highly use e-consumer services; there is a great need to integrate electronic gadgets in teaching adult learners in adult learning centres. The teaching and learning in adult education centres are influenced by the e-consumer services offered in their daily lives. Overall, the results pointed out that adult education programmes need to be aligned with the current developments in the present world. In light of these findings, the study recommended a study on the extent to which the government's willingness to support and fund the adult and community education centres. The financial income, family structures and responsibilities, job aspirations, and peer influence should also be assessed to verify if these factors influence the adults' perception of the e-consumer services in adult and community education programmes.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

E-consumer services entail the use of electronic gadgets so that one can be able to use and transact any transactions through the internet. It requires the use of modern technologies like the World-Wide-Web, (WWW), and Information Communication and Technology (ICT) to electronically offer non-governmental and government services to businesses, citizens, civil servants, and private investor organisations (United Nation, 2010). UNESCO (2014) states that the adoption of these technologies in government and non-government (NGOs) organisations offers improved and better service and information delivery to citizens. These electronic services offer efficient and effective access to information, increasing interactions with business and industry, citizen empowerment, and public-sector management. These benefits of E-Consumer services also offer increased transparency, revenue growth, reduced corruption, greater convenience, and cost reductions.

The meaning of literacy has expanded beyond just reading and writing skills. Literacy is now described as the skills required to function in different social contexts. However, a functional approach to promotion of literacy and educating leaves out critical conceptualization on operations of adult literacy in the job market. (McCartney, 2021). It fails to see how literacy is embedded in social contexts. This fact is more relevant more so in today's technologically advanced digital world where the consumer world is fast transforming to become an E-consumer platform where different sets of digital literacy skills are required to successfully navigate and access the marketplace. Advances in technology have upped the ante for adult literacy. It is redefining the skills required to function successfully at work and in everyday life (Norman & Skinner, 2016). Information and Technology (ICT) is also offering new tools with huge potential for improving adult education and literacy if educators can source and utilise them effectively. There are a variety of computer and video technologies, consumer electronics

and telecommunication with features suited for adult education. Within each type of these technologies are hardware, software and learning materials available to enhance the adult learners' literacy on e-consumer services.

Technologies that have the potential to enhance adult and adolescent literacy development are fast emerging and becoming cheaper for the users. Internet technologies also offer the ability to remove barriers associated with constrained instructional times and locations, allowing individuals to learn and practice when and where they would want to learn from. In addition, because literacy in the digital age necessitates the use of digital technologies, it is critical to incorporate technology into literacy training. Although there is a rising demand to integrate ICT into educational settings, statistical evidence reveal that the levels of illiteracy are still high especially in lifelong learning threatening the implementation of ICT in learning systems (UN, 2010). A report by UNESCO (2013), estimated that globally, approximately 774 million adults aged from fifteen years have difficulties in reading simple text, making numerical comprehension or writing, yet, ICT use is needed virtually in every electronic-consumer service. Therefore, it is essential for adult learners to learn about basic ICT technology so that they can willingly embrace ICT integration into their learning programmes. Kent (2010) confirms that integration will help in a bid to assist older affiliates in the community get acquitted with the changing trends in consumer services. This trend has seen ICT as the primary set of instructional tools and potential delivery system that can help people acquire the much needed skills. Thus, they can be economically and socially remaining relevant in their day to day daily running of the country. Therefore, increasing their employability and literacy skills.

In Paris, E-consumer approach embraced in the early 2000s stressed on the transformation of end user retailed services to digital-based setups from manual recordings to the use of ICT (Cohen, Prayag & Moital, 2014). These E-consumer services are being integrated for use in executing and accessing state-owned service provision in departmental and institutional

requirements offering end-user or consumer services to individualised custom-made services for citizens, corporate, and businesses. The digitalization of end user services has widened the need for ICT knowledge especially for the elder members of the society which lead to better delivery of services to its citizens. These digitised consumer end-user services include but are not limited to: domesticated taxing systems, human immigration information systems, legal information systems, educational oriented systems, integrated financial executive systems among others (Deloitte, 2013).

In the USA, hardware such as multimedia systems integrating sound, touch, pictures and words as well as telephones and portable devices such as smart phones and laptops are used in adult literacy classes Software devices include drill programs to permit learners to practice various skills repeatedly. The Software also includes simulations that allow adults to interact with realistic reproductions of real-life social and work situations (McCartney, 2021). In using these approaches, adult and community learning motivates adults with unlimited technological knowledge to sharpen their skills and give them greater control and privacy over their interaction with digital platforms.

In many African countries, providers of adult education include civic and international organisations, trade unions, community-based and regional organisations, the family, as well as governments, and non-governmental organisations (Mohammed, 2013). The wide range of ICT provision is an indicator that African countries are at a fast rate in embracing ICT into their management and operation systems. This is because ICT has the capacity to both accelerate development and widen the digital divide. As a result, scholars, policymakers, and development partners have differing perspectives. On one hand are scholars (e.g., Mulama, 2011) who posit that many African countries are still struggling to provide the basic needs such as affordable food and clean water, affordable housing and proper and affordable medical care to their citizens. Provision of ICT technologies is, thus, a secondary need. Other scholars, such as Lu,

Hou, and Huand (2010), and Motschilnig, (2014), believe that ICT can help communities who are already disadvantaged in a variety of ways to get out of poverty and break the gender difference, ICT is seen as an avenue through which the African countries can use to accelerate their growth and development. This is because most of the African countries are still lagging behind in terms to development and infrastructure, with the use of ICT, not much infrastructure is needed to be installed in a place for ICT to be in use.

Vitale (2021) asserts that engaging learners in digital platforms such as online learning programs can encourage students to interact with the internet and the services offered therein. However, successful engagement of adult learners over online platforms requires engagement provided by the instructors' to promote confidence and self-efficacy among the students. Germany and Italy have adopted such approach, whereby delivery of adult classes has been shifting to online platforms to promote continuity of education and upgrading of individual digital literacy skills (OECD, 2020). Norman and Skinner (2016) argue that electronic tools provide little value for its intended users especially where they lack skills needed to effectively interact with the online teaching and learning facilities offered to the adult learners. Norman and Skinner (2016) further argue that in Canada, almost half of the adult population has literacy levels that are below the expected level to wholly engage in information-rich society. Consequently, this brings about challenges among the consumers on how to engage with e-platforms that requires the adults to use and interact with the set e-consumer systems on their own. The challenge is also experienced in most African countries where despite the potential of ICT to facilitate development both socially and economically, it is creating a divide between the digitally literate and digitally illiterate members of the society. Many countries in Africa are struggling to meet the needs of its population. For instance, in Namibia, the majority of adults are severely technologically disadvantaged and the majority lack the necessary skills needed to navigate the increasingly digital world where provision of services is shifting online as basic government services are being provided digitally (Shihomeka, 2021).

According to Best and Khan (2011), effective use of communications technologies for education and producing wealth and opportunity in Africa's numerous rural locations is a key concern among policymakers, researchers, and others. This is because, when integrated into adult learners' teaching and learning processes, ICT may be a critical instrument for capacity building, allowing adults to thrive in today's changing social and economic landscapes (Putera & Mokhtar, 2014).

The use of ICT in Kenya is guided by several policies and other Government documents. Such policies include: The National ICT policy (2006), Sessional Paper no.1 (2005), The National ICT strategy for education and training (2006), Kenya Vision 2030 Development Programme (2007), Ministry of education strategic plan (2006-2011) among others. According to the GoK report (2006), the National ICT Policy's main goal is to promote long-term economic growth and development, as well as poverty eradication, using productive and effective technology. It also aims to encourage investment in the ICT sector while also fostering the spirit of innovation through research and development. This shows that the Kenyan government is committed to providing ICT adoption, education and use in most of the government sectors and institutions. These can further be seen from the ways in which the government has embraced ICT technology. E-Consumer services have been introduced in most government services for example introduction of I-tax, which is a tax-filing system that is done online to substitute the previous paper-based systems (Janssen, 2012). Additional facilities currently offered on digital platforms include application for business permits, applications and renewals of driving licences, business registrations, and application for passports, electronic money transfers popularly known as M-pesa, T-Kash, M-akiba amid others (Mbugua, 2009).

According to Mbugua (2009) and NACEP report (2010) there has been a slow incorporation of ICT in classroom instruction of adult learners. There is sluggish uptake of digital literacy in almost every consumer service, they attribute the challenges to factors which include high levels

of poverty, inadequate equipment funding, and inaccessible information hindering effective access to ICT facilities, frequent power disruption, and limited rural electrification are viewed as some of the barriers hindering effective integration of ICT. In order to implement the ICT fully, it requires integration with adult education programs which advocates for lifelong learning for the adult learners.

Additionally, different government and parastatal agencies are currently insisting on digitising all their operations. For instance, The Kenya Revenue Authority (KRA) requires online filing of personal and business tax returns. Thus, business owners must purchase Electronic Tax Return (ETR) machines that require the business owners to file tax returns on a monthly basis. In handling and operation of the ETR machine, the owner of the business must be computer literate. However, this evolution of digital generation and increased digitization has impacted negatively on the adult and community learners.

In Kenya, we have the adult and community education centres that have been established by the Government all over the country so as to cater for all learners who could have dropped out of the main stream from one reason to another, the centres' give the learners a second chance to enhance and climb in their academic ladder irrespective of their age or where they dropped from. The learners are able to sit for the national examinations and acquire certificates, at the education centres. The majority of the adults in the education centres are still focusing on reading, writing and arithmetic as basic literacy, whereas there is a global shift towards basic digital literacy. The adults especially in the adult learning centres are disadvantaged since they have to seek assistance to access E-consumer services that are expected from them and needed by either the government or for their own day to day running and management of their lives for example filing annual tax returns and renewing their driving licences online shopping and mobile banking are some of the services that require the adults to have basic ICT literacy so as to interact with the modern technology. Overdependence on ICT literacy assistance is costly,

time consuming and more importantly, is an intrusion to the privacy of sensitive personal information and data.

Ultimately, in Kenya, as in most developing countries, adult and community education teaching and learning is still in its early stages, revolving around the basic stage where students are still at the basic literacy level. Kenyan Government has established huduma centres all over the country. This are one stop centres whereby the adults are able access government services at one place. This has relieved the citizens the burden of moving from one government office to another while seeking government services. Cyber cafes are personal established business centres spread all over Kenya that offer online services to its clients at a fee. Citizens seeking any online services usually go to the cyber to meet their digital needs there. A crucial concern is whether adult and community education offered in the centres in Kenya, if it empowers the adult learners to actively interact and utilise e-consumer services offered by the Government or the private sector in their everyday transactions in a secure and productive manner.

As a result, the goal of this study was to see how e-consumer services affects Adult and Community Education learning programs in Nairobi County, Kenya and if the education the adult learners receive is beneficial to their daily transactions and interactions with the e-consumer services. This study therefore sought to investigate the influence of e-consumer services on Adult and Community Education in Nairobi County, Kenya.

1.2 Statement of the problem

In Kenya, as the foregoing discussion has illustrated, both the government and private sectors have adopted numerous E-Consumer services in individualised service provision systems such as online tax filing (I-Tax), mobile banking, online buying and selling of goods and services, driving licenses application and renewal, passports application/replacement/renewal, and business registrations among others. In the business sector, Kenya has powerful mobile/phone money transfer technology, like M-Akiba, T-Kash and M-Pesa, among others. Kenyans, both

old and young adults, literate and illiterate, are now increasingly faced with the necessity to use electronic services for their e-consumer needs. This is partly because mobile phones have become affordable and accessible to almost every adult in Kenya. To use mobile phones, one requires some ICT technology knowledge. The adult and community education programs still teach basic literacy of reading and writing and simple arithmetic. This brings out the question, to what extent do adult and community education programs offered in Kenya prepare the learners to access and use the available E-Consumer services? Therefore, the study sought to evaluate e-consumer services' influence on adult and community education in Nairobi County, Kenya.

1.3 Purpose of the study

This study sought to establish the influence of E-consumer services on adult and community education in Nairobi County, Kenya. In this regard, the study aimed at establishing how adult and community education is utilising the available e-consumer services to achieve the intended outcomes.

1.4 Objectives of the study

The objectives of the study were: -

i) To determine the extent to which e-consumer services are used by adult and community education learners in Nairobi County, Kenya.

ii) To examine the influence of e-consumer services on teaching and learning activities in adult and community education.

iii) To determine the extent to which e-consumer services influence the implementation of ICT in adult and community education.

iv) To investigate the level of integration of e-Consumer elements in Adult and Community Education

1.5 Research questions

This study aimed at answering the following research questions;

i) To what extent are e-consumer services used by adult and community education learners in Nairobi County, Kenya?

ii) How have e-consumer services influenced the teaching and learning activities in adult and community education?

iii) What is the influence of e- consumer services on the implementation of ICT in adult and community education?

iv) What is the level of integration of e-Consumer elements in Adult and Community Education?

1.6 Significance of the study

Adult and Community Education (ACE) curriculum developers will benefit from the outcomes of this when formulating and amending workable policies and measures for integrating ICT in adult and community education programmes. This is because the adult and community education curriculum developers, curriculum planners and practitioners, together with policymakers and different stakeholders, will see the need to revamp, expand and improve the adult and community education centres of learning to make them more responsive and relevant to the needs of their clientele while aligning the education offered in the centres to the development of the country by integrating the teaching of ICT in the learning of the adult learners in their centres. This, in turn, will benefit adult learners since they will be taught how to use and use ICT equipment for personal use. The knowledge they will gain from the institutions will enable adult learners to engage in various e-services without seeking assistance. Again, the adult education instructors may find the study findings of this research applicable to draw practicable andragogy techniques in integrating ICT in their instructional sessions. Ultimately, the results will also contribute to the developing body of knowledge literature on adopting e-learning in adult and community education programs.

1.7 Limitations of the study

Accessing adult learners to participate in the study was one of the constraints this study faced. This was due to the irregular nature of the adult education learning schedules. To mitigate this constraint, the researcher seeks rapport with the instructors to book appointments before the visits to access the respondents promptly. Another limitation this study faced was finding adequate time to interview the managers of e-consumer service providers at Huduma Centre in Nairobi due to their busy schedules. The researcher addressed this by agreeing on a flexible schedule with the managers whereby interview sessions were booked well in advance around their availability. Additionally, the researcher encountered location barriers because of the multi-diversification of adult learners' centres within Nairobi County; this is because many adult and community education centres do not have a specific location. Some were using the church and community halls, others in some classes that were not used. Thus hired the services of a research guide to guide her through some areas in the study area that she was unfamiliar with.

1.8 Delimitations of the study

The research was carried out in Nairobi County. Being the capital city of Kenya, Nairobi hosts most of the leading E-consumer service providers. The study was thus conducted in all the eleven sub-counties in Nairobi County to provide a homogeneous representation of the respondents. There were 220 adult education centres in Nairobi County where the adult learners, tutors and educational officers participated in the study as the target population.

1.9 Assumptions of the study

The study was based on the following assumptions:

i. All respondents can read and understand the English language
ii. E-consumer services are readily available to all adult learners
iii. Respondents shared necessary information willingly.

iv. Utilization of E-learning and access to E-consumer services are theoretically and practically accessible to adult learners.

1.10 Definition of operational terms

Adult and community education refer to the tutoring of mature learners on social related interaction concerns.

Adult education refers to the andragogy instructional process in which learners aged 18 and above are taught to enhance their knowledge, skills, and capacities in order to improve their individual and community livelihoods.

Adult literacy refers to persons aged 18 years and above gaining the ability to do simple reading, writing and do simple arithmetic

Blended learning also known as hybrid learning, is a method of teaching that integrates technology and digital media with traditional instructor-led classroom activities, giving students more flexibility to customise their learning experiences.

Computer-assisted instruction (CAI) is an interactive instructional technique whereby a computer is used to present the instructional material and monitor the learning that takes place. CAI uses a combination of text, graphics, sound and video in enhancing the learning process

Consumer services refer to amenities provided by the state to the public such as driving licences, I-tax, and KRA forms

Cyber cafe refers to premises that have been established by individual citizens to offer e-consumer services to the citizens at a fee.

Computer Assisted Web Interviewing or CAWI is another name for online surveys or interviews, which are surveys administered through a web browser or mobile application.

Consumer's e-behaviour refers to the way adults interact with digital computers and gadgets and how they relate with the other people in online social media.

Collaborative learning is the educational approach of using groups to enhance learning through working together.

Digitalization refers to increased adoption and utilisation of computer technology in livelihood services.

Digitization refers to the process of migrating from using analogue data and systems to utilising computerised data in consumer services.

Digital culture, also known as e-culture, is a term used to describe the ever shifting relationship between new information and communication technology and the production and consumption of culture. It includes online communities, gaming, social media, as well as topics related to identity and privacy as people interact with computers and online technology.

E-Administration, or electronic administration, refers to any of several mechanisms which convert from a traditional office where paper processes are converted into electronic processes, with the goal of creating a paperless office. This is an ICT tool, with the goal being to improve productivity and performance.

E-book is a text presented in a format which allows it to be read on a computer or handheld device. The e-book offers students, teachers and schools an additional medium or tool of instructions that can support or enhance the learning process.

E-Consumer refers to the digital services that are sought by adults which include mobile communication services, mobile banking, filling online tax filing (I-Tax), driving licences application and renewal, passports application/replacement/renewal, and business registrations among other electronic communications.

E- Consumerism is a movement of the consumer, by the consumer and for the consumers for the protection of their rights in on-line market

E-insurance defines electronic insurance. It means managing all your health insurance, life insurance, and motor vehicle insurance, travel insurance, and other insurance policies digitally.

E-learning is the use of electronic technology to deliver, assist, and enhance teaching and learning. It consists of teaching that can be based on in or out of the Classrooms; it involves the use of computers and the Internet in the teaching and learning process.

E-Market is an area of marketing that is based on achieving targets by using electronic communication technology on the Internet. The adult learners engage in the marketing, buying and selling of the commodities that they sell.

E-**tourism** is defined as the use of information and communication technologies (ICTs) in the tourism industry. It involves the buying and selling of tourism products and services via electronic channels, such as the Internet, cable TV among others.

E-trading involves buying and selling of goods and services. Some of the adults engage in the buying and selling of goods and services to make a living. The e-trading provides them with the contacts of other buyers and sellers.

Flipped learning is a methodology that helps teachers to prioritise active learning during class time by assigning students lecture materials and presentations to be viewed at home or outside of class

Huduma Centres are centres that have been established by the Kenyan government so that the general public can access government information and service easily and at one stop.

An Internet kiosk is a terminal that provides public Internet access. Internet kiosks sometimes resemble telephone booths and are typically placed in settings such as hotel lobbies, long-term care facilities, medical waiting rooms, apartment complex offices, or airports for fast access to email or web pages.

Lifelong learning includes all learning activities undertaken throughout life, with the aim of improving knowledge, skills and competences within a personal, civic, social and/or employment-related perspective. This is the learning that is mostly undertaken by the adults

M-Learning or mobile learning is learning across multiple contexts, through social and content interactions, using personal electronic devices. It's a form of distance education, where m-learners can use mobile devices in accessing educational technology at their convenient time.

Pedagogy is the art, science, or profession of teaching. This broad definition covers various aspects of teaching, and there are many moving parts to pedagogy that include teaching styles, feedback, and assessment.

Teaching and learning facilities refer to materials used as teaching aid to enhance collaborative learning.

Teleconferencing classroom is a live audio or audio visual meeting with two or more participants. With the ability to teleconference, remote teams in an organisation can collaborate and communicate, even when geographically dispersed. The process is more advanced than a simple two-way phone connection.

The UTAUT model aims to explain user intentions to use an information system and subsequent usage behaviour is a technology acceptance model that investigates user acceptance of information technology.

UGT model (Uses and gratifications theory) is an approach to understanding why and how people actively seek out specific media to satisfy specific needs. UGT is an audience-centred approach to understanding mass communication

1.11 Organisation of the study

This study was organised into five chapters. Chapter one presents the background to the study, the statement of the problem, objectives of the study, study questions, significance of the study, limitations, and delimitations of the study, basic assumptions for the study, definition of key terms, and organisation of the study. Chapter two presents a review of research and other relevant literature relating to the impact of e-consumer services on adult and community education. The review is organised into the following subtopics: I) the use of e-consumer services by adult and community education learners, ii). E-teaching and learning activities in

adult and community education, iii) the relationship between e-consumer services and implementation of ICT in Adult and community education and IV). The integration of E-learning and E-consumer services in adult and community education. This chapter concludes with a summary of the literature as well as a discussion on the theoretical and the conceptual frameworks guiding the study.

Chapter three presents the research methodology detailing the research design, target population, sample and sampling procedures, data collection instrument, validity and reliability of the instruments, procedure for data collection and data analysis methods. Chapter four consists of data presentation, findings and discussions, where tabular presentation and narrative discussions of the data was done. Chapter five consists of the summary, conclusions and recommendations of the study which were drawn from the data analysis in chapter four.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Introduction

This chapter reviews the literature on past scholarly works on the influence of e-consumer services on adult and community education learners. It is shown in the following subtopics on an overview of e-learning education, the use of e-consumer services by adult learners, the influence of e-consumer services on teaching and learning in adult education, e-consumer services and implementation of ICT in adult education, integration of E-learning services in adult education as well as the theoretical and conceptual framework.

2.2. Overview of e-learning education

Biney (2021) argues that e-learning in open and distance education could be a strategy for development. The rapid growth of distance education plays a crucial role in providing improved opportunities for adult learners in life situations. In Ghana, for instance, more than 8,000 adult learners are pursuing knowledge and skills relevant to the 21st century. Similarly, Andziulienė and Verikaite (2014) argue that an improvement in contemporary technologies offers a wide range of means and new methods for classroom instruction. E-learning technology and technologically improved learning can be utilised in scenarios in which the students and teachers are physically separated. So, in their study, Andziulienė and Verikaitėargue (2014) aimed to discuss the functionalities of e-learning systems in adult education programs in Lithuania. Their study confirmed that collaborations with local institutions could turn education and information into a significant driving force for the integration and personal and professional development of adult learners. These could be achieved through sorting and implementing learning via e-learning tools and digital learning environments. According to Biney (2021), The EU adopted the structural funds' projects where the adult education programs were digitised and data networks adopted together with hosting services to provide access to non-formal adult education. The approach offered an

optimal and efficient solution for adults who were socially challenged due to their limited skills. It also allowed them to re-enter the labour market. So, it can be argued that e-learning or digitised learning contributes to the social inclusion of the marginalised groups by promoting self-learning and strengthening digital skills that can promote lifelong learning competencies.

In today's digitised environment, according to Vlieghe (2015), a move from traditional modes of instruction to educational processes mediated by digital technology is necessary. The author further argues that in today's digitised world, being both literate and educated is under transition. The study shows that the idea of literacy comes with the sense of being able. Therefore, where e-learning is adopted in the classroom, then it is highly probable that the learners will leave the classroom with a range of skills that instil in them a sense of 'being-able' to undertake different activities in the digital world. This arises from their exposure to digital resources and services through the e-learning process, which familiarises them with the tools and resources in the real world.

Bishnoi (2020) emphasises the need for education reform to adapt to the 21st century's digitised learning and skill environment. The commencement of the COVID-19 pandemic, on the other hand, has highlighted the need to adjust e-learning processes as a means of fostering learning continuity. Learning frameworks can be supplied by combining technological improvements with active and collaborative learning in inverted or flipped classrooms. In line with these statements, Bishnoi (2020) explored the relationship between flipped learning pedagogy in education and the acquisition of 21st-century abilities among adult learners in Dubai in today's digitised environment. Data was collected through a mixed-method design. It was established that the use of flipped learning or e-learning approaches had significantly influenced the acquisition of skills and competencies necessary for the highly digitised 21st century. It helps learners master the skills and competencies needed to be resilient in today's social and job market.

According to Farmer (2012), technology facilitates collaborative learning communities and is essential in community education. Technology allows for more efficient and effective access to information than ever before. However, with the ease of access to this information, additional skills are needed from its end-users. Therefore, for education to play its role effectively, there is a need for community educators to design the curriculum, the instructional approach, and programs that provide customisable learning and socially rich learning environments. Therefore, efforts should be made to ensure that adult learners have opportunities and access to learning using technology support gadgets. In this regard, Famrer (2013) found that successful community efforts to integrate technology in the US include meeting local needs, utilising local resources, partnerships with local resource providers and organisations, providing accessible and appropriate technologies and providing meaningful content for adult learners. The study, however, was conducted in the US, highlighting the role of technology in easing access to information and as a tool that requires specific skills for individuals and communities to reap its benefits. However, the US has different social and economic factors as compared to Kenya which is a developing country facing challenges stemming from economic constraints. Therefore, the findings in regards to the digitization of community and adult education may not be generalizable to the current context.

2.2 The use of e-consumer services by adult learners

To navigate in most areas in the 21st century, succeed in a competitive job market, maintain a family, understand health information, and participate in civic activities, virtually everyone needs a high degree of literacy in print and digital media. Despite this, according to a survey by the United Nations (2014), more than 90 million adults in the United States lack the reading skills necessary to live fully productive and secure lives. Although using technologies may increase the initial cost of literacy programs, the degree of differentiated and continuous support they can provide to adult literacy learners is such that technology investments may be the most cost-effective approach. As a result, developing and testing the most promising new

ideas is worthwhile to understand their costs and advantages better. Consumer literacy includes understanding consumer rights and marketing practices, having the interpersonal skills to manage service encounters and make complaints, asserting one's voice, and achieving agency in the marketplace. This broader idea of consumer competency does not dwell within the consumer alone but is socially enacted and evaluated. A social practice approach to literacy conceptualises adults as "acting in relation to a situation, taking into account other people, social and cultural norms, their own experience, and, of course, the technical knowledge they need to encode or decode" text. The proliferation of various forms of literacy, computer literacy, health care literacy, financial literacy, and so on points to the contextual factors implicated in the importance of the broad practice of consumer literacy.

Florenthai (2018) argues that E-learning applications are increasingly being adopted by instructors outside and inside classrooms. Therefore, the researcher examined the students' motivation to use mobile polling applications. The researchers used a qualitative approach to collect data from adult marketing students. The study identified five motivational factors for the use of e-applications. These included the knowledge and acquisition of learning, interactions, engagement and enjoyment, convenience, annoyance and expression of self and others. The researcher established that these themes emerged where a need for comfort in accessing different e-learning services was one of the driving forces for m-learning platforms. The study is crucial in identifying the primary reasons for the benefit of e-services. The need to access services conveniently was the primary reason for the adoption of e-learning. So, it can be inferred that the student's motivation for adopting m-learning services is mainly to know how to use them at their convenience. Similar findings were identified by Sanchez-Torres, Arroyo, Varon-Sandobal and Sanchez-Alzate (2017). They determined that e-commerce was primarily associated with the utility that came with the use of the technology.

Anastasiadou, Anestis, Karantza, and Vlachakis (2020) conducted a study on changes that have taken place in consumers' e-behaviour since the spread of the coronavirus. The study

targeted the behaviours of consumers online during the pandemic. They adopted qualitative research using e-mail interviews, document analysis, and the statistics available to compare the e-consumer services used in Greece and Sweden in a comparative study. The researchers found that due to the inability to move physically to the supermarkets due to the restrictions brought by the coronavirus lockdown, the adults were increasingly adopting e-buying. However, consumer behaviour in online buying and selling was mainly driven by the desire to access services online. Still, the activities were primarily constrained by the level of literacy and knowledge of computer or mobile device use. The study by Anastasiadou, Anestis, Karantza, and Vlachakis (2020) is relevant to the current study as it shows the changes that have happened during the pandemic as individuals are increasingly being forced to adopt e-service or e-consumer services due to the restrictions that came with social distancing during the pandemic. The study was conducted in Spain and Greece and was a comparative study, whereas the current study was conducted in Kenya and targeted adult learners in adult learning centres.

Szopiński and Staniewski (2016) examined the frequency with which older adults in different European countries used e-tourism. The study aimed to identify the socio-economic variables that determine the frequency of use of e-tourism services. The researchers relied on secondary data from 28 countries in the EU. It was found that there is a statistically significant association between the frequency of internet users searching for e-tourism services and the country of origin. The education level and occupation of the adults were significant predictors of their use of e-services. This implies that adults with higher educational qualifications and professions were likely to utilise e-tourism services. This was linked to their digital literacy and their capability to access the ICT infrastructure and resources that promote access to the e-services platforms. The study was conducted across Europe, where the socio-economic variables are significantly different from the local ones, where financial challenges are the significant constraints. Therefore, this study sought to determine whether the use of e-

consumer services influences adult education to establish whether it concurs or disagrees with the survey carried out by the European Union (2016)

In another study, Kim and Kim (2017) studied the effect of age identity on online site attitudes. The researchers aimed to examine attitude's impact on loyalty and investigate the moderating effect of motivational orientation. The study targeted 284 older adults from the United States, and it was found that the social and psychological age of the respondents negatively influenced their attitudes towards travel websites. Their ability to use the e-services was a significant factor in determining their intention or even the actual use of the travel websites. The research concluded that the age of the adults negatively influenced their use of e-travel services because of their limited skills and knowledge on how to use an e-services platform effectively.

A study was carried out in eight European nations to investigate the attitudes of adult educators toward instructional mobile media and gaming (Demirbilek, 2010). The findings contended that the adult learners' learning styles and needs often vary, with some learners actively seeking to do things while others will be passive and wait to be told what to do and the answers to issues. The researcher established that prior experience, personality and prior knowledge played a significant role in the learning styles. However, the researcher reiterated that despite these differences, digital games can be tailored to engage all different types of learners. Essential game elements can be used due to the portability, social interactivity, context sensitivity and the learners' individual characteristics to provide unique context-specific and content awareness. The study across European countries found that adult educators are aware of the use of technology and its benefits to the adult education learning and teaching process. They found that digital learning can be enhanced using technology; hence their attitudes towards mobile media were positive. The study was carried out in Europe, whereby essential game elements have been used to enhance a positive attitude for adults to embrace digital learning.

Another study by Broady, Chan and Caputi (2010) also sought to compare the attitudes of the younger and older adult learners and their computer abilities. The researchers argued that computers and their associated technologies are central in today's life. In a society characterised by rapid ageing, the acceptance and the ability to use new technologies by the older adult are crucial. As a result, the researchers undertook a literature study to highlight some disparities in acceptance and attitudes toward technology among older and younger persons. According to the studies analysed, older and younger people's attitudes and experiences with computers and technology are strikingly similar. The study discovered that popular misconceptions regarding older individuals' use of, and experiences with, computers and technology were unfounded. The researcher concluded that the factors that are likely to encourage or hinder a person's computer encounters are comparable throughout generations. Older people can be taught to utilise computers and their associated technology just the same way as younger people. However, two additional considerations should be made regarding the older adults' teaching and learning of computers and technology. The first is the time needed to facilitate the acquisition of computer skills by the older learners. The study established that older learners need ample time to master new skills.

Similarly, there was a need to ensure that older adults learn to use computers and other technologies positively to make them feel valued and that they should expect success at the end of the learning process. The research found that negative perceptions about older people rejecting technology and being unable to use it are outmoded. Older adults can easily acquire the computer and other digital skills needed in today's world when given encouragement and clear explanations and examples.

Similarly, Dabrowska, Janos-Kreslo and Lubowiecki-Vikuk (2019) examined the trends among the ageing population in Poland regarding their e-consumer markets. It was reported that among older adults, e-consumer services are playing a critical role in helping them function in society and to satisfy their basic and high needs. So, Dabrowska, Janos-Kreslo and

Lubowiecki-Vikuk (2019) aimed to identify the behaviours of older adults in the Polish e-market. The researchers adopted a secondary resource analysis, questionnaires and Computer Assisted Web Interviewing (CAWI) method to collect data. The users were randomly selected, with a sample of 508 being used for the study. It was found that the elderly adults in Poland used a wide range of e-services. Some of the other most used e-services were e-banking which was associated with the ease of satisfying daily needs. E-banking was associated with comfort, saving money and time, and easier transfer of and access to services. The other e-services utilised by the older adults were e-trading, e-health, e-administration, e-culture such as buying of tickets, e-insurance and e-education. Generally, elderly adults in Poland tend to adopt e-services and prefer it due to the comfort it provides and the ease of access without much physical movement on their part. The study was, however, conducted in Poland, where the socio-economic factors are quite different from those in Sub-Saharan Africa, where the majority of the elderly adult population is not digitally literate, and there is also a lack of sufficient ICT infrastructure and access to a computer and mobile devices to promote access to the e-services. So, this study did not fill the gap in the literature on the influence of e-consumer services use among older adults in Kenya. The gap was filled by the current study, which proposed to investigate the types of e-consumer services used by older adults.

In another study, Zahid and Din (2019) argue that the e-government phenomenon is becoming imperative with an incremental trend across the world for the attainment of sustainable development. Many government organisations are increasingly adopting e-government services, which are vital in delivering timely and substantial services to the public. The researchers also attest that the user's intention to use the e-government services were crucial to the success of these services. Therefore, based on these factors, the researcher examined the antecedents for the intention to use e-government services among the employees in public universities in Pakistan. The researchers found that myriad factors were limiting the intended

use of e-government services, such as users' anxiety due to the lack of skills and knowledge to use them effectively. Evidence was found that as more and more government services are digitised, the ability of the older adults in Pakistan to use these services was mainly limited by their lack of knowledge on how the e-services platforms work, which in turn limits the effective utilisation of the services. This study sought to establish whether the results in Pakistan are like those in Kenya.

Another study by Youssef, Dahmani and Zeqiri (2021) argues that in today's world, the need for e-skills is increasingly becoming common to facilitate the use of digital technologies. Therefore, in their paper, Youssef, Dahmani and Zeqiri (2021) examined the influence of e-skill on the utilisation of e-service in the hospitality industry in Kosovo. A conditional mixed-process approach and adopted results of a residential survey was done to investigate whether e-skills boost e-services in hospitality. It was found that e-skills are crucial for explaining the different behaviours that are associated with the utilisation of e-services. Social factors, the preview value of the services, and the perceived impacts of service were discovered to be facilitating conditions. Concerns about privacy risks, on the other hand, were found to have a detrimental impact on behaviour intention. The intention to use e-commerce services was shown to be unaffected by age. Overall, our data demonstrate that consumers' degree of knowledge and the existence of e-skills has a major impact on their use of e-commerce services. Therefore, to use e-commerce, adults must have the needed e-skills to navigate the highly complex online marketplace to buy and sell services and goods. The study was conducted in Kosovo, which has different social, economic and cultural factors from the local ones. Moreover, the study did not target adult learners in vocational training centres. Therefore, it was critical to examine the use of e-commerce services such as e-buying and e-selling among adult learners.

In another study, Alkraiji and Ameen (2021) examined the effects of multidimensional constructs on the loyalty of citizens to e-government services. Specifically, it examined things

such as trust and the quality of services on the customers' loyalty to different e-government services, such as access to driving licences, business registration, and access to vital documents such as birth certificates and identification cards, as well as matters pertaining to ownership of properties. To complete the study, a descriptive survey research design targeted 780 students in government universities In Saudi Arabia. It was found that the students who partook in the study used a unified system that was provided by the ministry of education to access the e-government services. It was found that several factors such as the trust in the government services, the customers' knowledge on how to use the services, access points and the perceived convenience of utilising these services influenced the citizens' loyalty and use of e-government services.

Most importantly, trust in the government and its ability to safeguard their details strongly affected the customers' use. However, accessing and knowing how to use these services was critical in utilising the e-government services. In the current study, utilisation of different services, including government services such as the driving license, KRA certificates, business registration and even the booking of appointments, is still low. The adults who need to utilise them have to go to seek assistance since they are not taught how to use the services in the adult education centres.

Mirfa and Vimarlund (2017) indicated that e-services offer support to illiterate older adults and individuals with disabilities in their everyday lives. It enhances social inclusion by improving their communication and involvement with social and public institutions. Their research aimed to look at the role of e-services in reducing the constraints and barriers to social inclusion. The study looked at literature published between 2010 and 2016 and discovered that the effective adoption of e-services by illiterate adults and people with disabilities was influenced by the users' ICT maturity and the setting in which they wanted to utilise the e-service.

Many studies of the effectiveness of technologies in education have shown minimal and sometimes null results. This is not surprising. Technology does not by itself produce learning; it simply amplifies and extends instructional strategies. Too often, studies of technology effectiveness have paid inadequate attention to the content of the instruction and assumed that any technological strategy to amplify it would be effective. Neither do the studies attend sufficiently to the engineering nor to the training required to implement the technologies effectively. If well engineered and supported, the technologies described in this section could be used to amplify and extend effective instructional approaches.

The world's population is estimated to be around 7 billion people, with Asia-Pacific accounting for more than half of it. According to the survey done by (UNESCO 2014), more people have access to cell phones than to flush toilets or electricity. This indicates that people are quickly adopting new and sophisticated technology. Citizens are also increasingly expecting easier access to more public information and government services via various channels, from anywhere and at any time. As a result, the public sector is under increasing pressure to restructure to respond to developments and radically explore new ways to meet demand. Walji, Deacon, Small, and Czerniewicz (Walji, Deacon, Small, & Czerniewicz, 2016)

In 2012, the Netherlands and the Republic of Korea ranked first and second in terms of e-participation performance. The countries made available an online schedule of government-sponsored participation events, online procurement announcements, and an online citizen's right to information.2008, OECD. This resulted in improved service delivery and citizen decision-making. According to a survey conducted by the United Nations in 2014, by the end of 2013, about 40 per cent of the world's population was online; yet, just 16 per cent of people in Africa use the internet. In October 2012, the number of mobile phone subscriptions surpassed 6 billion, thus indicating that more and more people are embracing the use of mobile phones for ease of communication and other services offered through mobile phones.

Ray, Bala, Dasgupta and Sivasankaran (2020) examined the consumers' and service provider's perspectives on the factors that affect the adoption of e-services in rural India. The major purpose of the study was to enable the diffusion of technology in the digital era. A qualitative study based on multiple-participant interviews was adopted to help explore the factors influencing the adoption of different perspectives. It was found that the need to cater for personal needs, the perceived usefulness of the services and the value-address option were crucial for understanding the adults in rural areas' adoption of e-consumer services. Other aspects such as the convenience in accessing the services, the compatibility of the services provided with the customers' needs and the societal influence and availability of providers of these services are critical in the willingness of the adults to utilise the e-services.

Many countries are increasingly embracing digital channels, including counter services, telephone service, web portals, e-mail, SMS, mobile portal, mobile app, social media, public kiosks and intermediaries through public-private partnerships (Sebastian, 2011). The local Government of Amman, the capital of Jordan, has launched an SMS service portal that aims to increase communication channels between citizens and governments (Yousef, Chatti, Schroeder, & Wosnitza, 2015).

The government of Singapore has launched an SMS text service for deaf, hard-of-hearing, and speech-impaired people to contact emergency services (OECD, 2013). This has enabled the people needing the service to communicate effectively without feeling left out because of their challenges. Another positive impact of the growth of e-service is the use of cell phone payments. This form of payment is becoming more popular, especially in underdeveloped countries. This is because no physical facilities are required besides one mobile phone M-Pesa is a standout example of a mobile money business that creates employment and combats poverty in Africa. It began in Kenya and lets users make deposits, withdrawals, cash transfers, and bill payments, providing financial services in nations where banks and road infrastructure are still developing while still adhering to financial rules and regulations (United Nations

Survey, 2014) With so much of the continent's population living in rural areas with limited access to ICT infrastructure, mobile payments have grown tremendously in growth and popularity. Mobile airtime top-up, salary payments, interest-earning savings accounts, and international money transfers are now all available through M-Pesa. Because a national identification card is necessary to conduct any transaction, this app is mostly utilised by individuals aged 18 and above.

Public booths are accessible public facilities that provide free online access, often in underprivileged or isolated places where ICTs are scarce. Governments either fund them or assist them through public-private partnerships. Such technologies typically perform several simultaneous functions, including enabling communities and citizens to gain access to new knowledge and information that can be incorporated into local knowledge and context through the provision of information such as planting techniques and disease prevention, as well as other government information and services. Intermediaries can use public kiosks to help citizens with accessing public information and services (2012 UN E-Government Survey)

Belanger and Carter (2009) investigated the impact of the digital divide on e-government services use. Their statistical analysis focused in Australia revealed that age, education and income divide were significant predictors of individuals" intention to use e-government services. They found that the younger generations are more conversant with e-government services as they are well-exposed to technology and the use of the internet and other digital platforms. Similarly, those with higher incomes and those with higher levels of education were found to use the internet for different activities and tasks. Nevertheless, the study recommended that government websites be designed with easy navigation at the forefront. The content and interface should be complete and concise to ensure that they are easily accessible and easy to use for all the members of society.

In another study, Smythe (2018) reports the findings on adult literacy and learning in public computing centres where individuals are content with the new literacy demands arising from increasing shifts in government operations to digital platforms. The study asked what the literacy and learning practices associated with digital governance entail as well as the pedagogical support to navigate the digital government. The study also aimed at establishing the implications of the digital government on the work of adult education instructors. The study demonstrated that the new digital era demands new digital literacy and requires new pedagogies that can reshape adult learning. The result of educators was reshaped to meet the unique demands, including the application of more illustrative and demonstrative approaches to teaching and learning to promote more understanding and use of e-governance platforms.

Alam and Hassan (2011) examined the issues that affect e-governance implementation in developing countries. The authors contend that implementing e-governance has been a challenge due to social, economic or political issues. Additionally, technological problems also influence user-accepted e-governance systems. So, the researchers adopted a quantitative investigation of the issues facing the implementation and use of e-governance implementation in Bangladesh. It was established that several types of e-governance services are provided in Bangladesh by the government through online platforms. These include access to government services such as filing of taxes, registration of one's business, and driving license, among others. It was found that despite the government's efforts to ease access to essential services through e-governance, the significant constraint towards its efforts was the poor ICT infrastructure. The research found that without proper ICT infrastructure, it was impossible to implement e-governance. Aside from infrastructure, the awareness among the users of the e-governance system was also a limiting factor for the proper implementation of e-governance. The study established that there was a major unawareness among older adults on the presence of e-governance systems. The researchers argue that though literacy is among the most prominent challenges in the developing world, computer literacy is still a critical skill that is

lagging behind the other skills. There is no alternative to computer literacy skills, especially with the increasing tendency by the government to digitise most of its services. Therefore, the government had to pay more attention and add criteria for teaching and learning computer skills from the basic education levels. The study was conducted in Bangladesh, a developing country just like Kenya, so the findings may be generalisable. Still, the study targeted only the provision of e-government services. It did not expand its scope to other e-buying and e-selling digital services and products, which limits the findings' generalizability to the current study.

Al-Shboul, Rbabah, Al-Shboul, Ghnemat and Al-Saqqa (2014) conducted a similar study in Jordan. The authors indicated that the electronic government uses information and communication technology tools to offer citizens services. The use of e-government grants individuals, societies and governments synergies and benefits that enable them to overcome obstacles and challenges in providing services to their citizens. Therefore, their study proposed to investigate and identify the factors which influence and affect the adoption and diffusion of the services in Jordan. The study established that the major challenges stemmed from the implementation of the e-government services; it was identified that issues related to financing and budgeting, lack of human expertise, social influences, resistance, and lack of awareness constrained the adoption of e-government services.

In a local study, Jierre (2018) used the Huduma Centres in Kenya as case studies to examine the challenges facing adopting e-government services in Kenya. The Huduma Kenya program is a one-stop for all government services from the various departments. Kenyans can easily access the Huduma services in one stop, and Jierre (2018) sought to identify the challenges that faced the utilisation and integration of Huduma services among Kenyans. It was found that the major constraints facing the program were the limited skills by the public, especially illiterate older adults who cannot utilise the online interface of the Huduma platforms to book appointments for the various services offered. The other challenge was the limited access by

some Kenyans to access cyber cafes and computer devices and, ultimately, the e-government services.

The previous discussions have shown that a lot of research has been carried out in many regions to identify how adults use and interact with the e-consumer services that have been put in place by different countries. Kenya's government has also not been behind a lot of emphasis on the use of ICT facilities in the government sector. Kenya has led the world in mobile money/electronic cash transfer. The government has also taken the initiative to digitise most of its services to the people. However, there is a minimal indication that the adult learners learning in the adult education centres are being taught on how to use the new technologies. This study sought to determine if the adult learners are being taught how to use these services and if the adult learners are effectively benefiting and utilising the services being provided by the government and the private sector.

2.3The influence of e-consumer services on teaching and learning in adult education

Computers, the internet, and electronic delivery systems such as radios, televisions, and projectors, among other things, are all examples of information and communication technology (ICT), which is widely used in today's educational area. According to Kent (2010), school is an important location where adults and children engage in various computer activities. Still, the home provides a complementing site for regular engagement in a smaller set of computer activities. As a result, ICT is becoming a potent tool for educational change and reform.

Consumer education programs assume that consumers have the right to complete product information, and well-informed consumers can meet their needs in the marketplace (Ozturk& Aydin, 2015). Adults with limited literacy abilities, however, enter the market without the literacy resources of other consumers and are potentially more vulnerable to exploitation by

the people they seek so that they can transact some of the e-services needed from them by either the government or the private sector. Many adult literacy programs assume adult literacy students lack both literacy and consumer skills. The results from an interpretative study suggest adult literacy learners combine a range of social skills and resources and an ability to manage the shame of the low-literacy stigma to get their needs met in the marketplace. Four consumer literacy profiles are discussed, and an alternative form of consumer education tailored to each profile is proposed. The role of a more critical consumer educational approach in literacy assistance programs and its impact on adult learners' feelings of self-esteem, empowerment, and agency.

Kambaouri, Mellar and Logan (2016) examined the development of digital literacy skills among older adults in the UK. The study established that ICT skills are crucial life skills that can transform the lives of older adults. However, effective teaching and learning approaches are required for these skills to be learnt. The tutors must adopt various strategies to develop adult learners' digital skills. A purely didactic form of teaching when approaching the ICT skills or a time-intensive strategy of individual tuition may be required as opposed to a lecture method. Kambaouri, Mellar and Logan (2016) also argued that there is a need to encourage the learners' autonomy through activity management, extended discussion as well as reducing tutor presentation time. Such approaches were significantly linked to self-directed learning through confidence building. Collaborative learning was also found to be effective in promoting the students' understanding of the learning concepts among adult learners. Similarly, Snyder, Jones and Bianco (2015) argued that understanding adult learners' teaching and learning processes is critical for successfully adopting ICT skills. Their case study established that most educators used their expertise to expose learners to a range of communication technologies, enabling them to acquire discrete skills for academic and work purposes.

Kim (2020) indicated that online learning has been taking place extensively since the onset of the Covid-19 pandemic. Online learning has become indispensable in education programs. In the study, Kim (2020) reported the experiences and reflections of adult teachers from a practicum course offered in 2020 in the USA. The study found that adult learners need to use and interact with computer gadgets and internet services to enhance teaching and learning. It was established that the use of demonstration and a learner-centred approach was more effective as compared to the use of lecture methods. Reflections also promoted the development and learning of concepts. The study was, however, conducted in the United States, where the online education practice is more viable due to the connectivity of the internet and affordability of mobile and computer devices in the majority of homes as compared to Kenya situation, whereby internet connectivity is found in few areas in the country due to its high cost of initial internet connectivity and monthly maintenance.

Rapanta, Botturi, Goodyear, Guardia and Koole (2020) cited the tutors' training and qualifications. The researchers indicated that the 2020 covid-19 pandemic had raised significant challenges for the global higher education community. The major challenge has been transitioning learning to online platforms from traditional face-to-face ones. Online teaching and learning demand specific pedagogical content knowledge related to designing and organising better teaching and learning experiences. It also demands the creation of distinctively interactive digital learning environments using digital technologies. Therefore, the teachers' knowledge, training and expertise in these digital technologies are vital for the eventual success of digitised education processes. Similar conclusions were reached by Davis and Krajcik (2015), who found that to promote teacher learning, cognitive tools are the most vital in promoting the acquisition of skills.

In their study, Woodward, Freddolino, Wishart and Bakk (2012) examined the issues related to the use of the peer tutor model in teaching older adults over sixty years on the use of information and communications technologies such as online chat rooms, discussion groups,

emails, internet-based support groups and voice technologies and webcams. The researchers targeted nineteen control group participants who participated in a six-month computer training program, with six participants successfully completing the training. These six were selected to be peer tutors, and it was found that completion of the training courses was found to be effective in promoting the acquisition of ICT skills among older adults.

Bonnes, Leiser, Schmidt-Herta, Rott, and Hockkoldinger (2020) also argued that digitisation in different sectors is producing new demands on the competence of the trainers and the learners in digital technologies. On this note, the researchers conducted online surveys targeting 279 trainers in Germany. Their study aimed to investigate the association between the media didactical competencies, media didactical self-efficacy and attitudes towards the utilisation of digital media and its actual use in training. The study compared the trainers who attended training courses and those who did not. It was found that there was a difference between the trainers who had attended courses on digital media and those who had not attended the training classes. Those who had attended training had higher media-didactical competence and media-didactical self-efficacy scores. They also used more digital media in training their learners following the training as compared to before they received training or those who did not get any training. Overall, the findings had severe implications on the need to train the teachers in adult education classes to enhance their ability to utilise digital resources in the classes.

Freddolino, Lee, Law and Ho (2011) argued that one of the most crucial aspects of the successful implementation of ICT in teaching older adults is ensuring that the teachers/instructors are adequately trained. The researchers conducted a study targeting 101 technology peer tutors for older adults in Hong Kong. The researchers aimed to determine the influence of training and preparation and their work's perceived value. The researchers established that training was a significant predictor of the older adults' mastery of ICT pedagogy. The training equipped the instructors with the skills and knowledge on the best

approaches and strategies to teach their students. Similar conclusions were reached by Diez (2008), who found that teachers' experience and training for e-learning in the field of adult education is crucial in determining the outcomes of the learning process. Training enables the teachers to adopt models that offer life-long learning experiences for the teachers and the tutors through blended learning. The study was, however, conducted in Hong Kong, whereas the current study was done in Kenya.

Noraddin (2014) examined adult learners' attitudes towards digital learning in Malaysia. The researcher argued that digital games are becoming an integral part of the learning process, especially among young adults who spend a lot of time playing virtual games. However, the adult learners' exposure to some of the current digital games might be limited; hence the researcher proposed to examine how integrating these games to adult learning and teaching processes was perceived by the adult learners and educators. The researcher targeted adult learners across colleges and universities in Malaysia and found that most of the educators had not formed an opinion regarding the use of digital games in their classrooms. It was also found that age, gender, teaching experiences, teaching disciplines and other variables had no significant association with the perceptions of the teachers towards the use of digital games in teaching and learning. Regarding adult learners, the study established that most had a positive outlook on the role of these games in promoting their acquisition of digital skills. Nevertheless, the study was conducted in Malaysia, and the target population was mainly adult academics, whereas the current population was solely focused on adult learners and their educators in vocational and community training colleges in Nairobi County.

Similarly, Pihlainen, Korjonen-Kuusipuro, and Karna (2021) argued that the development of digital technologies has affected the lives of all people and promotes inequality regarding digital skills training opportunities. For older adults, the motivations for digital learning skills vary, but the majority are often concerned with the expectations of the upcoming benefits. Therefore, the research sought to determine older adults' attitudes towards learning digital

skills later in life. The study targeted 226 respondents who were issued with five-Likert scale questionnaires. The study established that older adults had a positive outlook on their learning process. They were proud to be associated with learning digital skills, which they generally perceived as crucial in performing even the most mundane of tasks in today's world. Many adults view the adult learning process as an inevitable journey for those who want to enjoy the convenience that comes with the digital world.

Another study was conducted by Staddon (2020), who argued that older adults are often thought of as more anxious regarding technology than younger students to the extent that they altogether avoid using technology. The researcher argued that this is a problem facing education classrooms in higher learning institutions where learning and teaching is increasingly being done with the aid of learning technologies. This is, therefore, a challenge as the cohorts in the classes become mature. The study examined whether modern mature students in the United Kingdom have more negative attitudes toward using technology in teaching and learning than younger students. They found that the more mature students use fewer technologies compared to the younger students. They also use the technologies less frequently. However, regarding the attitudes, it was found that there was no difference in their attitudes. The study was conducted in the United Kingdom, where the social, cultural and financial factors significantly differ from the local context; hence the findings may not be generalisable to the current context; hence the current study was conducted to fill in the gap in the literature.

In 2019, Kuo and Belland conducted a study to investigate the association between the African American adult students' computer, internet and academic efficacy and their attitudes towards computers in an environment supported by technology. The study looked at adults' internet and computer self-efficacy to see if they could tell the difference between high and low user attitudes and computer anxiety. The relationship between academic self-efficacy and computer and internet efficacy was also investigated. The study focused on older adult

students who were enrolled in face-to-face and online classes at various colleges throughout the southern United States.

The research was quantitative, and it found that the adult student demonstrated a higher confidence level in performing basic computer or software and internet browsing activities compared to the advanced computer and internet tasks. The researcher found computer and internet self-efficacy significantly differed between the earners with low and high levels of attitudes toward computers. The study was conducted in the United States and targeted older adult learners enrolled at the university levels.

In their study, jimenez-Rodriguez, Vazquez-Cano, Cebrian- Hernandez, and Lopez-Meneses (2021) analysed the influence of the Spanish citizens' knowledge on computers and their education levels on their aversion, tolerance and risk in the online business purchase of services and goods. The researchers were more concerned with the Covid-19 pandemic, which led many individuals to resort to online platforms to conduct most of their day-to-day activities. The researchers utilised the Spain National Statistics Institute to collect annual survey data and get evidence on the incidence in e-commerce on electronic commerce, computer knowledge and the socio-economic characteristics of the adults. A regression model was also done to determine the influence of computer knowledge and education level on e-platforms and e-commerce services. The results showed that computer knowledge and the level of education had a direct influence on their impulse to purchase things online. Similarly, individuals with greater levels of knowledge and greater exposure to computer use based on their level of education also had a higher tolerance of risk associated with the use online. The researchers further found a positive association between the education level and the propensity to purchase. Overall, these findings imply that where adults are exposed to computer use and with greater knowledge of online purchasing, then individuals are likely to be willing to utilise online platforms to undertake different activities. The study was, however, limited by its target population and its location. It was conducted in Spain, whereas the current

study was done in Kenya. Additionally, the study's target population was citizens in Spain with different levels of education and computer knowledge; contrary, the current study targeted adult learners continuing with their education in vocational colleges in Nairobi County. Therefore, there was a gap in the local literature that the study sought to fill by targeting adult learners.

Chong (2020) argued that the latest development in the ICT sector is revolutionising the marketplace, especially with the emergence of mobile wireless communication. Chong (2020) reiterates that mobile devices are the most used consumer devices which pay a critical role in today's society. Based on this backdrop, Chong (2020) sought to research the factors that influence adult learners' intentions to use e-consumer services. The research targeted 290 adult learners and collected data from 188 adult learners using questionnaires. It was found that the desire to understand the current technological application in different facets of life, such as e-government services, drove the adult learners towards self-learning. The study was, however, conducted in China and targeted adult learners at the university level. Contrary, the current study targeted adult learners in adult learning centres in Kenya.

Assessments are a huge aspect of teaching and learning as they help determine whether the learners have mastered the skills taught. On this note, Swain, Brown, Coben, Rhodes, Ananiadou and Brown (2018) conducted a longitudinal study targeting 34 teachers and 412 learners. The study aimed to explain how the lack of suitable instruments for assessing the adult learners makes it difficult to measure the learners' progress effectively. However, the researcher argued that adopting continuous assessments and practical testing of the mastery of skills is essential. Similarly, Schleicher (2018) also argued that the government is facing challenges in maintaining global economic competitiveness. As a result, having high-quality information on the fundamental skills of the adult population is critical in assisting in formulating policies and approaches that can enhance their skills. The researchers described the assessments adopted by the OECD to assess adult learners' literacy skills, including their

familiarity with ICT, ability to manage information, communicate with others and construct new knowledge.

In another study, Shukla (2021) examined the students' motivation to adopt m-learning and to assess the factors and determinants that impact their behavioural intent of m-learning. The study integrated the UTAUT and UGT. The study was quantitative in nature, and the data targeted 220 students pursuing management courses. The researcher found that the affective needs, effort expectancy, social influence and other facilitating conditions positively impacted the students' intent to use m-learning. It was found that cognitive needs were insignificant in predicting and explicating the students' intent to adopt m-learning.

In another study, Cicconi and Marchese (2019) argue that older adults deal with many problems as they age, but they are still capable of learning. Older adults can learn a range of new skills that can help enhance their personal and community well-being. It can also reduce their dependence on relatives, friends and even strangers to conduct some basic services such as accessing e-services. Often, adults' learning is focused on learning solutions to real-life context skills compared to younger adults. The changes seen in today's world, where there is an increasing shift to digital platforms to buy and sell and provide goods and services, also influence the learning process among older adults. Therefore, e-learning has been greatly influenced by the need to equip older adults with the skills needed to navigate today's complex digital world. The e-learning principles, according to Cicconi and Marchese (2019), should cover the users and their interaction with the e-learning systems. These technologies enable direct and indirect interaction of the seller-buyers and services providers as well as the theories and pedagogical learning practices. Cicconi and Marchese (2019) established that there are several ways in which e-learning can be implemented. These can be through learning games and simulations using computers and mobile devices, social learning through interaction with experts and other learners, virtual classrooms and standalone classes, which are courses taken by individual learners to promote mastery of a specific skill.

According to Chametzky (2014), new technologies can assist and improve the education provided to the learners, therefore providing successful communication between teachers and students in previously unattainable ways. This is because learning will be made more real and relevant to the learners. They will be able to apply what they have learnt when using computers and other electronic gadgets when navigating, accessing and using the e-consumer services provided by the government and the private sector.

Parker (2017) examined the motivations and attitudes of adult learners enrolled in adult online classes. The qualitative study targeted seven out of ten adult learners purposefully selected from an online course in the U.S. The study found that the students mainly perceived online learning as an experience to promote their acquisition of knowledge on how various digital aspects operate. It was found that their attitude towards adult literacy was positive due to its impact on their e-consumer services consumption. It was a means of gaining more insight into the workings of new digital platforms enabling them to work and access e-consumer services at par with younger generations. Hossain, Talukder and Bao (2020) argue that in the era of m-learning, several factors can be considered to explain the continuance of adult learners. The study showed the cognitive needs, usefulness, and attitude of perceived use to produce the learners' use of adult learning environments. The findings showed that the satisfaction of the adult learners with m-learning and their cognitive needs reinforced continuance intention.

ICT is a tool that students can use to identify learning topics, solve difficulties, and propose answers to problems in the learning process, according to Brush, Glazewski, and Hew (2008). While engaging students in the application of ICT, ICT makes knowledge acquisition more accessible, and concepts in learning areas are understood. Several prior types of research have demonstrated that effective ICT use can improve educational quality and connect learning to real-life circumstances. (Cohen, Prayag & Moital, 2014; Chametzky, 2014). As Manduku

(2012); Boyer, Edmonson, Artis, and Fleming, (2014) have pointed out, learning is an ongoing lifelong activity where learners change their expectations by seeking knowledge, which departs from traditional approaches. As time goes by, they will have to accept and be willing to seek new sources of knowledge. Skills in using ICT will be an indispensable prerequisite for these learners.

ICT develops students' new understanding in their fields of learning, according to Chai, Koh, and Tsai (2010). They go on to say that ICT also allows for more innovative solutions to many types of learning problems. For example, e-books are frequently utilised in reading-aloud activities in a reading class. Learners can use computers, laptops, personal digital assistants (PDAs), or iPads to access a wide range of texts from beginner to intermediate levels. According to Igwe and Ewelum (2016), using ICT allows students to interact, exchange, and collaborate anywhere, at any time.

For example, a teleconferencing classroom could invite students from all over the world to participate in a topic debate at the same time. They can examine situations, investigate ideas, and build notions. Students benefit not only by gaining knowledge together but also by sharing a variety of learning experiences in order to express themselves and reflect on their learning.

Older adults' interaction with ICT gadgets can significantly improve their quality of life as well as their well-being. Nevertheless, older adults tend to lag in using ICT, and many continue to be unconnected. There are many policies and strategies in place to equip older adults with technology skills and promote their digital literacy. However, the relationship between the adoptions of skills is not straightforward. Therefore, in their study, Tyler, George-Walker and Simic (2020) investigated the experiences and motivations of ten older adults in Queensland, Australia. The researcher used quest views where there was an integration of questionnaire items and semi-structured interview questions. The results

showed that, in general, the older adults had a wide range of ICT skills and had diverse Motivations for undertaking an ICT course. However, the research still established that the higher levels of digital literacy skills did not necessarily equate with engagement with the ICT for the study's participants. However, the motivational process was more vital in the engagement with ICT.

Similarly, Ramos (2015) also investigated the attitudes of older adults in indigenous communities in Guainía in Colombia. The researcher sought to identify the older adults' perceptions towards integrating ICT in their learning process and within the societies they interact with. The study adopted a qualitative approach to explore how older adults perceive their enrolment in the program. The study found that older adults positively perceive the integration of CIT as a means of enhancing their teaching and learning processes. Moreover, the older adults also viewed the integration of ICT as critical in helping promote interactive and dynamic learning processes.

Putera and Mokhtar (2014) found that teachers can act as catalysts for integrating technology through ICT. If encouragement, equipment, and necessary technical support are available from institutes for the teachers, developing an ICT class will be easier for them. The main responsibilities of these teachers will be changing their course format, creating and explaining the new assignments and arranging for the computer lab through their technology-learning specialists or assistants. This will make learning more real and relevant to the learners.

Adelore (2019) argues that new technologies are becoming important in many facets of everyday lives and livelihoods. ICTs, more so mobile phone devices, have special benefits for learning in and out of school. Adelore (2019) adopted a quasi-experiment study to examine twenty participants who were purposefully selected in advanced literacy classes. The learning model was centred on the context of the curriculum offered by the learners. It was found most of the adult learners perceived their training on digital skills acquisitions on a positive manner.

They believed that through their ongoing education, they could gain the best out of the technological advancements and the convenience of today's digital technology. The study was, however, a quasi-experiment with only a small sample size that cannot be generalised to the wider population. Therefore, there is a gap in the literature on the attitude of the older adults towards being associated with adult learning in Kenya.

Adaptation and use of ICT in schools can promote collaborative, active and lifelong learning, increase students' motivation, offer better access to information and shared working resources, deepen understanding, and help students think and communicate creatively (Kent, 2010). The whole learning process becomes learner-centred since the learners are actively involved in the learning process. This helps to boost the student's confidence in the learning process.

According to Mbugua (2009) and NACEP, (2010), the government of Kenya and private organisations have introduced e-consumer services such as I tax, applications for, and renewals of driving licences, applications for business permits, registration of businesses, application for passports, registration of companies, name search for companies, mobile money transfer by use of Mpesa among others. The use of such technologies requires a certain level of basic literacy as well as computer literacy. Since the introduction of such e-consumer services, there is little evidence on how they influence adult and community education teaching and learning. In this section, the study tries to assess how electronic devices such as computers, projectors or any other electronic devices are being used by adult education teachers in teaching and learning processes in order to enhance the necessity for better usage of e-consumer services to find out if adult education teachers use in their teaching and learning process which is a necessity for better use of e-consumer services.

2.4 The relationship between e-consumer services and implementation of ICT in Adult Education

ICT integration into teaching and learning is a fast-growing field whose purpose is to improve the learning experience by strengthening the teaching process. A wide range of learning experiences guarantees that all students have an equal chance to reach their full potential (Venkataraman & Kanwar, 2015). E-learning is beginning to catch on in adult learning centres' as in other professional fields because it offers the advantages of time flexibility, on-the-spot accessibility, and the ability to meet educational objectives in a more cost-effective manner (Natarajan and College, 2012). E-learning is facilitated through a wide range of equipment and facilities that form the e-learning platform, which uses equipment such as computers, mobile phones, radio, Television, and the internet, among others. These equipment and facilities facilitate the application of ICT in different areas like teaching, human resource management, financial accounting, curricular designing, curriculum implementation, education information management and decision-making process, among others.

Miseviciene, Ambraziene and Makackas (2018) argue that the rapid evolution of information and technology allows education communities to provide services by delivering them over the internet. They argue that many institutions are providing academic services over the internet but are concerned over the efficiency of its use in providing relevant services in today's world. For adult learners, the increased demand for learning is peculiar due to the demands that come with their need to work, the intensive responsibilities in the community and for their family. However, the current world demands adults who can adapt to the changes in the market, including the changing modes of service provisions to the internet platform. So, in their study, Miseviciene, Ambraziene and Makackas (2018) investigated the practices and resources adopted by the schools to implement e-learning services. It has been established that in most schools, there was a disparity between their claims of offering e-learning services and the adequate presence of resources needed to implement e-learning. A few computers and projectors were present, but internet connectivity was limited, which constrained the effectiveness of teaching e-learning practically in a way that could equip the students with

skills that can be adopted in day-to-day life. Generally, the study is critical in linking e-services provisions and implementation of ICT in learning institutions. However, the study's scope was restricted to high school learners, whereas the current study targeted implementation and ICT to promote e-consumer services adoption.

ICT is being used worldwide to improve access to information and the relevance and quality of education. ICT integration presupposes using ICT resources at different levels to improve the quality, efficiency and effectiveness of curriculum delivery and management of institutions (UNESCO, 2014). Leaders must therefore provide all necessary resources and personnel to enable them to carry out their work effectively while training them adequately and continuously during the whole process of integration.

Milin (2019) indicates that basic adult education has long been associated with literacy and numeracy skills deemed imperative for joining the job market. It is, therefore, understandable that adult education teachers are hesitant to adopt ICT in the classroom. However, despite this reluctance, ICT is becoming a vital and necessary aspect of adult education due to its ability to make learning possible anywhere and anytime. Most of the investments were found by Milin (2019) to go into schools and universities, but little attention has been focused on promoting the implementation of ICT facilities and resources among disadvantaged groups, including adult learners in adult learning centres.

Bedrule-Grigoruţăa and Rusu (2014) claim that the explosion of the internet has led to the development of educational technologies, and users are fully benefiting from them. Educational and formal processes have adapted to students' needs, and the instruments can be used for related-education services. Learning in developed countries is characterised by flexibility in the learning directions and complexities in the roles of the tutors. The adult participation in the education calls on different computer reproduced and/or simulated representations supported by techniques, colours, graphics and sounds. However, to fully reap

the benefits of these resources, adult learners need to acquire competence and experience as well as get new knowledge on the activity fields. They also need to have an interconnection between virtual reality and physical reality. Based on these claims, Bedrule-Grigoruţăa and Rusu (2014) conducted a study in Romania to determine the use of e-learning platform on the adult learners' development of competencies needed to navigate the complex 21st century. These competencies included their communication skills, creativity and intellectual curiosity, information and media skills, social responsibility and critical and systematic thinking. It was found that among adult learners, the implantation of e-learning brought creativity and acquisition of digital skills among the adult learners. The study is vital as it helps identify how integrating the e-learning platforms in adult learning processes can assist in equipping the learners with the skills, knowledge and creativity that can be used by the different platforms to access different services. This arises from the ability of the learners to develop a wide range of competencies which enable them to navigate the complexities that come with the digitisation of services. However, the study was conducted in Romania, whereas the current study was conducted in Kenya.

Another study was conducted by Kara, Kokc and Cagitay (2019) to explore adult learners' challenges in online distance education. The researchers adopted a literature review study design with a total of 36 articles selected from open distance education fields. The study revealed that adult learners face challenges related to internal, external and program-related factors. The internal challenge was related to the learners' characteristics, such as learning difficulties, including the absence of prerequisite understanding on how to use open distance learning resources, lack of interest in the program and course materials and technical challenges, such as insufficient computing skills. Difficulty accessing relevant information and challenges communicating through the internet.

Regarding the external challenges, the study established that financial constraints and lack of support were some of the significant challenges facing adult learners in adopting open distance

learning. The third was the program-related challenges, where it was found that open distance education had its set of challenges. These included the limited interaction between the tutors and the learners, isolation, unsuitable learning materials and lack of institutional support.

The UN General Assembly Resolution 288 of 2012 entitled "The Future We Want" (United Nations Survey, 2014) recognises that opportunities for the people influence their lives and future, participation in decision-making and voicing concerns and fundamentals for sustainable development. Citizens need to engage themselves in decision-making so that there can be sustainable development. In this regard, the United Nations Commission on Social Development at its 51st Session (2013) concluded that '…the empowerment and participation of all members of society in social, economic and political life is critical to achieving sustainable development.'

Chohan and Hu (2020) argue that insufficient training is one of the critical barriers to the government's pursuit of successful e-governance services. Therefore, Chohan and Hu (2020) set out to investigate the impact of ICT training programs on the success of e-government services to improve digital competency and the declining digital divide in developing societies. The research adopted a pragmatic process as the baseline, while a quasi-experiment research approach was used to test the control group. The findings revealed that e-government training is a vital aspect of the successful implementation of e-governance. It was emphasised that applying ICT in e-governance can assure the implementation of government policies and enrich trust in the government. To successfully implement the programs, there was a need to empower the rural communities by providing them with knowledge and bridging the digital divide through ICT inclusion. Therefore, it was found that there is a need to initiate m-learning in e-governance services by adopting policies and programs that promote technical change and institutional changes and redesign processes. These findings are similar to those by Nkhkwo and Islam (2013). They also found the need for the government to adopt policies and programs to bridge the digital literacy skills amongst its population. The studies attributed the limited

adoption of e-governance and e-consumer services to the lack of skills and access to the needed infrastructure and resources to access e-government services. Most of the population, especially adults, lack digital skills and access to the resources such as smartphones with internet connectivity or computers and, in some cases, lack access to cyber cafes or other centres where they can access e-consumer services.

Tomczyk, Oyelere, Puentes, Sanchez-Castillo, Muñoz, Simsek, and Demirhan (2019) provided a brief overview of the possibilities that come with using new ICT-Based teaching solutions. The widespread use of the internet influences all facets of life, and one of the most notable achievements of the last decades is the commonplace implementation of e-solutions which facilitate learning, communication and testing between the networking of educational institutions and the learners. Several ICT-based solutions support the teaching and learning process, including smartphones, tablets, computers and laptops to augment reality. Adopting new media can be facilitated by equipping institutions with digital devices and faster internet connections. Aside from these, better technological parameters and media education methods in line with the shift in the attitude of adult educators and adult learners provide an opportunity to transfer and transform the digital space.

In another study, Mein, Fuentes, Mas and Muro (2012) argue that the increasing digitisation of information and communication is impacting how people interpret information in the United States. The authors argue that with the advent of ICT, the increased use of electronic means to access various services, including health information. However, patients need to navigate the vast amounts of health information available online and to be able to understand and interpret the information. Based on these changing demands on access to information, there is an increasing need for media literacy, which can be attained through implementing ICT in the education sector. This can be done by increasing the provision of computers and internet connectivity. The study was conducted on the Mexico-US border, whereas the current study targeted adult learners in Nairobi County, Kenya.

McCain (2019) examined the effects of expanding access to adult education through distance learning in equipping adult learners with workforce skills. The researchers acknowledge that a college education or job training is needed for most jobs, and even for accessing some basic services such as governance services. The researcher contended that American adults in the workplace need skills upgrading, with skills in information and technology being the most needed. The study established that many ICT programs can equip adult learners with computer and digital skills to help them navigate the changing workplace norms, e-governance and digital social changes. However, they found that planning for technology needs to be done in a comprehensive manner where the focus of the adult learning process is on equipping adult learners with relevant skills and proficiency. This calls for programs that can promote self-confidence, independence and self-directedness. The study was conducted in the USA, where the social and economic factors are different from the local factors; hence, the current study sought to fill the gap in the literature.

In their study, Gakuru and Gakunga (2015) highlighted the implications of the increasing digitisation of government services on adult education programs. The authors found that older members of society experienced challenges as the younger generation migrated smoothly to online platforms. As the digitisation of services continues to grow, lack of digital skills can result in dead-end jobs, loss of procurement, unemployment or missing out on upcoming opportunities, including investment chances. ICT is critical in different countries, including Rwanda and Kenya. Currently, Rwanda's ICT is core, just as Kenya's, where both countries are committing themselves to invest in ICT infrastructure and integrating it into different departments and public services. However, they found that in both countries, a serious limitation to the successful roll-out of digitisation plans is the low literacy levels constraining the local government's effectiveness and participation of the citizens in different government services.

Consequently, the education systems catering for adult learners are burdened with enhancing support services for adult digital literacy programs. They reckon that acquiring digital literacy skills will be handy beyond improved learning and work outcomes. It improves one's quality of life because technology is universal and is entwined in a wide range of daily activities. They found that impediments resulting from lack of digital literacy can result in lack of access to information, government services and even education and healthcare.

Giannoukos, Besas, Hoctour, and Georgas (2016) focused on discussing the influence of knowledge of computers on the daily personal lives and in the workplace among adults in Greece. The purpose of the researchers was to examine how useful computer knowledge is in adults' lives and work. They wanted to investigate adult's interests for learning computer programs and other subjects through computers. The researchers conducted the study for twenty days in 2015 in Lama Greece targeting fifty adults aged 18-65 years. The study used questionnaires to collect the data and found that most adult learners consider knowledge in computers very useful for their work and personal lives. However, it was also found that the adult learners did not readily accept the adults' choice of learning different subjects using computers, this is because the learners found it challenging and more demanding than face-to-face teaching and learning. However, it was generally found that adults utilise computers, but issues such as access to computers and the internet. The frequency of computer use among adults in Greece was found to be daily, with some using it weekly and others monthly. Regarding the adult learners' familiarity with different computing applications, the findings were ambiguous as some adults were better in other applications than others. However, the applications in which the adults were most conversant were search engines, excel, word and Skype, which may be due to their frequent use.

Giannoukos, Besas, Hoctour, and Georgas (2016) also established that adults were interested in learning different subjects using computers as the majority sought to improve their knowledge. To achieve this, the adults utilised other methods such as tutorials and private

tutoring, and some attended physical classes where adult education educators taught them computer skills (Snyder, Jones, & Bianco, 2015).

Usun (2003) focused on adult education and adult learning characteristics, focusing on the advantage of using technology for the education of adults. Moreover, the same study tried to establish how computer-aided technology is chosen by adult learners. The researcher construed that adult learners and educators should understand the advantage of using technology for effective learning. However, this study draws attention to how adult learners can utilise technology to undertake e-consumer services. This is a knowledge gap that requires academic research. Similarly, Usun (2003) tried to identify the advantage of educational technology for adult learners and the potential benefits of using computer-based educational technology, including computer interactive learning, computer-mediated communication and computer-assisted instruction in adult education. In this case, the focus of Usun (2003) emphasised diverse contexts of using technology to facilitate learning with minimal consideration of how adult learners can use technology to engage in e-consumer services. The study also sought to establish the advantages and the suitability of these computer-assisted teaching methods for adult learning. The researcher established several advantages of using computer-aided technology in teaching adult learners. Computers' capacity allows learners to choose the content and gives them immediate feedback, which motivates the students. Computers also give adult learners a sense of empowerment and control compared to the traditional teaching approach, where the teacher was in control. Computer-Assisted Instruction (CAI) is a more enhanced form of teaching and learning using computers. It used a combination of text, graphics, sound and video to enhance the learning process. It was found to significantly promote the learning rates as adult learners learn faster when using computer-aided technology than conventional instruction. Generally, the CAI helps adult learners to develop logical, and problem-solving skills and aids the learners in becoming proficient in academics.

In another study, Tomei (2017) argues that the infusion of ICT into almost every aspect of life challenges traditional teaching methodologies in which adult education was designed, delivered and assessed. The increasing demands for digital literacy across all populations, irrespective of age, gender, education, income or socio-economic status, is calling for teaching and learning strategies that engage the students and promote learner-centred activities.

In another study, Lewis (2017) examined the factors leading to the quality learning experience. The study found that as ICT permeates different facets of life, institutions updated their classrooms by accessing the web for presentations and using synchronous videos to improve learning experiences. Exposing the students to different aspects of ICT was critical in creating blended e-learning experiences. The learners left school with more exposure and understanding of new approaches in e-consumerism and e-governance.

In Sub-Saharan Africa, the significant challenges facing most e-consumer services are based on the limited infrastructure, resources and awareness (Nkohkwo & Islam, 2013). Therefore, e-government has become of prime importance due to the dawn of the technological age. E-governance is positive to offer many benefits to the local people, with the capability of e-government to promote better governance, raise service performance and eliminate the bottleneck in service delivery being the key motives for its adoption. So, in their study, Nkohkwo and Islam (2013) conducted a literature review on e-governance across 49 countries in sub-Saharan Africa to identify the challenges related to e-government initiatives. A systematic review of the guidelines was adopted, and a total of 75 articles and documents were reviewed. The findings revealed that ICT infrastructure, the legal framework, internet access, the digital divide and connectivity were the most common challenges in the reviewed studies. They found that the implementation of e-governance was constrained by the limited focus on the implementation of the projects in terms of ensuring adequate infrastructure, internet access and computers and mobile devices. The study was, however, a literature review which did not provide any primary sources but relied on prior studies to draw its conclusions. Therefore, the

findings may not be generalisable to the current study, which proposed to collect primary data from adult learners and their teachers.

Another study carried out in Tanzania by Mnyanyi, Bakari and Mbwette (2010) argues that Tanzania, like any other developing country, has adopted open and distance learning to offer courses to learners. The researchers reported that the use of printed materials in open and distance learning is challenging as the materials can be expensive. So, the use of e-learning is posited as a means of supplementing the use of printed materials. E-learning was reported to be crucial in mediating communication through the internet. The researchers underscore the importance of e-learning in enhancing communication between the learners and the instructors, enhancing engagement with the course content and providing an avenue or delivering instructional materials. Nevertheless, there were challenges identified by the researchers in implementing e-learning. These included low digital bandwidth, limited expertise in e-learning, low infrastructure levels, limited funding and low budgets as well as the limited e-learning infrastructure, including the presence of reliable internet and electricity connectivity, adequate mobile and computer devices and connectivity of these devices and infrastructure. The study points toward the challenges facing the implementation of e-learning to promote the acquisition of e-skills in developing countries. The study, however, only focused on the challenges facing the e-learning implementation in Tanzania but did not link it with the e-consumer services used among older adults. So, this gap was filled in the current study.

In the Kenyan situation, adult learning and engagement with the technology remains a challenge. This explains why Kipchumba (2015) reiterated that governments are transforming themselves to provide effective services to the public. The intervention of the ICT has promoted reforms that have led to e-government which was foreseen to have efficiency and effectiveness in the governance of the people. However, e-governance projects have faced numerous challenges stemming from limited infrastructure in terms of ICT coverage. Other challenges identified by Kipchumba (2015) were the limited knowledge on e-government and

challenges in its adoption. Generally, the limited internet connectivity in the country with limited wireless and Wi-Fi local area networks were identified as the key constraints facing the Kenyan citizens regarding adopting the Huduma services.

In Kenya, as cited by Kibathi (2008), e-consumer services are really being used by the adults in many government-supported portals, such as filling the KRA forms, renewing driving licences, and applying for the NHIF and NSSF cards, among others. The education system for adults needs to embrace the use of ICT since adult learners need to apply the information learnt in accessing e-services in areas related to health, nutrition, family planning, continuing education, employment and agriculture, among others. When the learners are equipped with all this knowledge, they will be able to make informed decisions since they will acquire the knowledge needed to face their day-to-day challenges on their own. The research sought to find out how e-consumer services influence the implementation of ICT in Adult and Continuing Education in Nairobi County, Kenya.

2.5 Integration of E-learning and E-consumer services in adult Education.

The boundaries between literacy and technology are dissipating. Results stated by Yobaski and Nolan (2011), outline that ICT integration in education categorises as E-Learning and E-Consumer. Consequently, integrating ICT in E-Consumer mainstreams ensures service delivery and all-consumer operations. In addition, it offers administrators adequate, timely and accurate information, providing improved and knowledgeable decision-making. E-Learning ensures mainstreaming ICTs in education through integrated teaching and learning processes. In this new system, the instructional process is carried out with the aid of computers, mobile phones, or tablets, among other technological gadgets (Walji, Deacon, Small &Czerniewicz, 2016).

Further, Yobaski and Nolan (2011) argue that the interrelationship between literacy, technology, and development forms an integral approach to healthier living. Literacy provides

technical skills and a broader text establishment that includes the ability to solve problems using information, communication, analyses, access, evaluation, and generating new knowledge. From this standpoint, ICT is not only identified as just a medium of literacy skills delivery agent but also as an essential fragment constituting an information-literate-society and acquaintance economy. Therefore, individual involvement in this scholarly society requires the adults to be equipped with crucial skills needed for technological utilisation to access, disseminate, and create new information and knowledge products for individualised benefit and society improvement as a whole (Janssen, 2012).

Gegenfurther, Schmidt-Hertha and Lewis (2020) argued that many organisations' digital technologies are essential for training, adult education, and human resource development. Currently, there is increased use of technology-mediated environments which offer flexible, ubiquitous and on-demand access to teaching and learning materials. A good example is how employees can enhance their skills and knowledge in learning management systems through webinars or digital video-based scenarios. However, the researchers also acknowledged that the advantages of digital technologies are limited by the limited understanding of how the trainers in adult learning education environments can enhance the learners' digital skills. The researchers found that adult learners can best be trained using elaboration prompts that connect new training content and previous knowledge. Most important was also the need to engage the students in various activities such as planning the lesson activities, choosing the technologies they want to engage in and letting them practise with the technology until they are familiar with them. Hu (2013) has also established that adult learners can be engaged using mobile phone devices where they are sent content and asked to provide their assignments, questions, and feedback. The research confirmed that adult learners could utilise the digital platform to learn new vocabularies and engage in different activities over the digital platform, which in turn also builds their confidence in their ability to use the platforms independently.

Florenthai (2018) argues that E-learning applications are increasingly being adopted by instructors outside and inside classrooms. Therefore, the researcher sought to examine the students' motivation to use mobile phone applications. The researchers used a qualitative approach to collect data from adult marketing students. The study identified five motivational factors for the use of e-applications. These included the knowledge and acquisition of learning, interactions, engagement and enjoyment, convenience, annoyance and expression of self and others. Florenthai (2018) affirmed that these themes emerged where the need for continuity in accessing different e-learning services was the driving force for the use of the m-learning platforms. The study is crucial in identifying the major reasons for the use of e-services. The need to access services conveniently was the major reason for the adoption of e-learning. So, it can be inferred that the student's motivation for adopting m-learning services is mainly to know how to use them at their convenience. Similar findings were identified by Sanchez-Torres, Arroyo, Varon-Sandobal and Sanchez-Alzate (2017), who identified that the use of e-commerce was mainly associated with the utility that came with the use of the technology.

Rose, Wang, Sainz, and Joshi (2019) conducted surveys using semi-structured phone interviews with fifteen adult program administrators in 2018. The phone interviews lasted between thirty-sixty minutes and were audio recorded. The analysis was done using SPSS and qualitative analysis procedures. The study found that educational technology usage was reliant on access to at least a computer lab in independent district schools or at community colleges. The key challenges identified included the limited availability of technology equipment in the classrooms. Rose, Wang, Sainz, and Joshi (2019) also established that the geographical circumstances limited the availability of reliable internet access, especially in rural locations, making it difficult for teachers and learners to use online applications and tools. The other challenge was limited funding to support technology integration into teaching and learning. Most of the computers in the labs were outdated.

Rose, Wang, Sainz, and Joshi (2019) also found that limited scheduling time significantly hindered effective teaching and learning of digital literacy in adult learning classrooms. Most adult learning centres had several skills and knowledge targets they sought to equip their learners with. With the majority of their learners working part-time, it was a challenge for the schools to schedule adequate lesson hours to equip the learners with high-level knowledge and skills in computer literacy, especially considering the other challenges such as the limited computers and lack of funding and lack of upgraded computers.

Ghaviferk, AbdRazak, Ghani, Ran, Meixi and Tengyue (2019) assert that the rapid growth of ICT provides dynamic and proactive teaching and learning environment. Therefore, it requires teachers to integrate ICT into their daily teaching and replace traditional instructional methods with modern tools and facilities. Thus, in their paper, Ghaviferk, AbdRazak, Ghani, Ran, Meixi and Tengyue (2019) examined the effectiveness of ICT integration in education. It identifies the level of computer skills and knowledge among the teachers to determine the level of ICT integration in the teaching and learning process in adult learning classrooms. In their qualitative study, the researcher targeted 61 teachers from ten learning centres in Malaysia. It was found that the frequency of ICT use depends on the availability of the internet and computers.

Additionally, the teachers' skills in ICT use also influenced the teaching of ICT. The attitude of the teachers and the learners was also an important factor in influencing ICT integration to promote mastery of digital skills that were reported to facilitate the use of e-services. The study was, however, conducted in Malaysia which leaves a gap in the local literature. So, to fill this gap, the research targeted adult learners in Nairobi, Kenya.

In Guaina, Colombia, Ramos (2015) investigated the integration of ICT into adult education for indigenous people. The researchers adopted a case study approach to provide an understanding of the adult learners' perspective towards the ICT integration and methods that

shape their experience as adult learners. A qualitative research approach was adopted to explore the views and experiences of the adult learners in the program. It was found that most adult learners perceived ICT integration using computers, mobile phones, the internet and other relevant applications. They believed that the ICT integration in teaching and learning positively impacted their learning of digital competencies. The use of ICT in the classrooms and outside of the classrooms also promoted interactive and dynamic classes where the adult participants could gain competencies and skills that they could apply in accessing and utilising e-services. The study was, however, conducted in Colombia which limits the generalizability of the findings to the current study. Therefore, the researcher conducted the current study to fill in the gap in the literature.

Snyder, Jones and Lo Bianco (2015) aimed to investigate the implications of ICT integration on the adult learners' adoption of e-skills and the use of e-consumer services. The researchers focused on the relationship between ICT, changes to the pedagogical practices and the eventual effort and ability to use e-consumer platforms. The researchers found that the use of technology to teach adult learners was widespread, and this was due to the acknowledgement of the social and cultural importance of ICT technologies in teaching and learning. So, the instructors developed their teaching and learning strategies on the concrete social purpose of specific technologies. It was found that some of older adults lack the incentive and opportunities to acquire skills needed to navigate the e-services sector. However, the older adults who embraced computing were found to be able to improve the quality and the connectedness of their lifestyle and were able to access some of the key e-services. The study found that the use of emails, electronic chatting, and text-messaging on mobile phones can be used extensively in adult education to expose adult learners to skills and competencies in how the digital world operates. By communicating using these platforms, adult learners practise their technical skills.

Ni (2018) claimed that there is an increased learning of blended learning in tertiary institutions where there is a rise in face-to-face teaching with online components. The shift is in line with the rise of non-traditional students in institutions including adult learners. Ni (2018) argued that adult learners take on the 'digital help curriculum.' Blended learning was found to be effective in promoting flexibility in learning, promoting efficient and effective learning and equipping the adult learners with the skills needed to navigate the highly digital world.

In another study, Torun (2020) examined the relationship between e-learning readiness and the academic attainment of online courses in relation to the use of e-services and e-consumer services. The researcher adopted a survey method to collect the data using questionnaires. The e-learning readiness scale, which had thirty-three items, covered six dimensions including the students' computer self-efficacy, internet self-efficacy, online self-efficacy, self-directed learning, learner control and motivation towards e-learning. A total of 153 students were sampled, and it was found that where the students portrayed self-directed learning, the students were more likely to effectively use the e-consumer services. Similarly, the motivation towards e-learning is a predictor of the student's attainment of skills and its application in real-life e-consumer services. The researchers attributed the students' motivation as being mainly driven by the changing demands of the marketplace, where there is an increasing shift towards digitisation of services, including basic government services. So, where adults lack the digital skills to access and navigate the sites they need in order to enjoy essential government services, they are likely to be locked out of some vital services, which can negatively affect their lives. So, it was concluded that e-learning was driven by the desire to master the skills needed to be familiar with and be able to utilise digital platforms to access different services and products available therein.

Adult education is expanding, and adult learners are permeating institutions in a bid to expand their knowledge while others seek to acquire skills and knowledge to navigate today's highly

complex, technology-driven world (Guan, Ding & Ho, 2015). The relevance of life-long learning is expanding in tandem with the rapid expansion of adult learners. Adult learners have embraced online learning as a valuable resource. Based on these claims, Guan, Ding and Ho (2015) conducted an exploratory research design which targeted the adult learning experience in online learning in order to understand some of the challenges they face as they seek to acquire skills and knowledge relevant to the needs and demands of their everyday life. The results revealed that technical training and preparations are required to utilise the e-learning platforms and infrastructure effectively. There was also a need to improve the local infrastructure including installing of internet services and further equipping the computers and mobile devices with relevant apps and simulations that could enhance their skill and knowledge acquisition relevant to the changing demands brought by e-consumerism.

Similarly, Singh, Agarwal and Das (2013) contend that adult education is growing in bounds and leaps in this era. At the same time, the student's preferences in the field of education are also altering significantly; it is no longer enough to expect that classroom teaching and learning are sufficient to educate the students. Today's world is characterised by technological advancements requiring technologically savvy students. So, traditional classrooms are no longer effective in imparting quality education that will effectively equip students with the relevant skills needed in today's world. So, in adult education, e-learning is revolutionising adult education as students are being empowered to learn efficiently and effectively at their own pace and convenience. Therefore, e-learning practices should be integrated into the adult learning process where aspects relevant in today's world including teaching computer classes and adopting simulation through games and practising access to different e-services platforms can assist in equipping the adult learners with the needed skills.

Community education is an integral part of advancing the construction of the learning society (Yang, 2013). The process of developing community education, digital learning resources as well as improved the learning effectiveness and quality of education. There is a need to

effectively expand the public space for learning. It can also create new opportunities and options for learning. Yang (2013) showed that communication technology, computer networks and information technology can be integrated into teaching and learning in adult learning centres. The integration of computers and communication can provide unprecedented opportunities due to its capacity to integrate, enhance and interact with each other in a meaningful way to achieve the learning objectives in the adult education centres. Integrating ICT in learning can promote interactivity, flexibility and convenience. Similar conclusions were reached by Majumdar (2016), who found that as ICT is integrated into teaching and learning, new opportunities are being presented for training the goals of community and adult learning. Using ICT, learning is constructed, and learners are exposed to a new role that enhances mastery of skills and competencies through a learner-centred interdisciplinary and engaging learning process.

OECD (2021) reiterates that the COVID-19 pandemic has led to a momentous shift to adult online learning and training. Most of the initially conducted face-to-face training has now shifted to online. Adult learners are also being encouraged to take up new training. The OECD conducted a review of the deviations that the COVID-19 crisis has brought to adult learners. It was found that there has been a massive shift towards online learning in developed countries such as the U.S, UK, Canada and Sweden. The OECD contends that the crisis is providing a powerful test to the potential of online learning and how adult learners can be able to cope with the changes in the delivery of learning. Nevertheless, it was established in the study that there are some key limitations to access of digital learning. These include the lack of adequate digital skills among the adults, lack of computer equipment and limited internet connections. It was found that integrating digital learning was crucial for adults to have access to computers and internet facilities. However, most critical was the need to develop the adults' skills to effectively utilise the computers and the internet facilities to learn online. The study by the OECD is highly relevant to this paper as it helps pinpoint how the changes brought by the

pandemic in adults' education are changing the way learning is being conducted. It signifies a significant shift to digital or e-learning provision, which has faced challenges in integration due to the limited resources and skills among adult learners. However, the study was focused on adult learners in developed countries, where the economic and social factors are different from the local ones where there is already evidence or challenges in access to the internet and computers or mobile devices for the adult learners. Therefore, the findings could not be generalised to the current study; hence the researcher conducted this study to fill the gap in the literature.

Villarejo Ramos, PeralPeral, and Arenas Gaitán (2019) analysed the heterogeneity in the online behaviours of older adults. The study was centred on the socio-demographic segments of elderly adults. The study examined the socio-demographic variables in relation to the use of e-banking services among older adults as compared to their use of social media networks. The researcher targeted 474 students over fifty-five years who were enrolled in a university in Spain. The researcher used a latent class cluster model and found that the elderly utilise technology, but three segments were identified. These included technological anxiety, and self-confidence in information and communication technology among older adults. The study was, however, conducted in Spain, but the target population was like those in the current study.

There is a constant and rapid change in all types of working environments, leading to the need to constantly train and keep on retraining people in new products, technologies and services that are found in their environment. ICT adoption and use in schools can encourage collaborative, active, and lifelong learning, increase student motivation, provide greater access to information and shared working tools, deepen understanding, and assist students in thinking and communicating creatively. Yin, (2014). The importance of e-Learning and knowledge management at the workplace are needed so that the workers can use the learnt skills in their workplace. Leading to the adult learners being more relevant at their places of work. ICT is deeply dependent on literacy, and each technology makes a unique demand on the literacy

skills of the users. This means that the adult learners need to be ICT literate to effectively use the ICT technologies provided by the government (Watson, Loizzo, Watson, Mueller, Lim & Ertmer, 2016).

Moskal (2017) argues that adult learners do not fit in the customary description of learners. Adult learners are often engaged in some form of instruction or educational activity to acquire the information, skills, or knowledge to succeed in the workforce, learn basic skills or enrich their lives" (Moskal, 2017). Consequently, these traits make it necessary to ensure that the teaching approaches used to teach these individuals resonate with the prevailing needs and demands of the social, economic, political and technological changes in the market.

Developed countries like Germany, Sweden and the United Kingdom directed their investment towards their people. This led to an annual growth rate in human knowledge to about 10 percent every year (UNESCO, 2014). Leading to a tremendous development in these countries in areas of research, innovation and education. In Australia, the country introduced a new notion of connecting education and the economy. They called it the 'creative capital.' This led to the growth in both computer use and internet access in workplaces as well as homes. Leading to increase in computer and internet access from 16 per cent to 46 per cent (Australian Bureau of Statistics 2003). This was achieved because the country saw that adult literacy education prepares people, both directly and indirectly, for the workforce. There was an overall of 83 per cent of Australian businesses using computer and internet services (Australian Bureau of Statistics 2003).

African countries are still at the infancy stage in terms of ICT use. This is because according to (Stewart, 2013) there are around 1 internet user for every 250-400 people. This shows that a lot still needs to be done so that African countries can integrate ICT with e-consumer services effectively. In Kenya, it is notable in many institutions, especially in the universities where ICT has been adopted and integrated in learning information of e-learning, monitoring of

students' admission and examination records, among others (Itari, 2017). The Kenya Revenue Authority (KRA) is another example of a public institution where success stories on ICT integration is evident as Personal Identification Number (PIN) can be applied online and also a taxpayer can file tax returns online owing to integration of ICT with the internet. However, a lot still needs to be done in Kenya in the integration of e-learning and e-consumer service, both directly and indirectly, for the workforce market. This is because adult literacy education should prepare people, both directly and indirectly, for the job market and enable them to fit in the fast-growing world of technology today.

Adults can improve their ability to decode and comprehend prose text by using computer-assisted tutorials and other traditional technology-supported resources, such as radio and television, to make education more accessible and help them improve their literacy, employability, and continued use of literacy skills to become lifelong learners. This will enable the adult learners to be informed and always keep up with the advancing technology making them still relevant to the job market.

Individual engagement in modern society necessitates the ability to use technology to acquire, share, and produce new information and knowledge products for the individual's and society's benefit. This study sought to identify areas where integration has been done and areas that need to be integrated so that the adult learners can gain the skills they need to adapt to a rapidly changing society.

2.4 Summary of the reviewed literature

Different scholars have different views on the use of e-consumer services by the adults as well as the need for the adult learners to be digitised. For instance, the Kenya National Adult Literacy Survey KNALS (2010) states that teachers can contribute significantly to learner mobilisation and participation in any education programme. Therefore, the teachers must be

equipped with the necessary tools and knowledge to implement ICT programmes in the teaching and learning process. Other scholars, such as Natarajan and College (2012), UN (2014), and Mulama (2011), argue that the country's high levels of poverty have had a negative impact on Adult Education learning programs because learners prioritise finding food and other basic necessities, far outweighing their intellectual needs. According to UNESCO (2008), nations with lower literacy rates have higher poverty rates, and people are less likely to participate in Adult Education when their social status is low.

Others like Itari (2017), Manduku (2012), and MOE (2015) state that formal and informal institutions for e-participation and integration of ICT in the teaching on learning of adult learners must work closely together to reach out for all citizens. There is a need for the inclusion of digital media literacy as well as lifelong learning efforts so that the citizens can be effective in participation in government programs that have become digitised. Therefore, this study sought to find out the influence of e-consumer services on adult and community education in Nairobi County Kenya.

2.6 Theoretical framework

This study adopted the Diffusion of Innovation (DOI) theory advanced by Rogers (1962). According to Rogers (1962), the Diffusion and Innovation theory attempts to explain how, why, and at what rate new ideas and technology spread within organisational cultures. Rogers defines diffusion as the process by which an innovation is disseminated over time among the participants in a social system through certain channels. Lehmann (2007) explained the social system as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal in a social structure; this could be an organisation, a business unit, an institution or any other. Rodgers (2003) observes that the theory focuses on the system and the leadership within the organisation and how they influence the flow of information to other members which is critical in adoption of new ideas. The theory was preferred for this study because it

focuses both on the individual and organisational levels of adopting new technology and the extent to which the organisation leadership facilitates the adoption of the technology (Oliveira & Martins, 2011).

The four key variables that influence the dissemination of new ideas have been recognised as innovation, communication channels, time, and social systems (Rogers, 1962). According to Rogers, innovation is an idea, activity, or thing that is first seen as novel and requires acceptance by an individual or other unit of adoption. The term "communication channel" refers to the process of sending messages from one person to another via mass media or interpersonal channels for the goal of sharing information. Methods of communication determine the rate, time, quality of information that will influence the adoption of the idea.

According to this idea, the rate of adoption refers to the pace at which members of a social system adopt an invention. The diffusion rate of innovations varies by culture and field and is heavily influenced by the sort of adopters and the innovation decision-making process (Rubas, 2004). According to Oliveira and Martins (2011), this theory can be applied in different disciplines such as ICT, agriculture, public health, political science, and telecommunications.

According to Chile (2007), the DOI theory primarily focuses on a product or innovation, disregarding factors like complex societal, cultural, economic, and other factors. It is, therefore, not clear how the theory addresses these limitations on adoption of new products or ideas into society. Although the theory has some limitations, it is applicable in ICT-based adoption research owing to its advantage of guiding on the type of data to be collected and the population to target for reliable and valid data. The DOI theory will be applied in this study to establish the innovation adoption related to the use and integration of ICT in adult and community programmes in Kenya.

2.7 Conceptual Framework

The study was guided by a conceptual framework based on the four specific objectives and variables of the study as shown.

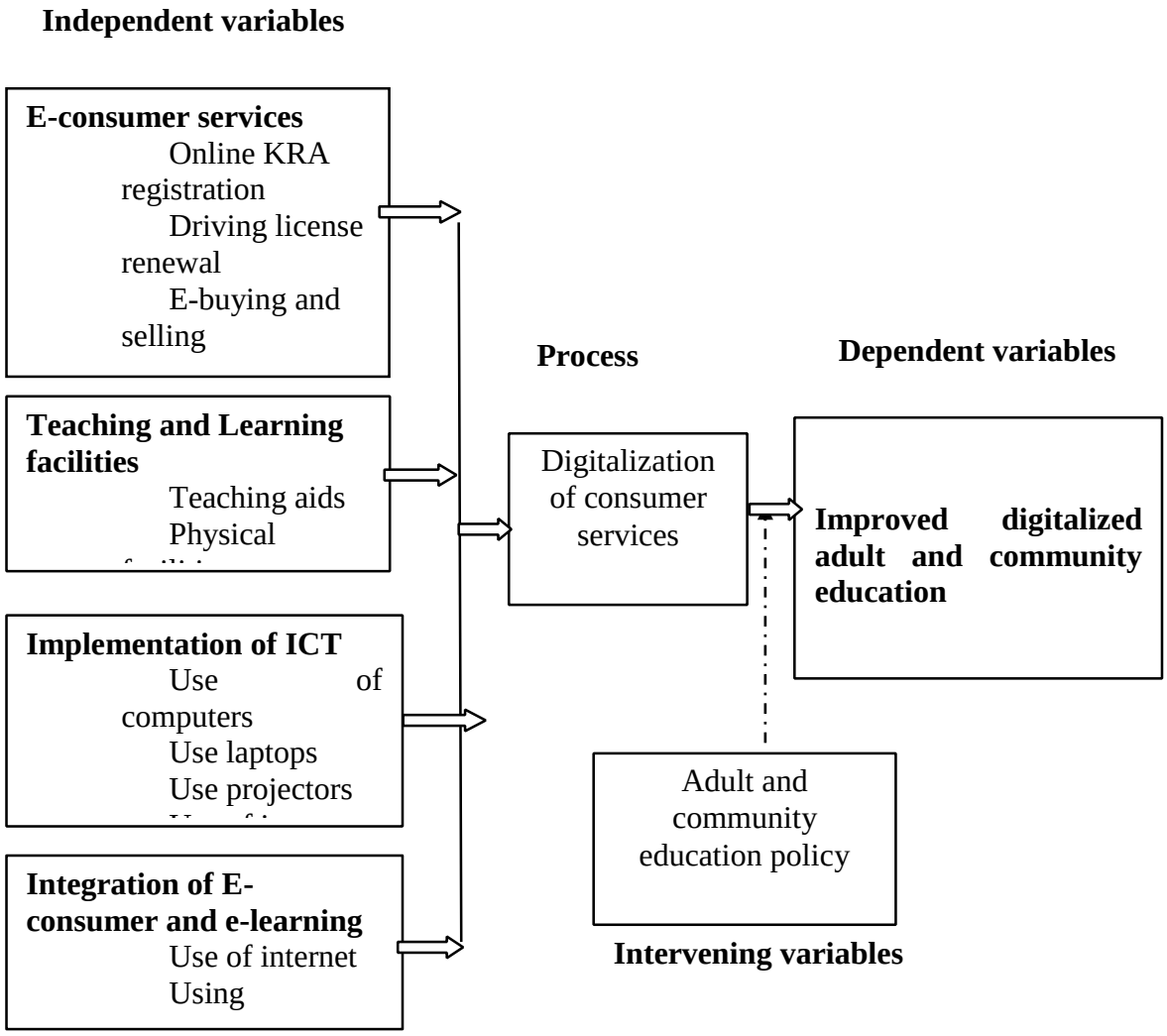

Figure 1: Conceptual framework showing the relationship between e-consumer services and Adult and community education

In Figure 1, the first input is the use of e-consumer services that are provided by government, non-governmental organisations in service delivery which includes; - Online KRA registration, driving licence renewal, e-buying and selling among others. The second input is the use of ICT in teaching and learning process by using better teaching aids and ensuring better physical facilities are available. This will lead to effective use of e-consumer services by the adult learners. The third input is the Implementation of ICT in the teaching and learning process, this entails the use of computers, projectors that are compatible with the internet. The Fourth is the integration of e-consumer and e-learning services in adult and community education in Kenya. Adequate and relevant ICT infrastructures are critical to the success in effective use of e-consumer services.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology used in the study. It contains the following subsections: the research design, target population, sample size and sampling procedure, research instruments, pilot study, validity and reliability of the research instruments, data collection procedure, data analysis technique and ethical considerations.

3.2 Research design

This study adopted a mixed-method design. The mixed method combines quantitative and qualitative research techniques (Teddie & Tashakkori, (2012). Mertens (2010) goes on to say that a mixed method design is one in which quantitative and qualitative approaches are used in the same study to address research objectives. Creswell (2015) emphasises that the strong point of mixed methods research lies in its capacity to bring the two approaches together in a complementary way to address the inherent weaknesses of each. Creswell (2012) further argues that a mixed method research design comprises a process that starts with data collection, analysis, and mixing of qualitative and quantitative research methodologies in a single study to better understand a certain research topic.

Since the researcher collected both qualitative and quantitative data simultaneously, the design was appropriate for this study because the two sets of data were analysed separately. The two sets of data were mixed by merging results during interpretation to compare and relate the results. Mixed methods were used for reviewing e-consumer services in adult and community education since adult education is a complex and multifaceted process that entailed in-depth qualitative and quantitative data. On the one hand, it was important to highlight and interrogate the metrics of adult and community education, thus quantitative data.

The qualitative data, on the other hand, which included the voices (opinions, and experiences) of the various stakeholders, was as significant.

As a result, for this study, a mixed methods approach was chosen to better understand the influence of e-consumer services on adult and community education in Nairobi County, Kenya.

The quantitative data from the adult tutors and learners gave a general overview of the access and utilisation of e-services as well as establishing the relationship between the utilisation of e-services and the provision of adult education in Kenya. However, quantitative data alone may not be sufficient to provide more in-depth reasons for why a phenomenon happens. The utilisation of qualitative data is required for this component. As a result, a qualitative approach was used to collect data from the adult education officers, managers of Huduma Centre and cyber-café persons. That reflected the various dimensions of respondents' experiences, personal perspectives and meanings, values, norms, and beliefs on the influence of e-consumer services on adult and community education in Nairobi County, Kenya.

3.3 Target population

The study's target population comprised all adult education officers in the Nairobi sub-county, adult learners and tutors in all adult learning institutions in Nairobi County. According to a report in the Office of Adult Education in Nairobi County 2018, there are 11 sub-counties. The County then has one adult education officer in each sub-county totalling up to 11 adult education officers in Nairobi County. In Nairobi County, there are 220 adult educational centres consisting of 13,531 adult learners and 223 tutors. The other target population included management officers in e-consumer service providers, the Huduma centres in Nairobi County, and cybercafé providers designated by Huduma Centre to offer e-consumer services. The researcher selected Nairobi County because it is the country's headquarters and, therefore, the hub of e-consumer services in Kenya. Similarly, Nairobi County remains a

metropolitan point, and therefore different people looking for e-consumer services are easily accessible.

Table 3.1: Distribution of target population

NO.	SUB COUNTY	No. of centres	Adult education officers	No. of tutors	Total No. of Adult learners	Cyber cafes
1	Makadara	8	1	15	348	1
2	Dagoretti	18	1	19	2194	1
3	Westlands	18	1	18	433	1
4	Kasarani	35	1	32	3011	1
5	Mathare	19	1	10	368	1
6	Njiru	20	1	18	967	1
7	Kamukunji	28	1	27	2253	1
8	Langata	17	1	15	741	1
9	Kibra	15	1	26	675	1
10	Embakasi	23	1	24	611	1
11	Starehe	19	1	29	1960	1
	TOTAL	**220**	**11**	**223**	**13561**	**11**

Source: Nairobi County Adult and Community Education Office 2018

3.4 Sample size and sampling procedure

According to Lodico, Spaulding, and Voegtle (2010) sampling entails a careful selection of a sub-group, which is representative of the whole population with relevant characteristics. Garson (2013), further adds that sampling saves time and money when compared to complete coverage of the population, which would take more time and require more resources in terms of finances. Garson (2013) also observes that dealing with a sample may permit the researcher to focus on the finer details and increase the level of accuracy and precision than when dealing with a large amount of data from the entire population.

In order to determine the sample for the study in terms of the size of adult learners, the researcher used Slovin's formula (1960), and also the formula was further adapted to enhance better results by Rogers (2003).

$$n = \frac{N}{1 + Ne^2}$$

Where: n= sample size

N= size of population

e=margin of error (0.05)

Using this formula, the sample was as follows:

$$n = \frac{13531}{1+(13531 * 0.05^2)}$$ = 389 adult education Learners.

The Slovins is recommended for any population that is above 10,000 and therefore is was appropriate for learners who were above 10,000. The proportionate sampling was used to arrive at the number of respondents at each county where the total number of the respondents in a county (x) was divided by the total number of all the respondents in all the counties multiplied by the sample size (389), demonstrated as follows:

For example Makadara Sub-county 348 /13561x 389

However, in the case of other respondents who were less than 10,000 the study was guided by Neuman (2013) who recommended a sample of 50% of target population. In this case, 50% was considered sufficient enough and the resulting sample size was manageable. The tutors were drawn from 50% randomly selected adult education centres in Nairobi Sub-county.

Purposive sampling was used to sample one cyber café from every sub-county. Giving a total of 11 cyber cafes from the 11 sub-counties. And one Huduma centre in Nairobi where one officer was involved in the Key Informant Interview (KII)

This is as distributed in Table 3.2

Table 3.2: Sampling matrix for adult learners, tutors and centres

No.	Sub County	Total No. of centres	Sample for centers using formulae 50/100*N	Total No. of tutors	Sample for tutors using formulae 50/100*N	Adult learners total	Cyber Café Persons	Adult learners (sample using Slovin's formula	Adult education Officers
1	Makadara	8	4	15	8	348	1	10	1
2	Dagoretti	18	9	19	10	2194	1	63	1
3	Westlands	18	9	18	9	433	1	12	1
4	Kasarani	35	17.5	32	16	3011	1	86	1
5	Mathare	19	9.5	10	5	368	1	11	1
6	Njiru	20	10	18	9	967	1	28	1
7	Kamukunji	28	14	27	14	2253	1	65	1
8	Langata	17	8.5	15	8	741	1	21	1
9	Kibra	15	7.5	26	13	675	1	19	1
10	Embakasi	23	11.5	24	12	611	1	18	1
11	Starehe	19	9.5	29	15	1960	1	56	1
	TOTAL	**220**	**110**	**223**	**112**	**13561**	11	389	11

Source: Researcher

To get the adult education learners, tutors and adult education centres to participate in the study, simple random sampling was used. In this case the list of all students from each centre was made and a certain number was picked using the replacement method. The replacement method is where after picking a particular number, and recorded as a sample, it is then returned to the box to ensure that the number remains at 100%. This enabled all the learners, tutors and centres to have equal probability of being picked.

However, to get the respondents from Huduma centres, and Cybercafés offering e-consumer services, purposive sampling was used. This involved picking the senior manager from each of the institution/organisation/enterprise. This was because the senior managers are more conversant with the running of the organisation.

3.5 Research instruments

The study used questionnaires and interview schedules to collect data from the selected respondents as per the objectives of the study. Data from tutors and adult education students was collected through a questionnaire. For those who could not write, read or write clearly, the researcher and the research assistant explained and assisted the learners in answering the questions asked. According to Patton (2015), self-administered questionnaires are appropriate for survey studies because they are not complicated and are inexpensive to manage and guide the participants. Moreover, they maintain the privacy of research participants. Questionnaires for adult learners and instructors/facilitators included both open-ended and close-ended questions. This was to enable the respondents to respond more effectively and efficiently to the study questions that were provided. Such questions also ensured the gathering of adequate data to inform a rigorous examination of the research questions. The interview schedule was used to gather information from officers in the County education offices, managers from Huduma Centres, and selected cyber café managers.

3.6 Pilot study

A pilot study was carried out before the implementation of the actual research. Piloting was necessary since the researcher was able to confirm whether the instruments of the research were clear to the respondents and whether they would yield relevant and adequate data for the study. According to Orodho (2005), piloting is also crucial in that it helps to assess and identify any problems respondents would encounter in completing the questionnaires that may not have been foreseen when constructing the questionnaires.

The researcher conducted the pilot study by administering questionnaires and collecting them after they were filled. Editing was done and implemented in the instruments' final draft, including the suggestions noted by the supervisors. Piloting was conducted in the sub-counties neighbouring Nairobi County, that is, Kikuyu, and Kabete sub-county and their main County

is Kiambu. The reason for choosing Kiambu County is due to its neighbouring advantage to Nairobi County, and so some so the issues in Nairobi County could be the same ones in Kiambu County.

3.6.1 Validity of research instruments

The amount to which the information gathered by the researcher accurately reflects the phenomenon being examined is known as validity (Veal & Darcy, 2012). The questionnaires comprised acceptable and adequate items relevant to the research aimed to improve content validity. The researcher did piloting in Kiambu County; Kikuyu, and Kabete Sub-counties who answered the questions and the interview schedules as guided. This confirmed that the research instruments were valid and in line with the study objectives.

3.6.2 Reliability of research instruments

The consistency of scores or answers from one administration of an instrument to the next and from one set of items to the next is referred to as instrument reliability (Patton, 2015). Except for the questions that requested respondents' recommendations, the questionnaire was pre-tested using the split-half approach. It entailed scoring two halves of a test (odd versus even items) independently for each respondent and then using the Pearson product-moment correlation calculation to calculate a correlation coefficient for the two sets of results.

3.7 Data collection procedure

The researcher made the necessary arrangements to obtain the relevant research permit from the National Council for Science and Technology (NCS&T) under the Ministry of Higher Education Science and Technology. (MHES&T). The researcher then made physical visits to the identified institutions for this research to effectively coordinate with the respective authorities and explained the purpose of the research. The principal researcher administered the questionnaires with the assistance of two research assistants. Preliminary training to the

research assistants was done to enable them to understand the research clearly. The questionnaires were distributed to the adult learners who were explained to and assisted to understand what each question entailed. The learners later filled up the questions as guided. The adult tutors filled the questions asked. After filling up the questions asked, the researcher then collected the questionnaires. The questionnaires were given to the adult education tutors and the adult learners. The researchers still guided the adult learners and tutors when responding to questions that required clarity. The principal researcher personally administered the interview schedule research instrument; the interview schedules were given to the adult education officers, the cyber café manager and the Huduma Centre manager. The researcher wanted to ensure that the information obtained would be as valid in detail as possible. After collecting all the data from the field, the reports were then assembled for data cleaning, coding and analysis.

3.8 Data analysis technique

According to Yin (2014), data analysis is the process of bringing order and meaning to unstructured data. In this regard, data collected was to be analysed to obtain the derived descriptive statistics. The researcher reviewed the questionnaires for completeness, accuracy, and consistency after they were filled and collected. The collected data was coded by assigning value to responses in each of the items, considering the Sub-County where the information was received from. The details were then effectively coded from each county and entered into the computer, and the Statistical Package for Social Science Software (SPSS version 19) was used to analyse the data. The data was tabulated and presented using descriptive statistics such as frequency distribution and percentages. Qualitative data from open-ended questionnaire items and responses to interview questions were organised and analysed thematically. Such data was presented qualitatively, using in-depth descriptions and direct quotations

3.9 Ethical considerations

This study adhered to all ethical research considerations, namely, official research protocols, participant informed consent, confidentiality, anonymity, and data protection. Formal permission to conduct the study was granted by the National Commission for Science, Technology, and Innovation. After that, the researcher wrote an introductory letter to the research participants detailing the purpose of the research. Participants were then briefed on data collection and their rights as participants, including the right to participate or to withdraw from the research. The participants were assured of confidentiality and anonymity. This was achieved by ensuring research participants' names, personal phone numbers or any other forms of identification were not indicated on the questionnaires and on the final report.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the research findings of this study. Data was collected by means of questionnaires that were administered to adult learners and teachers. Adult education officers, Huduma centre officers together with cyber persons were engaged in interview schedules, in Nairobi County Kenya. Statistical analysis of the data is presented and interpreted to identify the relationship between the variables studied and the adult and community education in Nairobi County. First, the chapter will present the descriptive statistics followed by inferential statistics. Existing literature will be integrated into the discussions and implications drawn based on the current study results and past studies. The chapter will be guided by the study objectives which sought to:

i) To determine the extent to which e-consumer services are used by adult and community education learners in Nairobi County, Kenya.

ii) To examine the influence of e-consumer services on teaching and learning activities in adult and community education.

iii) To determine the extent to which e-consumer services influence the implementation of ICT in adult and community education.

iv) To investigate the level of integration of e-Consumer elements in Adult and Community Education

4.2 Response Rate

The purpose of the study was to establish the influence of E-consumer services on adult and community education in Nairobi County, Kenya. The study targeted 112 adult instructors and 389 adult learners. In addition, management officers in Huduma centres. The Adult education officers also participated in the study since there are one adult education officer in each sub-county, they all participated including one cyber café manager in each Sub-County. Among the

adult learners, 375 were able to successfully fill the self-administered questionnaires yielding a 96.4 percent response rate. The return rate for the adult education instructors was also 108 with a return rate of 96.4 percent. Choung*et al.* (2016), asserts that a 75 percent rate of response in a descriptive study is adequate to validate the findings of a study. Since the response rate in this study was more than 75 percent, the findings discussed in the chapter were generalizable to similar situations.

4.3 Demographic Information of the Respondents

The study solicited some demographic information from the respondents including their gender, their age, duration of employment and employment status. The demographic information of the adult education instructors is as presented in table 4.3.

Table 4.3: Demographic Characteristics-Adult Instructors

	N=108	**F**	**%**
Gender	Male	69	63.9
	Female	39	36.1
Employment	Volunteer	12	11.1
	part time	24	22.2
	full-time	60	55.6
	Casuals		11.1
Duration of Employment	1-5 yrs.	57	52.8
	6-10yrs	30	27.8
	11-15yrs	12	11.1
	16-20yrs	6	5.6
	>21 yrs.	3	2.8
Age	<30 years	45	41.7
	31-40 years	51	47.2
	41-50 years	9	8.3
	>50 years	3	2.8

Table 4.3 shows the demographic characteristics of the adult instructors where the majority 63.9 percent of the instructors were male while the females were the minority at 36.1 percent. The findings imply that most of the adult education instructors are male while female instructors are a minority in Nairobi County.

Regarding employment, most of the adult education instructor's 55.6 percent were employed full time while 22.2 percent were part time employees, 11.1 percent were volunteers and casuals respectively.

Most of respondents 52.3 percent had been employed for between 1 to 5 years, 27.8 percent had been employed for between six and ten years and 11.1 percent had been employed for between 11 and 15 years while only 5.6 percent and 2.8 percent had been in employment for between 16-20 years and more than 21 years respectively. These findings imply that the majority of adult education instructors are full time employees with some working part-time and others volunteering in the adult learning and community centres. Having more than 50 percent being employed full time is good for the stability and continuity of the adult education centres. Another point to note is that there is a notable percentage of 11.1 percent of adult education instructors who volunteer their services. This is a good practice that should be encouraged and supported since such volunteers fill an important skills gap at their own cost. Similarly, the findings imply that there are few adult education instructors who have a teaching experience of more than ten years in the teaching profession, with more than 50 percent having less than five years in the teaching profession. This is an indication that the government is making progress towards supporting adult education in Kenya, hence progress towards the realization of SDG4 by ensuring that more trained teachers are being employed by the government, even though the number of the teachers needed is more than the number of teachers in the field, it is still a positive move towards the countries realization of education for all by the year 2030. The employment of more young teachers in the teaching of adult learners is a good move for ensuring continuity and infusion of new ideas in the teaching of the adults by the young newly employed teachers.

About age, most of the respondents'88.9 percent were below forty years while those between 41 and 50 years were 8.3 percent and those above 50 years were only 2.8 percent. Based on this age, it can be deduced that most of the adult education instructors are still young and

conversant with digital platforms and e-consumer services. These claims were made by Chohan and Hu (2020) who found that some of the older adults sometimes face challenges in accessing digital platforms as compared to the younger adults. Most of the adult instructors being young of age is a good indicator because they are more conversant with the digital platform and the e-consumer services available and so they are in a better position to pass the knowledge they have to the adult learners with ease.

The adult learners were also asked several questions on their demographic characteristics and table 4.4 displays their responses.

Table 4.4: Demographic Characteristics-Adult Learners

	N=375	F	%
Gender	Female	240	64.0
	Male	135	36.0
Age	Below 18 years	24	6.4
	18 - 29 years	213	56.8
	30 - 39 years	90	24.0
	40 - 49 years	24	6.4
	50 - 59 years	24	6.4
Duration in the institution	Below 1 year	54	14.4
	1 - 2 years	207	55.2
	3 years and above	114	30.4
Time, they attend school	9 am to 3.30 pm	150	40.0
	8 am to 11 am	123	32.8
	2 pm to 5 pm	72	19.2
	11 am to 2 pm	30	8.0
Adult learners learning level	Beginner	45	12.0
	Intermediate	120	32.0
	Advance	210	56.0
Employment Status	Business	108	28.8
	Employed	63	16.8
	Not working	204	54.4
Type of Adult Learners	Self- sponsored	204	54.4
	Sponsored	150	40.0
	Partial Sponsored	21	5.6
Sponsorship body	Government	78	20.8
	NGO	63	16.8
	Not applicable	165	44.0
	Relatives	69	18.4

Table 4.4 shows that most adult learners, 64 percent were females while the males were 36 percent. This implies that the uptake of adult education is higher among the female learners than the male counterparts. The findings are suggestive that the Government of Kenya is in the right path of eliminating illiteracy which is higher among the females than the males The survey

revealed that women performed worse in reading and numeracy than men, at 64.2 % and 58.9 % women respectively Kebathi J (2008) Perhaps because of this, more females participate in adult literacy programmes than men) most of the adults opting to attend adult education are females with the males being a minority.

Regarding the duration in the adult learning institution, most of the learners' 55.2 percent and 30.4 percent had been in the institution for between 1-2 years and more than three years respectively. The findings imply that most of the adult learners had been in the institution for less than two years while the others had spent more than three years in the centres. This may be attributed to breaks in between some of the classes. This is also an indication that regardless of the challenges the adult learners might be facing in their day to day lives, they are still highly motivated to continue with the learning process and they want to achieve their individual and personal goals in education. Giving credit to the Government and private sector for providing Adult education centres to the learners who want to have a second chance in pursuing their educational goals in life.

Further the majority 56.8 percent were between ages 18-29 while only 6.4 percent were below eighteen year, between 40-59 and 50-59 years respectively. Those between ages 30-39 years were 24 percent. The findings imply that most of the respondents were below 40 years of age while minorities were above forty years of age. The findings show that over fifty percent of the adult learners are below twenty nine years of age, this is an indication that no matter the challenges that made the learners drop out of the school system; they are still willing to pursue education in the adult education centres. The learners can get a second chance in acquiring the education they desire.

The adult learners who attended school between 9 am to 3.30 pm were 40 percent. Those who attended classes from 8 am to 11 am were 32.8 percent. The other learners were 19.2 percent indicated that they attend classes between 2 pm to 5 pm while 8 percent attend classes between 11 am to 2 pm. This implies that most of the students attend classes during different hours of

the day, but most of them attend morning classes with some opting to attend classes during the afternoon. This implies that the adult education centres are very flexible and they can accommodate the adult learners any time of the day that they are available to learn. Giving the adult learners a chance to attend to their other daily chores and still get accommodated in the adult centres to learn and advance in their personal and education growth.

Most adult learners' 56 percent were in the advanced stage while 32 percent were in the intermediate stage with only 12 percent being beginners. The findings imply that the adult learners targeted in this study were spread out into different stages of their adult learning education; hence, their responses to the questions asked would be reflective of digital literacy and e-consumer services among them. The findings also indicate that at each level, there are adult learners who are engaging in the learning process. This is an indication that adults will always want to advance in their learning and the government, and the private sector ought to continue establishing and funding more adult education centres in their regions.

The table 4.4 also shows that most of the learners' 54.4 percent were not working while 28.8 percent were in business and only 16.8 percent were employed. These findings suggest that more than 50 percent of the adult students are not working, and so indicates that the funding of the education they are receiving is being sponsored by either the parents or guardian, government or a private body. Regardless of the body funding the education, the adult learners are very positive with the education they are receiving and they want to advance their knowledge in education.

These findings further indicate that most of the learners'54 percent were self-sponsored while 40 percent were sponsored and only 5.6 percent were partially sponsored. These findings imply that most of the adult learners in the community learning centres do not get any form of sponsorship from the governments or other organisations such as churches or Non-Profit Organisations. This is an indication that most adult learners pay for their adult learning education from their own pockets.

Lastly, the table shows that most of the learners' 44 percent were self-sponsored, 20.8 percent were sponsored by the government, 16.8 percent were sponsored by NGOs, and 18.4 percent were sponsored by relatives. These findings suggest that the Government should consider funding more learners to enable them enrol for adult education. This would lead to equipping more adult learners with knowledge skills and attitude relevant to the job market hence contributing to the economic development of the country. The adult learners after receiving education from the adult education centres they will be in a much better apposition to make better informed choices on matters that affect their lives, both financially and physically. Leading to them contributing economically to the growth and development of the country.

4.4 Digitization adult and community education

The dependent variable in the study was the digitization of adult and community education. This variable was measured by asking the adult learners to indicate the services they can access on their own. Their responses are as provided in table 4.5

Table 4.5: Digitization of adult Education

Digitization of adult learners	**N=375**	**F**	**%**
Application for procurement	Yes	85	22.7
	No	290	77.3
renewal of driving licence	Yes	164	43.7
	No	211	56.3
Application of driving licence	Yes	107	28.5
	No	268	71.5
Revenue returns	Yes	74	19.7
	No	301	80.3

Table 4.5 shows that most respondents 77.3 percent indicated that they cannot apply for procurement services over the internet while the minority 22.7 percent indicated that they could apply for procurement services online. These findings imply that most of the adult learners cannot apply for procurement services on their own. The adult learners claimed that they cannot

easily access the platforms that allow them to apply and procure tenders nor act as suppliers. This is an indication that the adult learners require digital skills that they can acquire from the digitised learning processes which allows the adult learners to master the different skills needed to navigate the digital market. These claims are supported by today's digitised environment, according to Vlieghe (2015), a move from traditional forms of instruction to educational processes mediated by digital technology is essential. What it means to be literate and educated in today's computerised world is under transition. The idea of literacy comes with the sense of being-able to perform tasks related to use and embracing technology in their day to day activities without requiring assistance from any one. Therefore, where e-learning is adopted in the classroom, then it is highly probable that the learners will leave the classroom with a range of skills that instils into them a sense of 'being-able' to undertake different activities in the digital world by themselves. They will also be in a position to understand how certain digital services operate without requiring assistance. This will arise from their exposure to the digital resources and services through the e-learning process which familiarises them with the tools and resources in the real world. So, in the current context, it can be argued that where the learning process is digitised, the adult learners are able to conduct different activities independently without requiring any assistance from other third parties.

The table also shows that most of the adult learners' 56.3 percent cannot renew their driving licence by themselves while 43.3 percent indicated that they could renew their driving licence over digital platforms. This is an indication that the adults require assistance in performing personal online computer activities. As Biney (2021) argues, digitization of education could be a strategy for development and promoting independent utilisation of different services by the adult learners by themselves, thus enhancing their independence and agency. The rapid development of digital education plays a vital role in providing improved opportunities for adult learners that they can apply in real life situations. Therefore, among the adult learners, engaging with e-learning platforms equips them with the skills needed to navigate the online platforms

and renew or apply for their driving licences by themselves. Similarly, Andziulienė and Verikaitėargue (2014) argue that advances in modern technologies offer a wide range of new methods and means for teaching and learning. E-learning technology and technologically enhanced learning can be utilised in a situation where the learners and the instructors are physically separated which is reflected in the digitised services offered in real-life situations. Therefore, where e-learning is adopted in adult learning, the adults are exposed to practical use of digital platforms during their day-to-day learning activities. This exposure then equips them with the skills needed to access the services that are offered remotely without experiencing any challenges. Moreover, where there are collaborations with local institutions, education and information can be turned into major driving forces for the integration of personal and professional development via e-learning tools and a digital learning environment. Such an approach was effective in the EU (2010) which adopted the structural funds projects where the adult education programs were digitised and data networks adopted together with hosting services to provide access to non-formal adult education. The approach offered an optimal and efficient solution for adults who were socially challenged due to their limited skills. It also allowed them to re-enter the labour market. Thus, it can be argued that e-learning or digitised learning contributes to social inclusion of the marginalised groups in the society by promoting self-learning and strengthening digital skills that can promote lifelong learning competencies.

The table also shows that most respondents 71.5 percent indicated that they cannot perform the online application for their driving licence while 28.5 percent indicated that they could. Bishnoi (2020) reiterates that the education sector is in a high need of revamping in order to adapt to the 21st century digitised learning and skill environment. However, with the onset of the COVID-19 pandemic, there has been a rapid adaptation of e-learning processes as a solution to many challenges brought by the limited social interactions in a bid to curb the spread of the pandemic. Most individuals were cut off from physically assessing public offices and facilities. However, through inverted or flipped classrooms, learning frameworks can be provided by converging

technological advancements with active and collaborative learning. It was found that the use of flipped learning or e-learning approaches had a significant influence on the acquisition of skills and competencies necessary to meet the demands of the highly digitised 21st century. Flipped learning also helps the learners master the skills and competencies needed to be resilient in today's social and job market. These skills can be applied in utilizing the e-consumer services with ease hence saving time and the cost of acquiring such services.

Majority of adult learners' 80.3 percent indicated that they could not file revenue returns by themselves while only 19.7 percent indicated that they could file their revenue returns. As such, they must depend on others to file their tax returns, thus limiting their independence and privacy. These findings imply that most adults cannot conduct some of the digital services by themselves due to lack of knowledge on how the digital platforms operate. According to the U.N (2010) the use of digital technologies is required for literacy in a digital age, it is important to incorporate technologies into literacy instruction. Although there is a growing need to increase the integration of ICT use in education, statistical evidence reveal that the levels of illiteracy are still high especially in lifelong learning threatening the implementation of ICT in learning systems (UN, 2010). Similarly, McCain (2019) established that there are many ICT programs that can equip adult learners with computer and digital skills to help them navigate the changing workplace norms and the e-governance and social digital changes. However, they found that planning for digital literacy needs to be done in a comprehensive manner where the focus of the adult learning process is on equipping the adult learners with relevant skills and proficiency. This calls for programs that can promote self-confidence, independence and self-directedness. The study was, however, conducted in the U.S where the social and economic factors are different from the local factors; hence the current study sought to fill the gap in literature.

Overall, these findings show that despite the digitization of services, most of the adult learners have not been digitised even though they are in learning centres meant to equip them with skills that can help them navigate current technological and market demands. Technology, according to Farmer (2012), fosters interactive learning communities and is essential in community education. Technology allows for more efficient and effective access to information than ever before. However, for the adult learners to be able to access and utilize this services, they require additional skills to be taught to them in the adult and community centres. So that they can be able to access the digital information. With ease therefore, for education to play its role effectively there is need for the community educators to design the curriculum, the instructional approach, and Customizable learning and socially rich learning environments are provided by these programs.

As a result, efforts should be made to ensure that adult learners have access to, and the ability to learn with, technology. In this regard, Famrer (2013) found that in the U.S, successful community efforts to integrate technology includes factors such as meeting the local needs, utilising local resources, partnerships with local resource providers and organisations, providing accessible and appropriate technologies and providing meaningful content for the adult learners. However, as established in this study, Kenya is lagging in the digitization of adult education and provision of teaching and learning activities through e-learning practices. Therefore, as the world becomes increasingly digitised and services move to e-platforms, the older adults in different community and adult learning centres are still being left behind in the rush to equip everyone with the digital skills and competencies needed to conveniently and efficiently navigate the highly digitised world.

In order to conduct inferential analysis, aspects of digitalization were computed, and the factors rounded to the nearest whole number. Any number less than 1.5 was rounded off to one while any number higher than 1.5 was regarded as 2 where 1 is NO and 2 is Yes.

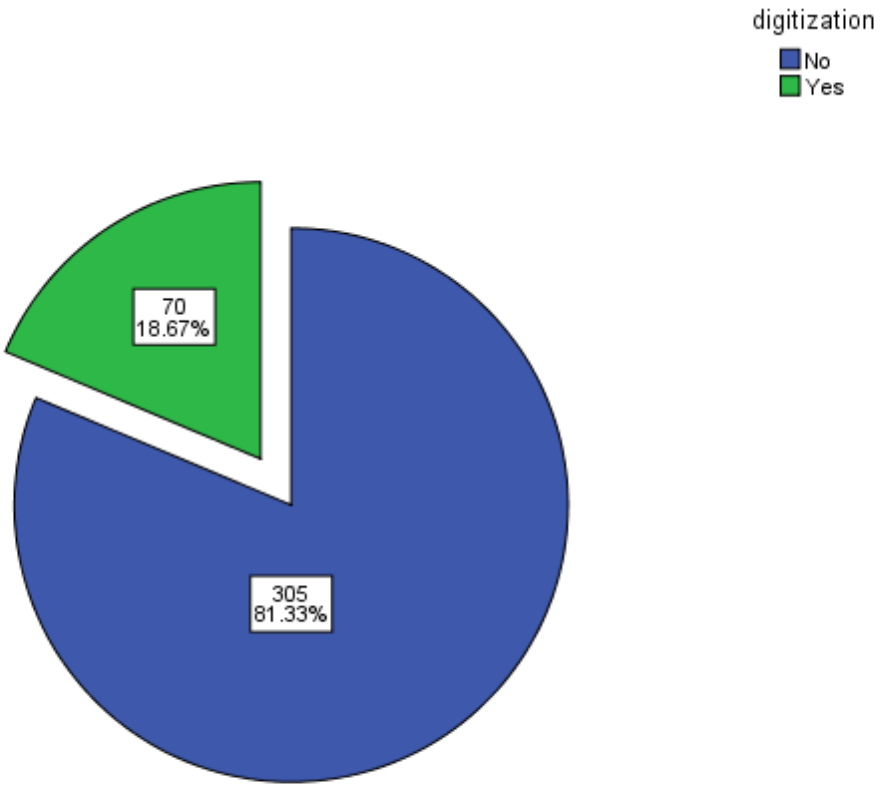

Figure 2: Digitization of adult learning

From figure 2, most adult learners' 81.3 percent were not digitised while 18.67 percent fell into the category of those who could be termed as digitised through the adult and community learning process. These results suggest that most adult learners are not digitised even as they undergo adult education in the adult and community education centres. They lack to be equipped with information knowledge and skills so as to live with ease in today's digital world. The results also suggest that the curriculum for the adult learners could be missing the digital content that is paramount for learners to navigate in today's digital world. Norman and Skinner (2016) argue that Information and Technology (ICT) is also offering new tools with huge potential for improving adult education and literacy if educators can source and utilise them effectively. There are a variety of computer and video technologies, consumer electronics and telecommunication with features suited for adult education.

4.5 Use of E-commerce Services by the adult learners

The first objective of the study was to determine the extent to which e-consumer services are used in Nairobi County, Kenya. To meet this objective, a series of questions were asked, and the responses are provided under this subsection.

The researcher asked the adult learners whether they use e-commerce services. Their responses are provided in figure 3

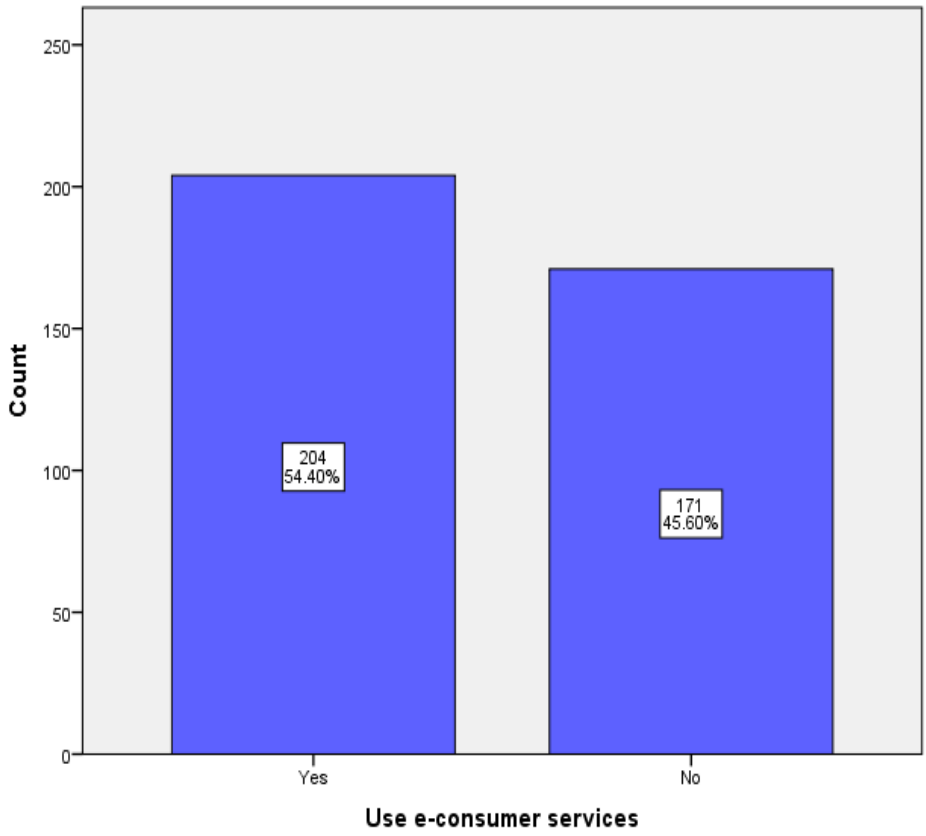

Figure 3: **Use of E-consumer services adult learners' responses**

The figure 3 shows that most respondents 54.4 percent indicated that they use e-commerce services while 45.6 percent indicated they never use e-consumer services. These findings suggest that most of the adult learners do use e-consumer services though several do not use them. From these findings, it can be deduced that most of the adult learners in the adult learning and community centres are using the e-digital platforms. However, this may be linked with the compulsory nature of the e-government services as most services offered by the government, especially in the Huduma centres are first accessed through the digital platforms. Individuals

must first book an online appointment before they can physically visit the centres. As Anastasiadou, Anestis, Karantza, and Vlachakis (2020) argues, due to the inability to move physically to the supermarkets due to the restrictions brought by the corona virus lockdown, adults were increasingly adopting e-buying practices. However, the consumer behaviours online were mainly driven by the desire to access services online, but the activities were mainly constrained by the level of literacy and knowledge on computer or mobile device use. The study is highly relevant to the current study as it shows the changes that have happened during the pandemic as individuals are increasingly being forced to adopt e-service or e-consumer services due to the restrictions that came with social distancing during the pandemic. Generally, these findings point towards the role of social change in shaping the e-service consumption by the older adult. However, where the adults are willing to conduct different e-buying and e-selling and accessing of services and products via digital platforms, their ability, competencies, and knowledge of how these platforms operate play a crucial role in determining their eventual use of the e-platforms.

The adult education instructors were also asked whether their students use e-consumer services. Their responses are presented in figure 4 which shows that most of the instructors' 91.67 percent indicated that their students use e-consumer services where only 8.33 percent were contrary to the view. This is an indication that the adult instructors understand that the e-consumer services in Nairobi County are in high demand, and they understand that the adult learners as they interact with their day to day lives, they cannot avoid using e-consumer services. This is an indication that the adult learners need to be taught the skills that would enable them to use – consumer services with ease without seeking for assistance of using e-consumer services elsewhere. The results suggest that the demand for e-consumer services is high but the adult learners do not have the preliquite skills to utilize them personally hence they seek help from people offering internet services like the cyber cafes who charge them a certain fee for the services offered.

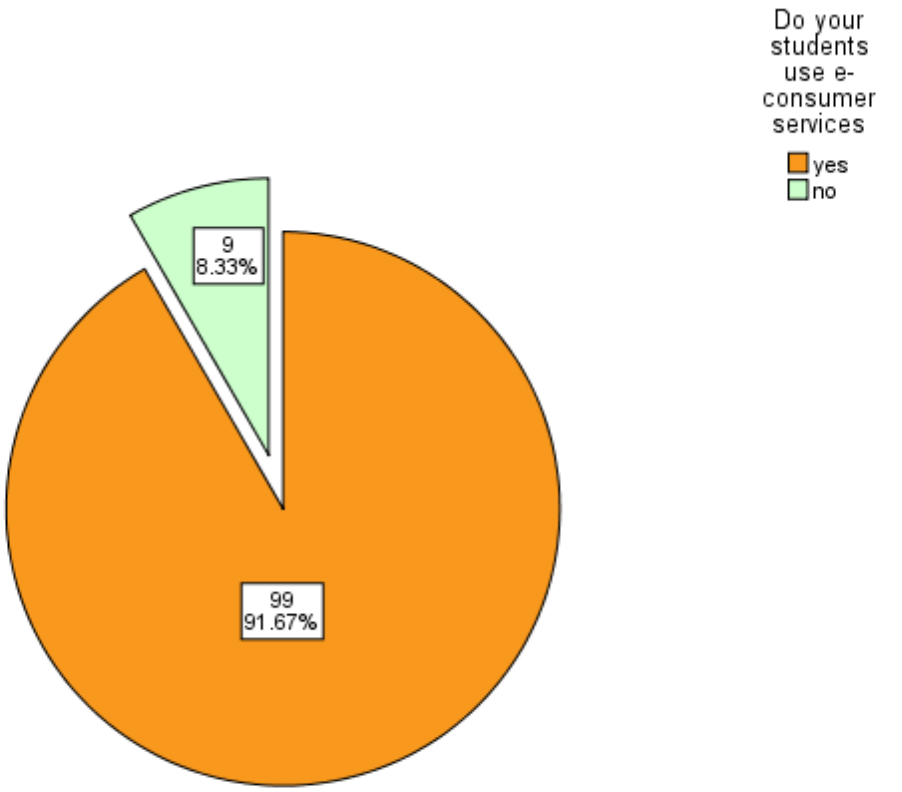

Figure 4: Use of e-consumer services (adult instructors' responses)

The findings from the adult learners and the instructors point towards an increased use of e-consumer services by the adult learners. The increased use of e-consumer by the adult learners may be attributed to the increasing shift in the market and in government services towards e-services. For instance, most of the government services in Kenya including the access to Huduma services have been digitised. Individuals must first book appointments online before they can access these centres. Similarly, with the COVID-19 outbreak, most services have been limited to the digital platforms to prevent face-to-face interactions, therefore, the older adults are being forced by circumstances and changes brought by the pandemic to utilise e-services. As Sebastian (2011) asserts, many countries are increasingly embracing digital channels, including counter services, telephone service, web portal, e-mail, SMS, mobile portal, mobile app, social media, public kiosks and intermediaries through

public private partnerships (Sebastian, 2011). Moreover, many government operations are being digitised which may explain why most of the adult learners are using e-consumer services. So, it can be deduced that as more operations become digitised, more and more adults are increasingly being forced to use the different platforms to access some key services. Similar findings were reached by Alam and Hassan (2011) who established that there are several types of e-governance services provided in Bangladesh by the government through online platforms. These include the access to government services such as filing of taxes, registration ones' business, driving licence among others. It was found that despite the governments' efforts to ease the access to the basic services through e-governance, the major constraint towards its efforts was the poor ICT infrastructure.

Similarly, Szopiński and Staniewski (2016) found that there is a statistically significant association between the frequency of the internet used to search for e-tourism services and the country of origin. The education level and occupation of the adults was significant predictors of their use of e-services. This implies that the adults who have higher educational qualification and profession were likely to utilise the e-tourism services. This was linked to their digital literacy as well as their ability to access the ICT infrastructure and resources that promote access to the e-services platforms. The study was, however, conducted across Europe where the socio-economic variables are significantly different for the local ones where financial challenges are the major constraints. Therefore, this study was conducted to determine whether the use of e-consumer services was influenced by the factors identified by the researchers in the EU-based study.

The interview with the adult education officer also revealed that most of the adult users were somewhat conversant with e-consumer services being provided online, but he argued,

'*Most of the adults are aware that you have to go to the cyber to get some basic services such as the driving licence or KRA pin. However, some of them may not be comfortable going to*

the cybers and being assisted there and exposing their personal information but they have no option, since some services are mandatory, for instance annual KRA filling tax forms.

The interviews with the Huduma officials and cyber-café owners also revealed that the most utilised services by the adult learners included KRA tax filing, application for driving licence, application of documents with the immigration services and replacing or acquiring lost national identities. One of the officers argued;

> *'The majority of the older adults visit the cyber cafes to seek help in accessing the services offered in the Huduma one stop shop. They mainly ask to be assisted with applying for the KRA pins, filing their annual tax returns, applying for procurement, booking appointments to acquire new or replace and collect their lost national identity cards and also go make inquiries on different government services offered in the Huduma centres.'*

One of the Huduma centre officials argued;

> *``We have many older adults who come to the centre without first booking an appointment and most of them are unaware of the services we offer. The majority lack awareness of the types of services offered in the centres. More worrying is their lack of skills to book appointments online.'*

Therefore, it can be deduced that even though the majority of the instructors and the older adults claim that they use e-services such as the e-government services, the majority of the older adults do not have the skills needed to access these services themselves. They mainly rely on third parties to help them access and use the platforms. Generally, these interview findings show that the adult learners seek e-services and mainly, their activities are driven by the need to access the key government services such as the acquisition of National Identity Cards, KRA pins and filing of TAX returns. Similarly, Huduma centres also require the individuals to book appointments for whatever service they need. However, age and lack of skills are major constraints to the effective access of the services which support the claims by Kim and Kim (2017) who found that the social and psychological age of the respondents had a negative influence on their attitudes towards e-travel websites. Their ability to use the e-services was a

significant factor in determining their intention or even the actual use of the travel websites. The research concluded that the age of the adults had a negative influence on their use of e-travel services because of their limited skills and knowledge on how to effectively use an e-services platform. Similarly, Dabrowska, Janos-Kreslo and Lubowiecki-Vikuk (2019) examined the trends among the ageing population in Poland regarding their e-consumer markets and reported that among the older adults, the e-consumer services are playing a critical role in helping them function in the society and also to satisfy their basic and high needs. Thus, Dabrowska, Janos-Kreslo and Lubowiecki-Vikuk (2019) found that the elderly adults in Poland used a wide range of e-services. Some of the most used e-services were e-banking which was associated with the ease of satisfying daily needs. E-banking was associated with comfort, saves money and time as well as easier transfer of and access to services that are offered by the banks.

The other e-services utilised by the older adults include e-trading, e-health, and e-administration, e-culture such as buying of tickets, e-insurance and e-education. Generally, the elderly adults in Poland tend to adopt the use of e-services and prefer it due to the comfort it provides as well as the ease of access without much physical movement on their part. Conversely, the older adults in Kenya use e-services because they have no other alternative as most of the services they seek have been digitised and for them to access them, they have to access them through the e-platforms.

The instructors were then asked whether their learners could access e-consumer services and figure 5 shows their responses.

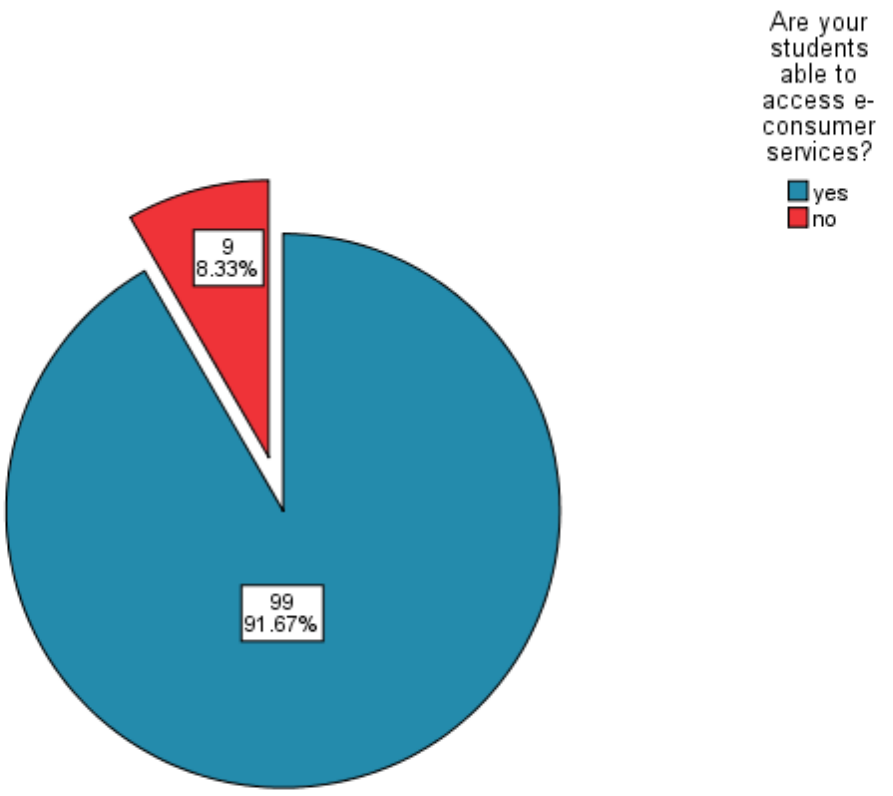

Figure 5: Access to e-consumer services (adult education instructors' responses)

From figure 5, most of the adult educators 91.97 percent believed that their students could access e-consumer services while 8.33 percent believed that their students could not access e-consumer services. The findings imply that most students were believed to be in a position to access basic e-consumer services. These findings suggest that the instructors believed that the adult learners had some basic skills to navigate in the digital platform. The adult instructors identified the use of electronic money transfer as the key element through which the adult learners were conversant with. However, as Jierre (2018) sought to identify the challenges that faced the utilisation and integration of Huduma services among Kenyans. It was found that the major constraints facing the program was the limited skills by the public, especially illiterate older adults who cannot utilise the online interface of the Huduma platforms to book appointments for the various services offered. The other challenge was the limited access some Kenyans must go to the cyber cafes to be assisted in assessing e-government services.

The adult learners were also asked to indicate whether they require assistance when accessing e-consumer services. Their responses are provided in figure 6

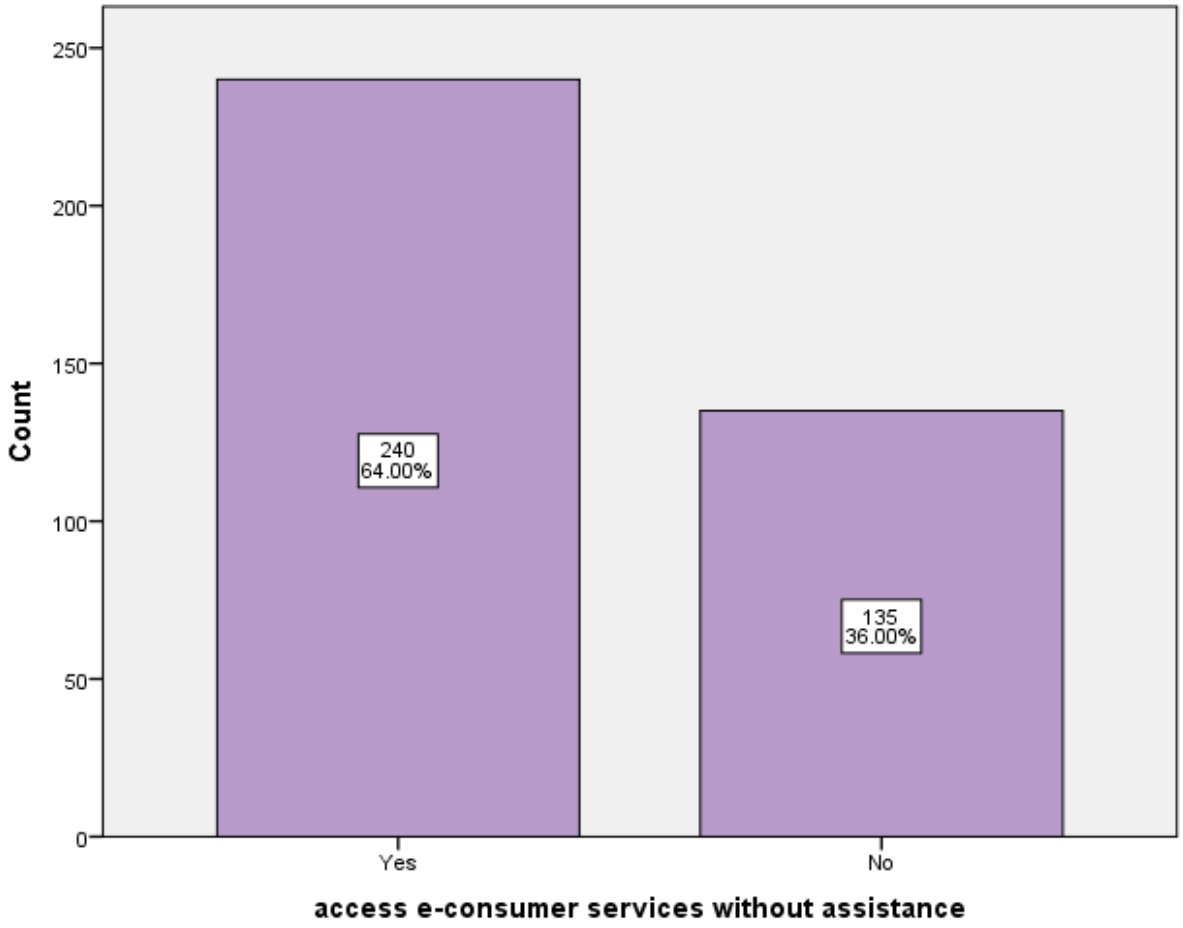

Figure 6: **Access e-consumer services**

Figure 6 shows that most respondents 64 percent access e-consumer services without assistance while 36 percent need assistance though the adult learners can access e-consumer services by themselves, they first confirmed that they were first shown how to use the e-consumer services, before they could know how to use them by themselves. From these findings, it can be argued that most of the adult learners can access some basic e-consumer services without requiring any aid. Similarly, the interview with cyber-café and Huduma Managers support these findings as they argued that there are some adults who can access e-consumer services at the basic level without any assistance. One of the interviewees indicated

> *'Some of the adults who visit cyber are capable of basically accessing the services without requiring any assistance. However, I have observed that this happens after they*

have been shown how to do it before. They learn very fast how to do it once they are shown how to access them.'

However, according to the Huduma services customer care officials;

'The majority of the older adults in Kenya really face numerous challenges in accessing the digital services without assistance from another party. Most Kenyan adults are not digital literate, and this limits their ability to navigate the online platforms and to even know where to get the Huduma services websites let alone know how to book the appointments. We have many adults who come here without a prior appointment and who are shocked once they are asked to show their online appointments. They are not even aware that such a system exists.'

As Walji, Deacon, Small and Czerniewicz (2016) observe, people are embracing new and modern technology very fast. Citizens are also increasingly expecting easier access to more public information and government services via various channels, from anywhere and at any time. As a result, the public sector is under increasing pressure to restructure in order to respond to developments and to radically explore new ways to meet demand. So, it is evident that as digitization of different consumer services occurs, individuals have no option but to use the e-consumer platforms and they learn as they use them. However, in order to effectively utilise these skills, it is vital for the adults to have the needed skills to use the e-services platforms. According to Alam and Hassan (2011), e-governance implementation has been difficult due to social, economic, and political challenges. The researchers found that the lack of awareness among the users of the e-governance system was also a limiting factor for the proper implementation of e-governance. The study established that there was a major unawareness among the older adults on the presence of e-governance systems. The researchers argue that though literacy is among the most prominent challenges in the developing world, computer literacy is still a critical skill that is lagging the other skills. There is no alternative to computer literacy skills especially with the increasing tendencies by the government to digitize the

majority of its services. Therefore, the government had to pay more attention and add criteria for teaching and learning computer skills from the basic education levels.

The researcher then asked the adult learners where they access e-consumer services. Figure 7 shows their responses.

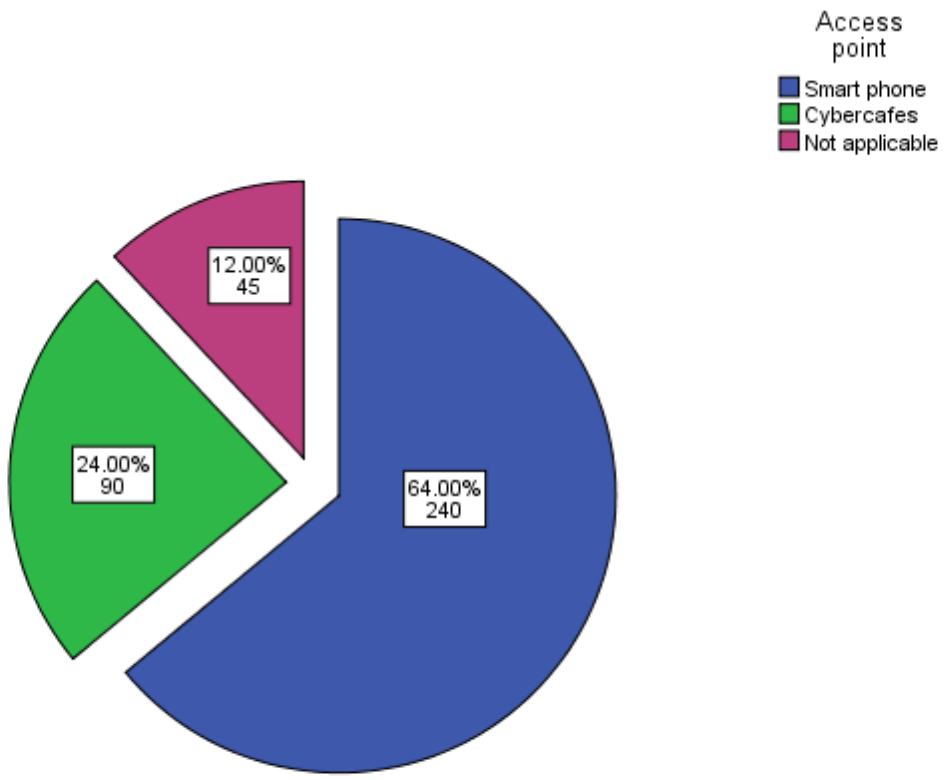

Figure 7: **Access point**

Figure 7 displays where the adult learners access e-consumer services. The study found that most adult students' access e-consumer services using smart phones 64 percent while 24 percent access e-consumer services through cybercafés while 12 percent indicated that they were not applicable as presented in figure 7. The interviews with the cyber café owners and staff showed that some of the adults knew how to access the services, but the majority were not familiar with the use of digital services. The cyber café operator said,

'Most of those who come to the cyber-cafes to access these services mostly do not know how to access them in their smartphones or laptops, so they come here to get help on how to access them. Often, we teach them how they can do some basic activities such as booking Huduma appointments over their smartphones to ease their stress of having to come to cyber cafes or visit the Huduma Centre and be turned away due to lack of an appointment.'

These findings imply that the adult learners do visit facilities such as cybercafés and Huduma centres to get different services, but most lack the skills to access the services offered, mainly forcing them to seek assistance from other individuals.

The adult education instructors were also asked whether the adult learners seek internet services. The findings presented in figure 8 shows that most adult instructors 97.22 percent indicated that their students seek internet services while only 2.78 percent reported that their students do not seek internet services.

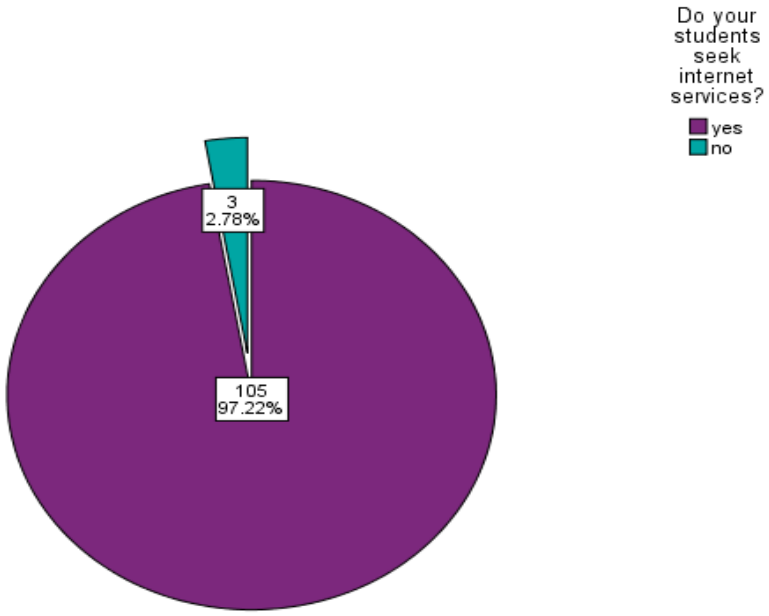

Figure 8: **seeking internet services**

These findings imply that most students seek internet services for a variety of reasons.

The respondents were then asked to indicate the extent to which they agreed with the e-services indicated in table 4.6 on the use of different e-consumer services. The questions were presented on a Likert scale where 1=Not at all, 2= Very Little Extent, 3=Little Extent 4 Some Extent, 5=Great Extent, 6=Very Great Extent.

Table 4.6: Use of E-consumer services

Statement		Adult learners N=375					Adult Instructors N=108					
		1	**3**	**4**	**5**	**6**	**1**	**2**	**3**	**4**	**5**	**6**
National ID	**F**	81	75	81	75	63	30	24	9	30	6	9
	%	21.6	20	21.6	20	16.8	27.8	22.2	8.3	27.8	5.6	8.3
Driving Licence	**F**	81	69	105	72	48	24	36	9	27	6	6
	%	21.6	18.4	28	19.2	12.8	22.2	33.3	8.3	25	5.6	5.6
Kenya Revenue Form	**F**	84	93	78	69	51	30	21	12	30	6	9
	%	22.4	24.8	20.8	18.4	13.6	27.8	19.4	11.1	27.8	5.6	8.3
M-Pesa	**F**	72	87	81	48	87	18	18	12	33	12	15
	%	19.2	23.2	21.6	12.8	23.2	16.7	16.7	11.1	30.6	11.1	13.9
Mobile Banking	**F**	63	69	90	78	75	12	6	3	6	15	66
	%	16.8	18.4	24.0	20.8	20	11.1	5.6	2.8	5.6	13.9	61.1
Passport	**F**	90	63	78	99	45	21	6	9	9	18	45
	%	24	16.8	20.8	26.4	12	19.4	5.6	8.3	8.3	16.7	41.7
Land ownership search	**F**	81	57	81	114	42	36	33	9	12	12	6
	%	21.6	15.2	21.6	30.4	11.2	33.3	30.6	8.3	11.1	11.1	5.6
Company registration	**F**	81	60	90	111	33	24	33	9	18	15	9
	%	21.6	16.0	24.0	29.6	8.8	22.2	30.6	8.3	16.7	13.9	8.3
Company name search	**F**	66	75	111	93	30	24	39	6	21	12	6
	%	17.6	20.0	29.6	24.8	8	22.2	36.1	5.6	19.4	11.1	5.6

The table shows that the adult learners' views were highly dispersed, with 21.6 percent indicating that they do not use e-consumer platforms to access National ID at all, 20 percent use to a little extent, 21.6 percent use it to some extent, 20 percent use it to a great extent and 16.8 percent use it to a very great extent. The findings suggest that National ID is accessed on e-commerce platforms to a moderate extent by most of the adult learners. According to the instructors, most of them 22.2 percent and 36.1 percent indicated that their learners do not use

e-consumer for National ID. The other 5.6 percent indicated that they use it to a little extent, 19.4 percent indicated their learners use it to some extent, 11.1 percent use it to a great extent and 5.6 percent indicated that their learners use the platform to access national ID services to a great extent respectively. These digitised consumer/end-user services include but are not limited to; domesticated taxing systems, human immigration information systems, legal information systems, educational oriented systems, integrated financial executive systems among others (Deloitte, 2013). These findings therefore suggest that the adult earners use e-consumer services to access their driving and national IDs based on the online platforms present. These findings are contrary to those by Alam and Hassan (2011) who established that there are several types of e-governance services provided in Bangladesh by the government through online platforms. These include the access to government services such as filing of taxes, registration ones' business, driving licence among others. It was found that despite the governments' efforts to ease the access to the basic services through e-governance, the major constraint towards its efforts was poor ICT infrastructure.

The table further shows that most of the adult learners' 28 percent use e-consumer services for driving licences to some extent while 21.6 percent do not use it at all while 18.4 percent use it to a little extent. Only 19.2 percent use it to a great extent and 12.8 percent use it to a very great extent to access driving licence services. Similar responses were solicited from the instructors where 22.2 percent indicated that the learners use e-consumer services to access driving licence, 36.1 percent to a very little extent, 5.6 percent to a little extent, 19.4 percent to some extent, 11.1 percent to a great extent and 5.6 percent to a very great extent. These findings suggest that adult learners use online platforms to access their driving licence which are similar to the findings by Cohen, Prayag& and Moital, (2014) who found that E-consumer services are being integrated for use in executing and accessing state-owned service provision in departmental and institutional requirements offering end-user or consumer services to individualised custom-made services for citizens, corporate, and businesses. The digitalization of end user services has

widened the need for ICT knowledge especially for the elder members of the society which lead to better delivery of services to its citizens.

The table also shows that, majority of the adult learners' 23.2 percent use it to a little extent, 21.6 percent use it to some extent and 19.2 percent do not use it at all to access Kenya revenue forms. Contrary, only 18.4 percent use it to a great extent to access Kenya revenue forms and 13.6 percent used it to a very great extent. The instructors indicated that 27.8 percent use it to no extent, 19.4 percent to a very little extent, 11.15 percent to a little extent, 27.8 percent to some extent, 5.6 percent to a great extent and 8.3 percent to a very great extent in filling KRA revenues. The findings suggest that several learners use the platforms to access KRA forms. These findings are in line with Best and Khan (2011), who argued that effective use of communications technologies for education and producing wealth and opportunity in Africa's numerous rural locations is a key concern among policymakers, researchers, and others. This is because, when integrated into adult learners' teaching and learning processes, ICT may be a critical instrument for capacity building, allowing adult learners to thrive in today's changing social and economic landscapes Putera & Mokhtar, (2014).Further, most of the adult 23.2 percent and 21.6 percent use e-consumer services to access mobile banking to a little and to some extent respectively. However, 16.8 percent indicated they do not access mobile banking while 20.8 percent and 20 percent use it to a great extent and to a very great extent respectively to access mobile banking. The findings also show that the instructors generally indicated that 13.9 percent use mobile banking to no extent, 5.6 percent to a very little extent, 2.8 percent to a little extent, 5.4 percent to some extent, 13.9 percent to a great extent and 61.1 percent indicated that the adult learners use mobile banking to a very great extent. These findings are almost like those of the adult learners showing that mobile banking is used by the adult learners to a great extent. These findings suggest that the use of mobile banking services by adult services is improving. According to the United Nations (2014) Cell phone Payment is becoming more popular, especially in poorer countries. M-Pesa is a standout example of a mobile money

business that creates employment and combats poverty in Africa. It began in Kenya and lets users make deposits, withdrawals, cash transfers, and bill payments, providing financial services in nations where banks and road infrastructure are still developing while still adhering to financial rules and regulations. (United Nations Survey, 2014).

Most of the adult learners 26.4 percent and 12 percent use e-commerce services to access their passport services to a great and to a very great extent while 24 percent use it to some extent and 18.4 percent use it to a little extent. Most of the instructors 33.4 percent use e-consumer services to access their passports while 27.8 percent do not use it all, 13.9 percent use it to some extent and to a great extent respectively and only 11.1 percent indicated that the adult learners use it to a very great extent. The findings suggest that the adult learners are using e-commerce to access online services such as past application processes. This implies that people are embracing new and modern technology very fast. Citizens are also increasingly expecting easier access to more public information and government services via various channels, from anywhere and at any time. As a result, the public sector is under increasing pressure to restructure in order to respond to changes and to radically explore new ways to meet demands. (Walji, Deacon, Small & Czerniewicz, 2016).

Regarding land ownership search, most respondents' 30.4 percent and 11.2 percent indicated that they use e-consumer services to a great and very great extent respectively. On the contrary, only 21.6 percent use it to some extent while 15.2 percent use it to some and to a little extent. However, 21.6 percent indicated they do not use e-consumer services to conduct land ownership search. Contrary to these findings, most of the adult instructors 60.9 percent search land ownership to a very little extent while 8.3 percent search for land ownership to a little extent and 11.1 percent use it to some and to a great extent respectively but only 5.6 percent indicate that the learners use it to a very great extent. These findings imply that individuals are conducting land searches to a moderate extent which may be associated with the lack of

awareness on the presence and effectiveness of the e-consumer services, Zahid and Din (2019) argue that for the attainment of sustainable development, the e-government phenomenon is becoming imperative with an incremental trend across the world. Many government organisations are increasingly adopting e-government services which are perceived as being vital in delivering timely and substantial services to the public. The researchers also attest that the user's intention to use the e-government services were crucial to the success of these services. Several factors limited the intended use of e-government services such as the anxiety of users due to the lack of skills and knowledge to effectively use them. Evidence was found that as more and more government services are digitised, the ability of the older adults to use these services was mainly limited by their lack of knowledge on how the e-services platforms work which in turn limits the effective utilisation of the services.

Most of the adult learners' 29.6 percent indicated that they use e-consumer services to a great extent and only 8.8 percent use it to a very great extent to register their companies while 21.6 percent do not use them to register the companies. However, 15.2 percent and 21.6 percent use it to a little and to some extent respectively. Lastly, the table shows that most of the respondents' 29.6 percent use it to some extent while 24.8 percent and 8 percent use it to a great extent and to a very great extent. Most of the instructors 30.6 percent and 22.2 percent indicated that their adult learners register companies using e-commerce to a very little extent and to no extent at all respectively; only 13.9 percent and 8.3 percent respectively use the services to a great and to a very great extent respectively. Generally, the findings show that there is an increase in embracing digital channels, including counter services, telephone service, web portal, e-mail, SMS, mobile portal, mobile app, social media, public kiosks and intermediaries through public private partnerships to promote access to information (Sebastian, 2011). These findings reveal that individuals are increasingly using different e-consumer platforms, but its use is not very extensive. Similarly, Youssef, Dahmani and Zeqiri (2021) argue that in today's world, the need for e-skills is increasingly becoming common to facilitate the use of digital technologies.

Therefore, e-skills are crucial for explaining the different behaviours that are associated with the utilisation of e-services. It was found that the facilitating conditions included social influences, the preview value of the services as well as the perceived impacts of a service. However, concerns over the risk to privacy were found to have a negative influence on the behaviour intention. Age was found not to have a limit on the intention to use e-commerce services. Overall, these findings show that the level of knowledge and presence of e-skills among the users has a significant influence on their use of e-consumer services. Therefore, to use e-consumer services by adults they must have the needed e-skills to be able to navigate the highly complex online marketplace to buy and sell services and goods. This can be achieved by reviewing the curriculum and ensuring that the adult learners are taught how to navigate and use e-services with ease.

The adult learners were also asked to indicate whether they use e-consumer services and to rate the different services that they use. And later categorize them ranging from excellent meaning the e-consumer services is highly used to poor showing that the e-service is not used. Table 4.7 displays their responses.

Table 4.7: Use and rating of E-consumer Services

Use	**N=375**	**Use**		**Rate**					
		Yes	**No**	**Excellent**	**Good**	**Average**	**Below Average**	**Poor**	**N/A**
Use of Digital Gadgets	F	135	240	72	96	102	54	36	15
	%	36	64	19.2	25.6	27.2	14.4	9.6	4
Online Shopping	F	189	183	63	114	87	69	30	12
	%	50.4	49.6	16.8	30.4	23.2	18.4	8.0	3.2
Paying for online shopping	F	168	207	69	87	105	72	33	9
	%	44.8	55.2	18.4	23.2	28.0	19.2	8.8	2.4
Cheaper Online Transactions	F	210	165	75	123	99	39	27	12
	%	56	44	20	26.4	26.4	10.4	7.2	3.2

Most of the respondents (50.4 %) indicated that they use online shopping platforms while 49.6 percent indicated that they do not use online shopping platforms. Most of the respondents 30.4 percent and 16.8 percent rated online shopping as good and excellent respectively while 23.2 percent rated it as average, 18.4 percent below average and 8.0 percent rated it as poor. Understanding consumer rights and marketing practices, as well as possessing the interpersonal skills to manage service encounters and file complaints, and establishing one's voice and obtaining marketplace agency, are all examples of consumer literacy. This broader concept of consumer competency is socially enacted and assessed, rather than residing solely in the customer. A social practice approach to literacy conceptualises adults to be "acting in relation to a situation, taking into account other people, social and cultural norms, their own experience, and, of course, the technical knowledge they need to encode or decode" text. The proliferation of various forms of literacy-computer literacy, health care literacy, financial literacy, and so on-points to the contextual factors implicated in the importance of the broad practice of consumer literacy. However, as Szopiński and Staniewski (2016) found there is a statistically significant association between the frequency of the internet used to search for e-tourism services and the country of origin. The education level and occupation of the adults was significant predictors of their use of e-services. These imply that the adults who have higher educational qualification and profession were likely to utilise the e-tourism services. This was linked to their digital literacy as well as their ability to access the ICT infrastructure and resources that promote access to the e-services platforms.

The study also found that most of the respondents 55.2 percent did not pay for services online while 44.8 percent pay services online. The majority of the respondent's further rated online payment services 28 percent rated it as average, 19.2 percent as below average, 8.8 percent as poor while 18.4 percent rated it as excellent and 23.2 percent as good. Most respondents 56 per cent indicated they use cheaper online transactions while 44 percent do not use cheaper online transactions. Most respondents further rated cheaper online transactions as good 32.8 percent,

20 percent as excellent, 26.4 percent as average, 10.4 percent as below average and 7.2 percent as poor. Generally, most of the respondents indicated that they use digital gadgets to conduct online shopping, make payments and do cheap online transactions. These are in line with the assertions by Walji, Deacon, Small and Czerniewicz (2016). Citizens are also increasingly expecting easier access to more public information and government services via various channels, from anywhere and at any time. As a result, the public sector is under increasing pressure to restructure in order to respond to developments and to radically explore new ways to meet demand. Similarly, Dabrowska, Janos-Kreslo and Lubowiecki-Vikuk (2019) found that the elderly adults in Poland used a wide range of e-services. Some of the most used e-services were e-banking which was associated with the ease of satisfying daily needs. E-banking was associated with comfort, saves money and time as well as easier transfer of and access to services. The other e-services utilised by the older adults was e-trading, e-health, e-administration, e-culture such as buying of tickets, e-insurance and e-education. Generally, the elderly adults in Poland tend to adopt the use of e-services and prefer it due to the comfort it provides as well as the ease of access without much physical movement on their part.

4.6 E-consumer Services on Teaching and Learning Activities

The second objective of the study aimed to determine the influence of e-consumer services on teaching and learning activities in adult and community education. Several questions were asked to solicit responses that could answer this objective.

First, the instructors were asked to indicate the instruction they use to instruct their learners. Their responses are presented in figure 9.

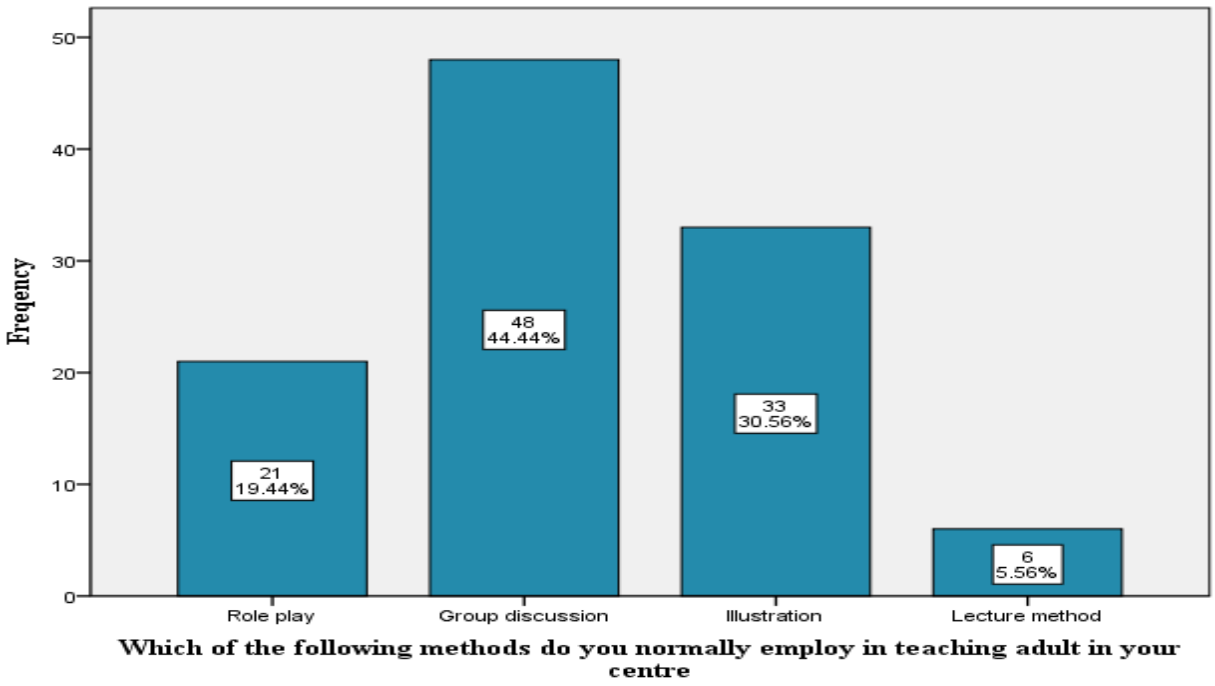

Figure 9: Method of instruction

The figure 9 shows that 44.44 percent of adult instructors use group discussion teaching in their centres while 30.56 percent indicated that they use illustration. Role play was also identified by 19.44 percent of the instructors while 5.56 percent indicated that they use lecture methods. Overall, most of the instructors indicated that they either use discussions or illustration in teaching adults in their institutions. These findings suggest that most of the adult learners interact with each other during learning as discussions are often used. Additionally, the use of illustrations and role play suggest that most of them are exposed to practical aspects of their learning experience improving their exposure so subjects such as the use of ICT tools which may be critical in their learning and use of e-consumer services. As Kent (2010) indicated school is an important environment in which students participate in a wide range of computer activities, while the home serves as a complementary site for regular engagement in a narrower set of computer activities. Therefore, making ICT to be considered as a powerful tool for educational change and reform. As Jimenez-Rodriguez, Vazquez-Cano, Cebrian- Hernandez, and Lopez-Meneses (2021) argue, computer knowledge and the level of education had a direct influence on citizens' impulse to purchase things online. Similarly, individuals with greater

level of knowledge and greater exposure to computer use based on their level of education also had a higher tolerance of risk associated with the use online. The study further found a positive association between the education level and the propensity to purchase. Overall, these findings imply that where adults are exposed to computer use and with greater knowledge of online purchasing, then individuals are likely to be willing to utilise online platforms to undertake different activities.

The adult education instructors were also asked whether they involve learners in the choice of teaching method. Their responses are provided in figure 10.

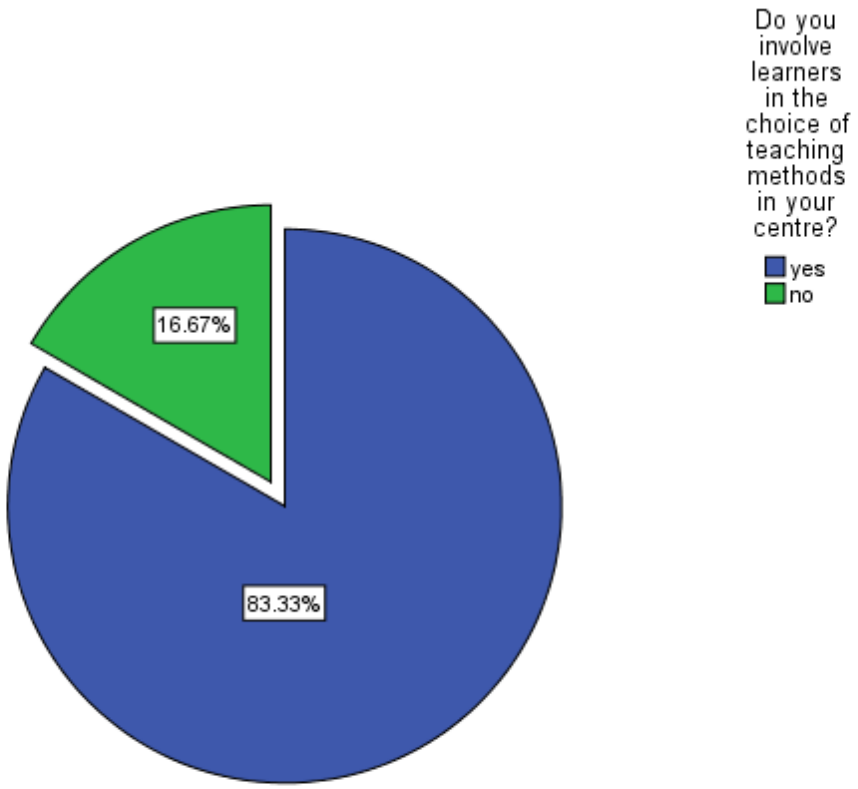

Figure 10: Involvement of learners in choice of teaching method

The figure shows that most instructors 83.33 percent involve their learners in the teaching method chosen while 16.67 percent indicated that the learners are not involved in the choice of teaching method adopted. The findings imply that most centres adopt teaching methods most preferred by the adult learners. As Brush, Glazewski and Hew (2008) have stated, ICT is a tool

that students can use to discover learning topics, solve problems, and provide solutions to the problems in the learning process. ICT makes knowledge acquisition more accessible, and concepts in learning areas are understood while engaging students in the application of ICT. Therefore, where the instructors use instructions methods most appropriate for their learners, and then digitization can occur effectively. Chong (2020) argued that the latest developments in the ICT sector are revolutionising the marketplace especially with the emergence of mobile wireless communication. Chong (2020) reiterates that mobile devices are the most used consumer devices which pay a critical role in today's society. It is based on this backdrop that Chong (2020) sought to produce the factors that influence the factors affecting the adult learners' intentions to use e-consumer services. It was found that the desire to understand the current technological application in different facets of life such as e-government services drove the adult learners towards self-learning. To promote self-learning, it was found that the adoption of interactive teaching and learning by adopting e-learning strategies was most effective for promoting skills and competencies acquisition by the older adults.

The adult instructors were also asked to indicate the factors influencing teaching and learning and table 4.8 displays their responses.

Table 4.8: Teaching and Learning materials

Teaching and Learning materials	**N=108**	**F**	**%**
What mainly do you consider in the choice of a teaching method?	Content	27	25.0
	Learners' ability	57	52.8
	Lesson objective	24	22.2
Where do you mainly get your teaching /learning aids for the adult education programme?	Department of adult education (Consumer	48	44.4
	Learners levies	42	38.9
	N.G.O's	12	11.1
	Community purchases	6	5.6
Are these aids appropriate to the literacy	Fairly appropriate	54	50.0

levels of your learners in terms of readability?	Very appropriate	51	47.2
	Not appropriate	3	2.8
Are the teaching /learning aids/material adequate?	Enough	27	25.0
	Not enough	81	75.0

In table 4.8, the findings show that the choice of the teaching method is mainly formed by the learners' ability as most of the instructors' 52.8 percent indicated. The lesson objective 22.2 percent and the content 25 percent were also found to be critical in informing the instructors' choice of teaching method. These findings show that the ability of the learners is the main factor influencing the choice of the teaching method. This implies that the instructors adjust their instruction based on their learners' understanding of the subject as well as their level of learning. As Brush, Glazewski and Hew (2008) argue, students use learning as a means of solving a problem, identifying solutions and learning topics. In this sense, adjusting the lesson and method of instruction based on their ability is critical for the adult instructors in meeting the educational objectives.

Further, the table also shows that the teaching and learning aids used in the adult community and learning centres are mainly sourced from the department of adult education 44.4 percent. Other sources were also consumer learners levy 38.9 percent, NGOs 11.1 per cent and community purchases 5.5 percent. The findings imply that the major sources of the teaching and learning aids for adult education are from the department of adult education and the

learners' levies. Bedrule-Grigoruţăa and Rusu (2014) claim that the explosion of the internet has led to the development of educational technologies and users are fully benefiting from them. Educational and formal processes are adapted to students' needs and the instruments can be used for related-education services. Learning in developed countries is being characterised by flexibility in the learning directions and complexities in the roles of the tutors. The adult participation in the education calls on different computer reproduced and or simulated representations which are supported by techniques, colours, graphics and sounds. However, to fully reap the benefits of these resources, adult learners need to acquire competence and experience as well as get new knowledge on the activity fields. They also need to have an interconnection between virtual reality and physical realty.

The table also shows that in general the teaching aids are in line with the content the learners are learning terming them as readable. The other 47.2 percent of the instructors indicated that the tools are very appropriate for the literacy levels of the learners regarding their readability while 2.8 percent were of a contrary view. These findings imply that overall, the teaching aids used in the institutions are fairly appropriate in regards to meeting the needs of the adult learners. The researcher was able to observe and confirm that the teaching aids used in the adult and community centres are relevant to what the adult learners are being taught, though they are not enough for all the learners. Bedrule-Grigoruţăa and Rusu (2014) claimed that in the EU, the use of e-learning platform the Glogster EDU led to the adult's development of competencies needed to navigate the complex 21st century these competencies included their communication skills, creativity and intellectual curiosity, information and media skills, social responsibility and critical and systematic thinking. It was found that among the adult learners, implantation of e-learning teaching aids brought creativity and acquisition of digital skills among the adult learners. The study is vital as it helps identify how integrating the e-learning platforms in adult learning processes can help equip the learners with the skills, knowledge and creativity to use the different platforms to access different services. This arises from the ability of the learners

to develop a wide range of competencies which enable them to navigate the complexities that come with the digitization of services.

The instructors were also asked if the teaching and learning materials were adequate where the majority 75 percent indicated that the materials were not sufficient whereas 25 percent indicated that the materials were enough. It can, therefore, be argued that most of the materials available for teaching and learning are not adequate to teach the number of students in the different centres. According to Ozturk and Aydin (2015) argue that consumer education programs assume that consumers have the right to full product information, and well-informed consumers will be able to get their needs met in the marketplace. However, due to the constraints such as limited materials and teaching aids, adults with limited literacy abilities, however, enter the marketplace without the literacy resources of other consumers and are potentially more vulnerable. Many adult literacy programs assume adult literacy students lack both literacy and consumer skills.

The adult education officers were asked to indicate ways through which adult learners can be taught digital skills to promote e-learning and the acquisition of digital skills. The educators argued that first, there is a need to challenge the existing stereotypes that older adults cannot learn or have a negative attitude towards the use of computers and other new technologies. One of the education officers argued that;

> '*First, I believe that there are some beliefs and stereotypes that should be dispensed with before the adult learners can fully enjoy integrated teaching and learning ICT in the learning centres. For one, I know that adult learners, just like the younger learners, can easily acquire digital literacy skills and knowledge. However, I believe that a key challenge is the lack of the right attitude and the wrong approach to teaching and learning digital literacy in our classes. So, I believe that the attitudes of the educators should first change before the learners' attitudes can change. You cannot have educators who perceive the older adult learners' abilities as being limited regarding the acquisition of literacy skills teaching and expecting the learners to*

become competent. They first must believe in the older adult learners' ability to acquire digital skills. What they also need to do is to provide the learners with ample time to familiarise themselves with the different skills and then move on to offering them practical lessons and engaging them through digital platforms such as using emails, asking for submission of assignments online and so on.'

Generally, the educator was pointing towards the need to challenge the existing stereotypes in order to promote teaching and learning of digital literacy skills among the adult learners in Kenya. However, these attitudes need to be challenged not only on the part of the educators, but also on the part of the learners. These claims reflect those by Broady, Chan and Caputi (2010) who argued that computers and its associated technologies are central in today's life and in a society characterised by rapid ageing, the acceptance as well as the ability to use new technologies by the older adult are becoming very crucial. It was found that there were marked similarities between the older and younger people's attitudes and experience in using computers and technology. The research found that the common myths held about the experiences of older adults' usage of as well as experiences with computers and technologies were not true. The researcher concluded that the factors that are likely to promote or hinder an individual's experiences with computers are similar across generations. The older people can be taught to utilise computers and its associated technology just the same way as the younger people. However, there are two additional considerations that should be made regarding the older adults' teaching and learning of computers and technology. The first is the time needed to facilitate acquisition of computer skills by the older learners. The study established that the older learners need ample time to master new skills. Similarly, there was a need to ensure that the older adults learn to use computers and other technologies in a positive manner to make them feel valued and that they should expect success at the end of the learning process. Generally, the study showed that negative stereotypes of the older people avoiding technology and being incapable of using them are outdated. Where the older adults are given

encouragement and clear explanations and examples, they can easily acquire the computer and other digital skills needed in today's world.

The adult education instructors were presented with a range of opinions on e-consumer and teaching and learning- adult instructors as presented in the following table.

Table 4.9: E-consumer on teaching and learning (Adult instructors)

E-consumer and teaching and learning	N=108	F	%
How do adult learners view literacy classes?	for the aged	3	2.8
	for illiterates	27	25.0
	for source of knowledge	78	72.2
Are adult learners in your centre proud to be associated with adult learning	few	21	19.4
	majority	87	80.6
What kind of assessment do you employ in your centre?	formative	75	69.4
	summative	33	30.6
How is the assessment administered in your centre?	oral test	33	30.6
	written test	69	63.9
	through practical's	6	5.6
In your opinion, should computer literacy be taught in adult education programmes as a subject on its own?	yes	102	94.4
	no	6	5.6
Have you received any training on integration of computer literacy in adult education programmes?	yes	51	47.2
	no	57	52.8
How do you rate yourself in content delivery?	excellent	51	47.2
	good	54	50.0
	Fair	3	2.8

As table 4.9 Shows, the majority of adult education instructors 72.2 percent indicated that the adults' learners view literacy classes as a source for knowledge while 25.0 percent view it as classes for illiterates and 2.8 percent view it as classes for the aged. Based on these findings, it can be deduced that most of the adult learners go to adult and community education centres to search for knowledge; hence, implementing ICT in these centres could aid the adult learners in gaining the much-needed knowledge to navigate the current e-digital platforms. Moreover, Rapanta, Botturi, Goodyear, Guardia and Koole (2020) indicated that the 2020 covid-19 pandemic is raising significant challenges for the education community across the world. The major challenge has been transitioning learning to online platforms from the traditional face-to-

face ones. Certain pedagogical topic knowledge linked to planning and arranging better teaching and learning experiences is required for online teaching and learning. It also necessitates the use of digital technology to create particularly interactive digital learning environments. Therefore, the teachers' knowledge, training and expertise on these digital technologies is vital for the eventual success of digitised education processes. Similar conclusions were reached by Davis and Krajcik (2015) who found that to promote teacher learning, cognitive tools are the most vital in promoting acquisition of skills. Kuo and Belland (2019) discovered that adult students who performed basic computer or software and internet browsing activities had a higher level of confidence than those who performed advanced computer and internet tasks. The study discovered that computer and internet self-efficacy differed significantly between people with low and high attitudes towards computers. The study was, however, conducted in the United States and targeted older adult learners enrolled at the university levels.

The table also shows that the adult instructors perceive most of their adult learners 80.6 percent to be proud to be associated with adult learning while 19.4 percent felt that the adult learners were not proud to be associated with adult learning. The majority of these may be those who viewed adult education to be a critical source of knowledge, and so they would be proud to be a part of the learning process to gain knowledge. New technologies, as Adelore (2019) contends, are becoming increasingly crucial in many aspects of people's daily lives and livelihoods. ICTs, particularly mobile phone devices, have unique advantages for learning both in and out of school. Adelore (2019) used a quasi-experimental design to investigate twenty individuals from advanced literacy programs who were carefully chosen. The learning model was built on the context of the learners' curriculum. It was found that the majority of the adult learners perceived their training on digital skills acquisitions in a positive manner. They believed that through their ongoing education, they could gain the best out of the technological advancements and the convenience of today's digital technology. Similarly, Ramos (2015) also investigated the

attitudes of the older adults in indigenous communities in Columbia. The researcher sought to identify the perceptions of the older adults towards the integration of ICT in their education and within their communities. The study adopted a qualitative approach to explore how the older adults perceive their enrolment in the program. The study found that the older adult perceive the integration of ICT positively as a means of enhancing their teaching and learning processes. Moreover, the adults in the centres also viewed the integration of ICT as critical in helping promote interactive and dynamic learning processes. Contrary, Staddon (2020) found that modern mature students in the United Kingdom have more negative attitudes towards the use of technology in teaching and learning as compared to the younger students. They found that the more mature students tend to use fewer technologies when compared to the younger students. They also use the technologies less frequently.

The table also shows that in the learning centres, most adult instructors 69.4 percent reported that they use formative assessments while only 30.6 percent indicated that they use summative assessments. Further, most adult education instructors' 63.9 percent use written tests to administer assessments, 30.6 percent use oral tests and only 5.6 percent assess the learners using practical's. Overall, the findings shows that formative assessments are mainly used in the adult and community learning centres with oral and written tests being the main forms of administering the assessments. Gegenfurtner, Schmidt-Hertha and Lewis (2020) found that adult learners can best be trained using elaboration prompts that make connections between new training content and previous knowledge. Most important was also the need to engage the students in various activities such as planning the lesson activities, choosing the technologies they want to engage in and letting them practise with the technology until they are familiar with them.

Further, the findings also reveal that most of the adult education instructors 94.4 percent believed that computer literacy should be taught in adult education programmes as a subject on its own while 5.6 percent were of contrary opinion. These findings suggest that most adult

instructors feel the need to teach computer literacy independently which would increase the learners' exposure to technology and enhance their understanding of how computers and other technologies work increasing their likelihood of using e-consumer services. Similarly, Kambaouri, Mellar and Logan (2016) established that ICT skills are crucial life skills that can transform the lives of older adults. However, for these skills to be learnt, effective teaching and learning approaches are required. The tutors need to adopt a range of strategies to develop the adult learners' digital skills. When it comes to ICT skills, a purely didactic approach or a time-intensive strategy of individual tutoring may be necessary as opposed to a lecture method. Kambaouri, Mellar and Logan (2016) also argued that there is a need to encourage the learners' autonomy through activity management, extended discussion as well as reducing tutor presentation time. Such approaches were significantly linked to self-directed learning through confidence building. Collaborative learning was also found to be efficient in promoting the students' understanding of the learning models among adult learners. Similarly, Snyder, Jones and Bianco (2015) argued that understanding the teaching and learning processes among the adult learners is critical for the successful adoption of ICT skills. Their case study established that most of the educators used their expertise to expose learners to a range of communication technologies enabling the learners to obtain distinct skills for educational and work-related purposes.

In regard to training on integration of computer literacy in adult education programmes, most of the adult education instructors 52.8 percent indicated that they have not received any training on integration of computer literacy while only 47.2 percent indicated that they have received training. These findings suggest that even where computer literacy is introduced as an independent subject, there is need for further training of the adult education instructors to promote full integration of computer literacy in adult education programmes. In their study, Woodward, Freddolino, Wishart and Bakk (2012) looked at the challenges surrounding the employment of the peer tutor model in teaching older persons over the age of sixty how to use

information and communication technologies such online chat rooms, discussion groups, emails, internet-based support groups, and voice and camera technologies. The researchers targeted nineteen participants in the control group who took part in a six-month computer training program with six participants successfully completing the training. These six were selected to be peer tutors and it was found that completion of the training courses was found to be effective in promoting acquisition of ICT skills among the older adults. Similarly, Freddolino, Lee, Law and Ho (2011) argued that one of the most crucial aspects of the successful implementation of ICT in teaching older adults is ensuring that the teachers/instructors are adequately trained. The researchers conducted a study targeting 101 technology peer tutors for older adults in Hong Kong. The researchers aimed to determine the influence of training and preparation as well as the perceived value of their work. The researchers established that training was a significant predictor of the older adults' mastery of ICT pedagogy. Training equipped the instructors with the skills and knowledge on the best approaches and strategies to teach their students. Similar conclusions were reached by Diez (2008) who found that teachers' e-learning experience and training in the realm of adult education is crucial in determining the outcomes of the learning process. Training enables the teachers to adopt models that offer life-long learning experiences for the teachers and the tutors through blended learning.

Lastly, the table shows that the majority of the adult education instructors 97.2 percent rated themselves as good and excellent in content delivery whereas 2.8 percent rated themselves as being fair. These findings imply that most of the instructors believe in their ability to deliver content effectively to the adult learners and in a way that the learners can comprehend the subject matter sufficiently. Bonnes, Leiser, Schmidt-Herta, Rott and Hockkoldinger (2020) also argued that the digitization in different sectors is producing new demands on the competence of the trainers and the learners in digital technologies. Bonnes, Leiser, Schmidt-Herta, Rott and Hockkoldinger (2020) found that there was a difference between the trainers who had attended

courses on the digital media as compared to those who had not attended the training classes. Those who had attended training had higher media-didactical competence and media-didactical self-efficacy scores. They also used more digital media in training their learners following the training as compared to before they received training or those who did not get any training. Overall, these findings have serious implications on the need to train the teachers in adult education classes to enhance their ability to utilise digital resources in the classes.

The learners were also asked a range of questions on e-consumer services on teaching and learning. Their responses are as provided in table 4.10

Table 4.10: Adult Learners' responses on e-consumer teaching and learning

	N=375	F	%
Does your age interfere with your literacy learning process	Yes	81	21.6
	No	294	78.4
Do you feel proud to be associated with adult literacy programmes?	Yes	348	92.8
	No	27	7.2
At what stage is assessment carried out in your Centre by facilitators?	Continuously	240	64.0
	At the end of the course	135	36.0
How is assessment administered in your Centre	Through practical	123	32.8
	Through written test	234	62.4
	through oral test	84	22.4
	None	39	10.4
Is there any proficiency test giving at each level of literacy	Yes	234	62.4
	No	141	37.6
If yes, is there many authorised examining body	KNEC	237	63.2
	Internal	105	28.0
	Not applicable	33	8.8
Are you awarded any certificate	Yes	252	67.2
	No	123	32.8
If yes, at what level	Certificate	273	72.8
	Diploma	33	8.8
	Degree	3	.8
	Not applicable	66	17.6

The learners were asked a range of questions on the implementation of ICT. First, the adult learners were asked whether their age interferes with their learning experience. The majority 78.4 percent indicated that their age does not interfere with their learning experiences while 21.6 percent claimed that their age interferes with their learning. Moreover, the majority 92.8 percent indicated that they are proud to be associated with adult learning while 7.2 percent were not proud to be associated with adult learning. This shows that despite some of the adults indicating that their age interferes with their learning, they are still proud to be getting education in adult learning centres. Similarly, Pihlainen, Korjonen-Kuusipuro and Karna (2021) argued that the development of digital technologies has had an effect on the lives of all people and promotes inequality in regard to digital skills and training opportunities. For the older adults, the reasons for gaining digital skills differ, but the majority are motivated by the prospect of future rewards. Therefore, the research sought to determine the attitudes of the older adults towards learning digital skills later in life. The study established that most of the older adults had a positive outlook towards their learning process. They were proud to be associated with the learning of digital skills which they generally perceived as being crucial in performing even the most mundane of tasks in today's world. Most of the adults have seen the need to engage in the adult learning process and they have viewed it as an inevitable journey for those who want to enjoy the convenience that comes with the digital world.

The adult learners were also asked the stages of assessment in the centres and the majority 64 percent indicated that assessments are continuous while 36 percent claimed that the assessments are conducted at the end of the course. The findings imply that most of the adult centres use continuous assessments to help them identify the learners' mastery over subject content. The learners were also asked whether they are involved in the choice of assessment and most of the learner's 51.2 percent indicated that they are involved in the choice of assessment while 48.8 percent claimed they are not involved in the choices. These findings

suggest that the learners are mostly involved in choosing their preferred choice of assessment by the adult and community learning centres.

The adult learners were also given a range of questions and asked to indicate their responses. As the table shows, most learners 62.4 percent indicated that they are assessed using written tests, 32.8 percent through practical tests, 22.4 percent through oral tests, while 10.4 percent indicated that they are not assessed. These findings imply that most centres use written tests to assess their learners. Examining adult students is a good way of assessing what the learners have been able to achieve during the time they have been engaged in the learning process. The choice of exam given in each adult institution is dependent on the availability of resources and time. Most centres chose written exams for their students. This ensured that the administrators and the teachers could always go back to the questions asked to the students and identify the students' weak points and later use the information gained to identify their strengths' and weaknesses and so improve on their weaknesses

The adult learners were also asked whether their centres have proficiency tests and 62.4 percent indicated that their centres have proficiency tests. The findings imply that most learners are tested to determine whether they are proficient in a subject. This is critical for ensuring that the learners have understood and can effectively conduct a specific subject or a specific task that they have been taught.

Most learners' 67.2 percent also indicated that they are awarded certificates after their course. They were then asked if the certificates are given to them after completing which level and the majority 72.8 percent indicated that they are awarded certificates, after completing learning at a certificate level, while 8.8 percent claimed that they were awarded with a diploma certificate and a minority 0.8 percent claimed that they are awarded with a degree certificate. These findings show that adults in adult learning institutions do receive certification once they complete it with the majority receiving certificates. Older adults' engagement with ICT can

significantly enhance their quality of life and well-being. This is because with the certificates awarded the adult learners can advance in their career leading to one getting a better job hence leading to a better salary, therefore improving their quality of life.

There are many policies in and strategies in place seeking to equip the older adults with technology skills and to promote their digital literacy. However, the relationship between the adoptions of skills is not straightforward. Therefore, in their study, Tyler, George-Walker and Simic (2020) investigated the experiences and motivations of ten older adults in Queensland Australia. The researcher used quest views where there was an integration of questionnaire items and semi-structured interview questions. The results showed that in general, the older adults had a wide range of ICT skills and had diverse Motivations for undertaking a course in ICT. However, the research still established that the higher levels of digital literacy skills did not necessarily equate with engagement with the ICT for the study's participants. However, the motivational process was more vital in the engagement with ICT.

The adult learners were also asked to rate the instructor's willingness to teach them how to use ICT and promote e-learning. Their responses are as provided in the figure 11

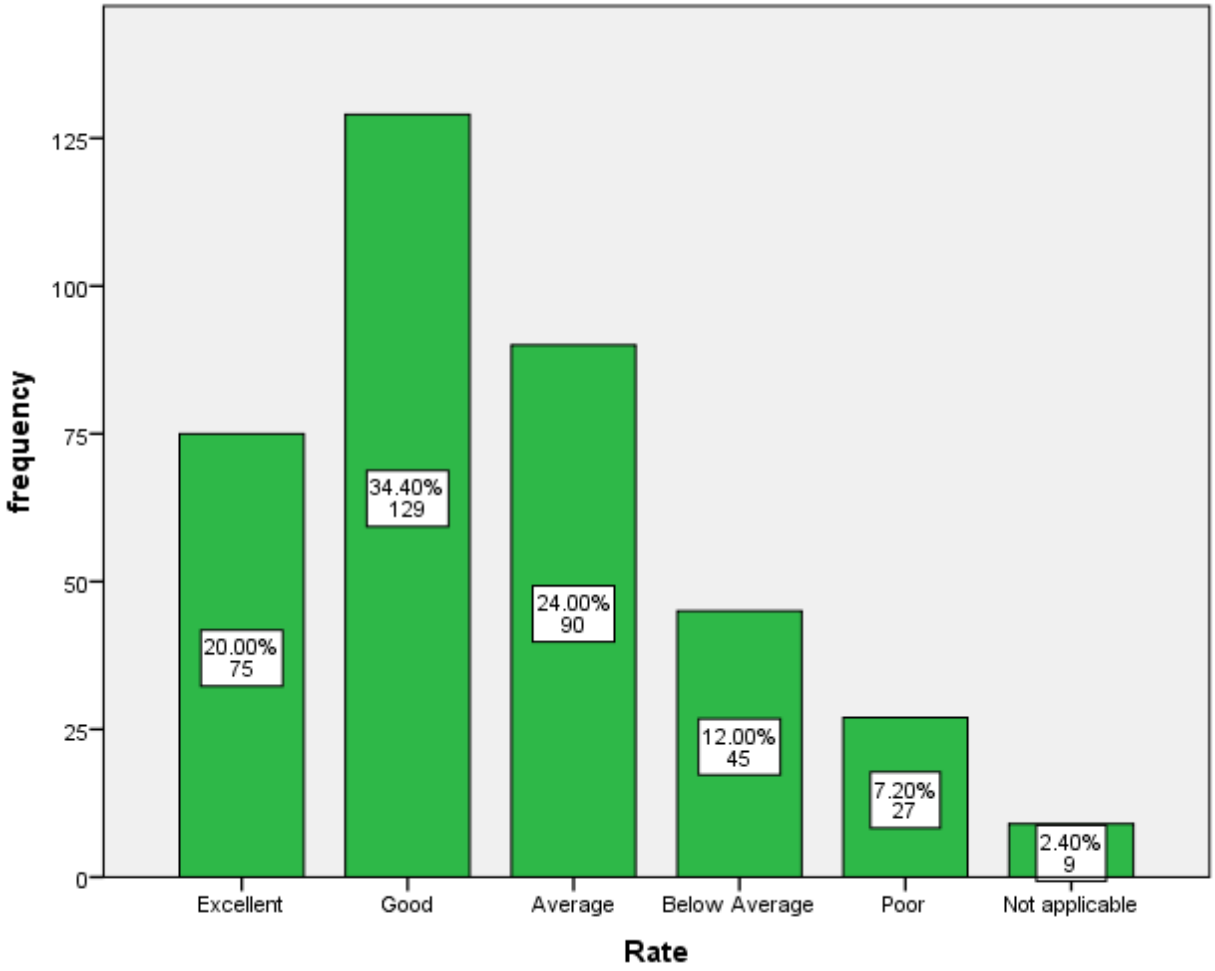

Figure 11: Instructors' willingness to assist learners

The figure 11 shows that most students 34.4 percent and 20 percent rated their instructors' willingness to aid them learn e-consumer services as good and excellent respectively. The figure also shows that the majority 24 percent of the students rated their instructors as average, 12 percent rated them below average and 7.2 percent rated them as poor. These findings imply that most majority of the adult instructors 78.4 percent are willing to teach them digital literacy though 21.6 per cent rated them as below average. This is viewed as a good aspect, because the adult learners are free to interact willingly and ask any underlying issues they could be facing from their instructors. In areas where the learners and instructors can interact freely; learning will take place effectively. The learners will also be assisted and guided by their adult instructors on matters related to digital literacy, hence improving their knowledge and skills.

4.7 E-consumer services and implementation of ICT in adult and community education

The third objective of the study proposed to determine the extent to which e-consumer services influence the implementation of ICT in adult and community education.

Table 4.9 shows the responses of the adult education instructors regarding the implementation of ICT in adult and community education.

Table 4.11: ICT Implementation

ICT	N=108	F	%
Apart from Basic literacy programmes do you offer other programmes that can enable learners to acquire income generating skills?	Yes	54	50.0
	No	54	50.0
Adult education involves participatory methods of instruction. Considering the time allocated for each subject; is this time adequate?	very adequate	30	27.8
	Adequate	51	47.2
	not adequate	27	25.0
Are there challenges in implementing computer literacy in adult education in your institution?	Yes	90	83.3
	No	18	16.7
What is your opinion on the attitude of adult learners towards inclusion of computer literacy in adult education curriculum?	very positive	48	44.4
	Positive	57	52.8
	Negative	3	2.8
Does your school have physical facilities that support the use of ICT	Yes	75	69.4
	No	33	30.6
Do the teachers involve the students in the practical use of ICT in the schools	Yes	57	52.8
	No	51	47.2
Are the learners taken to e-consumer service provider centre's	Yes	24	22.2
	No	84	77.8
Has the government integrated in e-consumer services in the teaching and learning	Yes	24	22.2
	No	84	77.8

In table 4.11, the findings show that half of the adult educations indicated that their centres offer other programs that enable learners to acquire income generating skills while the other half claimed that there are no such programs According to Lewis (2017) as ICT permeates different facets of life, institutions have updated their classrooms by accessing the web for presentations and using synchronous videos to improve the learning experiences. Exposing the students to different aspects of ICT was found to be critical in creating blended e-learning experiences where the learners left school with more exposure and understanding of new approaches in e-consumerism and e-governance. The adult learners can even advance and engage in money making forms of businesses using the computers and the ICT knowledge gained. Miseviciene, Ambraziene and Makackas (2018) argue that the rapid evolution of information and technology is allowing education communities to provide services by delivering them over the internet. They argue that many institutions are providing academic services over the internet but are concerned over the efficiency of its use in providing services that are relevant in today's world. For adult learners, the increased demand for learning is peculiar due to the demands that come with their need to work, the intensive responsibilities in the community and for their family. However, the current world is demanding adults who can adapt to the changes in the market including the changing modes of service provisions to the internet platform. So, Miseviciene, Ambraziene and Makackas (2018) established that in most schools, there was a disparity between their claims of offering e-learning services and the adequate presence of resources needed to implement e-learning. A few computers and projectors were present, but internet connectivity was limited which constrained the effectiveness of the teaching of e-learning practically in a way that could equip the students with skills that can be adopted in day-to-day life.

The adult education instructors were also asked whether the participatory method of instruction was adequate when considered in terms of time. Their responses show that the majority 75 percent agreed that the time allocated for participatory instruction is adequate

while the remaining 25 percent felt that time was not adequate. This implies that the classes can be done sufficiently through participatory instruction where the adult learners are engaged in the cases and their opinions sought. Those new technologies, according to Chametzky (2014), have the potential to assist education across the curriculum and give chances for successful communication between teachers and students in ways that were previously unavailable. This is because learning will be made more real and relevant to the learners. They will be able to apply what they have learnt when using the computers and other electronic gadgets when navigating, accessing and using the e-consumer services that have been provided by the government and the private sector. Moreover, as Rose, Wang, Sainz, Joshi (2019) also found that limited scheduling time was a major hindrance to the effective teaching and learning digital literacy in adult learning classrooms. The majority of the adult learning centres had several skills and knowledge targets they sought to equip their learners with and with the majority of their learners working part time, it was a challenge for the schools to schedule adequate lesson hours to equip the learners with high-level knowledge and skills in computer literacy especially taking into account the other challenges such as the limited computers, lack of funding and lack of upgraded computers.

Milin (2019) indicates basic adult education has long been associated with literacy and numeracy skills which were deemed as being imperative for joining the job market. It is, therefore, understandable that the adult education teachers are hesitant to adopt ICT in the classroom. However, despite this reluctance, ICT is becoming a vital and necessary aspect of adult education due to its ability to make learning possible anywhere and at any time. Most of the investments were found by Milin (2019) to go into schools and universities, but little attention has been focused on promoting implementation of ICT facilities and resources among the disadvantaged groups including adult learners in adult learning centres through participative learning practices.

The table also shows that there are challenges in implementing computer literacy in adult education in most of the institutions reflected by most responses 83.3 percent with only 16.7 percent indicating otherwise. These findings suggest that many of the institutions face challenges in implementing computer literacy in their schools. This may be due to a myriad of reasons. Giannoukos, Besas, Hoctour, and Georgas (2016) found that the adults utilise computers, but issues such as access to computers and the internet remains a challenge. The frequency of computer use among the adults in Greece was found to be daily, with some using it weekly and others monthly. Regarding the familiarity of the adult learners towards different computing applications, the findings were ambiguous as some adults were better in other applications as compared to the others. However, search applications like excel, word and Skype were the applications which the adults were most conversant with which may be due to their frequent use.

Some of the reasons were pointed out by the adult education officer. He argued that:

> *'One of the key hindrances to the effective implementation of the ICT in the schools is poor infrastructure and lack of resources. Mainly, we rely on the government and sponsors to provide computers, laptops and even smart phones which can be used to integrate ICT into teaching and learning in adult institutions. However, lack of funds and limited provision of this equipment hinder our attempts to make our students more conversant with some of the current ICT practices.'*

As Kara, Kokc and Cagitay (2019) found there are many challenges that adult learners face in online distance education. Kara, Kokc and Cagitay (2019) revealed that the adult learners face challenges that are related to internal, external and program related factors. The internal challenge was related to the learners' characteristics such as learning challenges including shortage of prerequisite understanding on how to make use of open distance learning resources, lack of interest in the program and course materials and technical challenges such as insufficient computing skills. Difficulty accessing relevant information and challenges communicating through the internet. Regarding the external challenges, the study established that financial

constraints and lack of support were some of the major challenges facing adult learners in adopting open distance learning. Third were the program-related challenges where it was found that open distance education had its set of challenges. These included the limited interaction between the tutors and the learners, isolation, unsuitable learning materials and lack of institutional support.

The adult instructors were then asked their opinions on the attitudes of the learners towards computer literacy being incorporated into the curriculum. Most of the adult instructors 52.8 percent indicated that the learners were positive while 44.4 percent indicated that their attitudes were very positive with only 2.8 percent indicating that they felt that the adult learners' attitudes were negative. These findings show that from the opinion of the adult instructors, most of the adult learners find the inclusion of computer literacy in their curriculum to be a very positive matter. This may relate with the fact that they gain some important skills which they can apply outside of the classroom. Parker (2017) found that the students mainly perceived online learning as an experience to promote their acquisition of knowledge on how various digital aspects operate. It was found that their attitude towards adult literacy was positive due to its impact on their e-consumer services consumption. It was a means of gaining more insight into the workings of new digital platforms enabling them to work and access e-consumer services at par with younger generations. Hossain, Talukder and Bao (2020) argue that in the era of m-learning there are several factors that can be considered to explain the continuance of adult learners. The study showed the cognitive needs, perceived usefulness and attitude of perceived use to produce the learners' use of adult learning environments. The findings showed that the satisfaction of the adult learners with m-learning and their cognitive needs reinforced continuance intention. Similarly, Ghaviferk, AbdRazak, Ghani, Ran, Meixi and Tengyue (2019) identified the level of computer skills and knowledge among instructors, and it was discovered that the frequency with which ICT is used is dependent on the availability of the internet and computers. Additionally, the teachers' skills in ICT use also had an influence on the teaching of ICT. The attitude of the

teachers and the learners was also an important factor influencing ICT integration to promote mastery of digital skills that were reported to facilitate the use of e-services. Giannoukos, Besas, Hoctour, and Georgas (2016) also established that the adults had an interest in learning different subjects with the use of computers as the majority sought to improve their knowledge. To achieve this, the adults utilised different methods such as tutorials, private tutoring and some attended physical classes where adult education educators taught them computer skills (Snyder, Jones, & Bianco, 2015).Contrary, Noraddin (2014) found out that there was a general lack of opinion or attitude of the teachers and the learners towards the role of digital games and other strategies to enhance their acquisition of e-learning skills.

The adult instructors were also asked whether their schools have physical facilities that support the use of ICT. The respondents mainly 69.4 percent indicated that they have the physical facilities while 30.6 percent claimed that they do not have physical facilities that can support ICT. Based on these claims, it can be deduced that most of the centres do not have sufficient physical facilities to support the instructor's incorporation of ICT into teaching and learning even though some of the schools do have the facilities to promote the use of ICT. Similarly, internet facilities availability for the students were reported to be present by half of the respondents 50 percent while the remaining half claimed that they did not have internet facilities available for the students. This implies that aside from the lack of physical facilities to support ICT, internet access and availability within the learning centres is a challenge further impeding the learners' proficiency in the use of computers and other ICT facilities. These findings were reflected in the adult learners' responses where they were asked to indicate the challenges they face when using computers and they indicated that they are mostly not conversant with how some of the more sophisticated aspects of the computers operate such as how to effectively conduct internet search. This may be associated with the lack of sufficient exposure to the ICT facilities, the internet and limited practicality to help them familiarise with ICT facilities to promote use of e-consumer services.

These findings reflect those by Mnyanyi, Bakari and Mbwette (2010) who argue that Tanzania, like any other developing country, has adopted open and distance learning to offer courses to adult learners. The researchers underscore the importance of e-learning in enhancing communication between the learners and the instructors, enhancing engagement with the course content and providing an avenue or delivering instructional materials. Nevertheless, there were challenges identified by the researchers in implementing e-learning. These included low digital bandwidth, the limited expertise in e-learning, low infrastructure levels, limited funding and low budgets as well as the limited e-learning infrastructure including the presence of reliable internet and electricity connectivity, adequate mobile and computer devices and connectivity of these devices and infrastructure. The study points towards the challenges facing the implementation of e-learning to promote the acquisition of e-skills in developing countries.

The sub county official was also asked to indicate whether their county offers physical facilities to integrate ICT to facilitate teaching older adults e-learning skills. The majority indicated that there were several constraints facing the implementation of ICT in teaching and learning in adult learning centres. Some of the key reasons for the limited implementation of ICT was the lack of physical facilities. One of the officials argued;

> *'We really face many challenges in providing the needed facilities for teaching and learning ICT in the adult learning centres. There are issues regarding the allocation of sufficient funds to facilitate the purchase of the resources needed to equip the centres with physical facilities for ICT. Physical space to set up the computer labs is still a challenge because some of the adult education centres do not have enough physical pace. The issue of internet connectivity is still a challenge, even with the computers we provided, we will need constant funding so as to be able to support and sustain the learning process by paying for the internet connectivity, all this goes back to the funding of the programme. This as of now it's very minimal.*

The ICT facilities are very vital for the effective teaching and learning of ICT in the adult education centres. However, the limited resources really limit the ability of the teachers and the

adult learners to engage with digital technologies that can help them acquire the digital skills that they can use to interact with different e-commerce platforms.

The interview with the adult education officer also revealed that the ICT facilities such as computers and television for use in learning processes for adult learners were not available. The adult education officer argued that the main challenge is in sourcing some of this equipment for use in the centres. He argued that the priority is often on the textbooks and other equipment and not on ICT facilities. Generally, the lack of these resources limited the efficacy of computer aided learning which was identified by Usun (2003) who found that there are several advantages of using computer aided technology in teaching adult learners. These include the ability of the computers to give the learners choices over the content and give them immediate feedback which motivates the students. Computers also give the adult learners a sense of empowerment and control as compared to the traditional teaching approach where the teacher was in control. Additionally, CAI was found to significantly promote the learning rates as adult learners learn faster when using computer aided technology as compared to conventional instruction. Generally, the CAI helps the adult learners to develop logic, problem solving skills and aids the learners to become proficient in academics.

The adult educators were also asked whether they involve students in the practical use of ICT most 52.8 percent indicated that they do involve their students while 47.2 percent were contrary to the claim. These findings imply that most of the instructors do not involve the students in practical use of ICT implying that most of what the students are taught in regards to ICT is done so theoretically, which may limit their understanding and also real-life mastery over the use of ICT facilities. Kim (2020) indicated that online learning is taking place extensively since the onset of the Covid-19 pandemic. Online learning has become indispensable in education programs if it is used collaboratively with the learners. In the study Kim (2020) reported the experiences and reflections of adult teachers from a practicum course offered in 2020 in the USA. The study found that the user interaction with the service providers and the learners was

a crucial aspect of the teaching and learning process. It was established that the use of demonstration and a learner-centred approach was more effective as compared to the use of lecture methods. Reflections also promoted the development and learning of concepts.

The adult instructors were then asked whether the learners had been taken to e-consumer service provider centres such as the Huduma Centres. Most instructors 77.8 percent indicated that they had not taken their students to e-consumer service centres with only 22.2 percent indicating that the learners had been taken to visit the centres. These findings suggest that most of the learners had not visited the e-consumer service provider centres with their instructors, this is an indication that the learners are left on their own, when they require the much needed e-services from the government. This strongly shows the need to equip the learners with the skills needed, so that when they face the day to day computer related challenges, they can be able to use them on their own without needing any assistance. Lastly, the study also established that the government had not integrated e-consumer services in teaching and learning as indicated by the majority 77.8 percent of the instructors. As technology use in greatly advancing in the 21st century, and also with the coming of the COVID 19 pandemic there is a great need for the government to facilitate and develop a curriculum that integrates the teaching of adults with the e-consumer technology this is because if the education the adults are receiving in the adult education centre is to remain relevant in the current world.

The adult learners were asked what can be done to integrate e-learning in the centres and promote e-facilities and they argued that they would prefer for more teaching time and resources to be allocated to ICT in the centres. Such efforts would promote their exposure to current digital services and familiarise them with some of the key services offered by the government and other organisations over the internet.

The adult learners were also asked to indicate ways in which e-learning has been integrated and figure 12 shows the Integration of e-learning in adult education

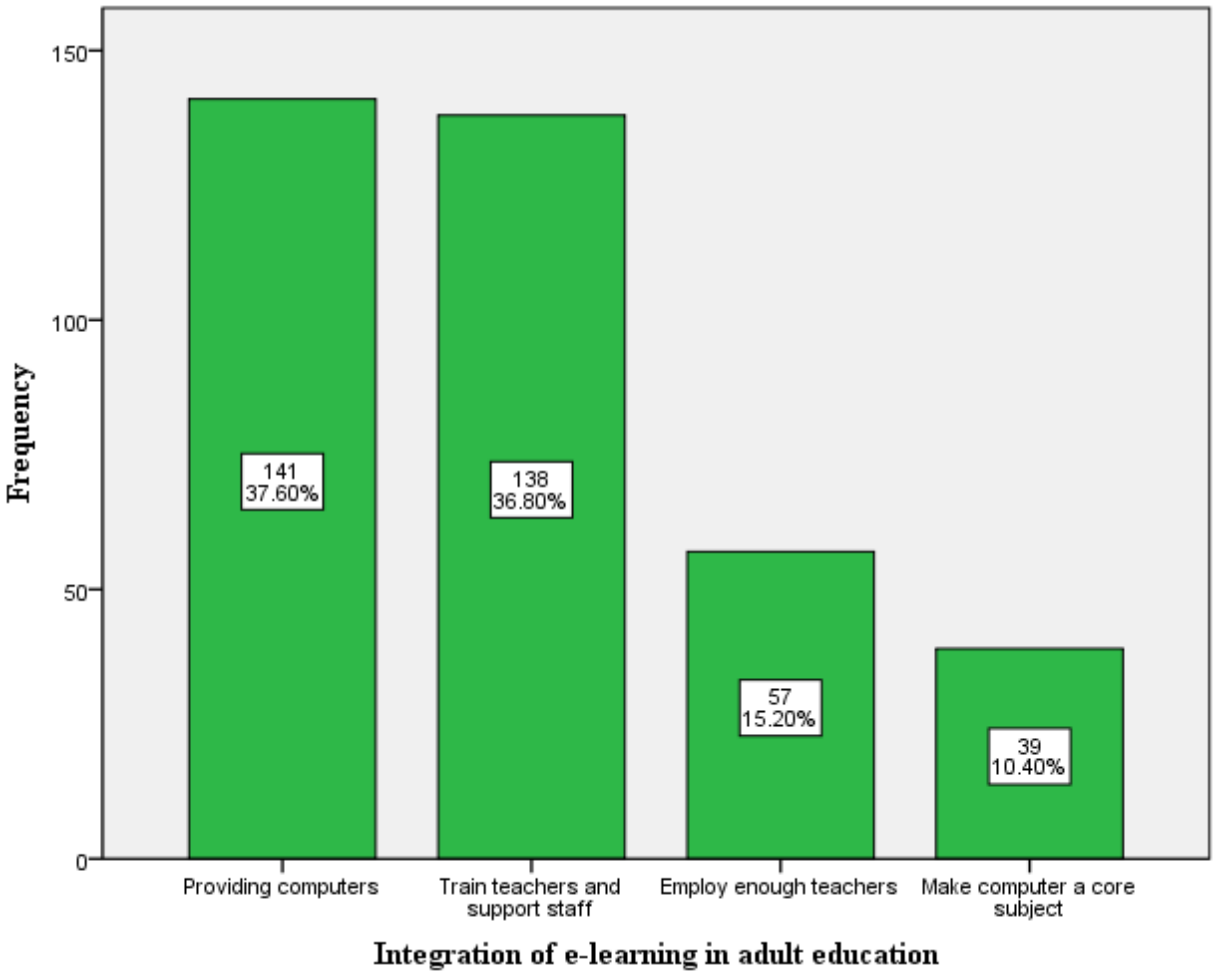

Figure 12: Integration of e-learning in adult education

The adult learners were asked how integration of e-learning has been implemented in adult education. Most of them 37.6 percent indicated that computers have been provided while 36.8 percent indicated that the teachers and support staff have been trained. The other 12.2 percent indicated that enough teachers have been employed as a strategy and 10.4 percent argued that computers has been made a core subject. These findings imply that efforts to integrate e-learning have mainly been done by providing computers and training teachers and support staff. The study wanted to examine whether there was an association between the strategies for integration of e-learning in adult education and the digital use among adult learners. These findings point towards major progress towards ICT integration and as Yobaski and Nolan (2011) argue that the interrelationship between literacy, technology, and development forms an

integral approach to healthier living. Literacy provides technological skills and a wider text establishment that includes the ability to solve problems using information, communication, analyses, access, evaluate, and generate new knowledge. Similarly, Singh, Agarwal and Das (2013) claim Today's' world is characterised by technological advancements which require students who are technologically savvy. So, traditional classrooms are no longer effective in imparting quality education that provides students with the relevant skills needed in today's world. So, among adult education, e-learning is revolutionising adult education as students are being empowered to learn at their own speed and at their convenience. Therefore, e-learning practices should be integrated to the adult learning process where aspects relevant in today's world including teaching computer classes and adopting simulation through games and practising access to different e-services platforms can help equip the adult learners with the needed skills.

The interview with the adult education officer also revealed that there are several measures that have been put in place to promote the integration of ICT in the learning institutions. He stated

> '*Well of late, the government and well-wishers have worked in tandem to enhance ICT in the centres. They are donating computers, smart phones and laptops to the institutions, even though they are not near enough to meet the needs of all our learners, it is still a positive move and we really ask the government and well-wishers to continue supporting us. There have also been seminars and workshops for our instructors to help them master the new digital services and hopefully pass on this knowledge to the learners.'*

These findings imply that digital literacy skills are considered as vital elements in today' adult education programs and measures are being put in place to implement ICT in adult learning centres. Evidently, adult education is expanding, and adult learners are permeating institutions in a bid to expand their knowledge while others seek to acquire skills and knowledge to navigate today's' highly complex technology-driven world (Guan, Ding & Ho, 2015). The relevance of life-long learning is expanding in tandem with the rapid expansion of adult learners.

Adult learners have embraced online learning as a valuable resource. Guan, Ding and Ho (2015) revealed that technical training and preparations are required on how to effectively utilise the e-learning platforms and infrastructure. There was also a need to improve the local infrastructure including installing of internet services and further equipping the computers and mobile devices with relevant apps and simulations that could enhance their skill and knowledge acquisition relevant to the changing demands brought by e-consumerism.

The researcher also sought to determine whether implementation of ICT influenced the digitization of adult education. To achieve this, a chi-square was used. The findings are presented in table 4.12 Integration of e-learning in adult education programmes.

Table 4.12: Integration of e-learning in adult education programmes

Integration of e-learning in adult education * digitization Cross tabulation				
Integration of e-learning in adult education	N=375	Digitization		P value
		No	Yes	
Providing computers	F	111	30	0.043
	%	29.6	8	
Train teachers and support staff	F	112	26	
	%	29.87	6.93	
Employ enough teachers	F	50	7	
	%	13.33	1.87	
Make computer a core subject	F	32	7	
	%	8.53	1.87	

As the table shows, the measures taken to implement e-government services were likely to affect the likelihood of learners being digitised at p value 0.043. Among the students who were likely to be digitised through adult education, most were those who indicated that their centres had provided computers, trained teachers and support staff and making computers a core subject. Generally, these findings imply that the implementation of ICT can help increase the digitization of education among the older adults equipping them with the skills and competencies needed in today's highly technological world. Moreover, as the OECD (2021)

reiterates that the COVID-19 pandemic has led to a significant shift by the adults' in accessing online learning. Most of the training that was being given in the face-to-face classes has been shifted online. The adult learners are also being encouraged to take up new training. In developed countries such as the U.S, UK, Canada and Sweden, there has been a massive shift towards online learning. The OECD contends that the crisis is providing a powerful test to the potential of online learning and how the adult learners can be able to manage the changes in the delivery of learning. Nevertheless, it was established in the study that there are some key limitations to the access of digital learning; these include the lack of adequate digital skills among the adult, lack of computer equipment and limited internet connections. It was found that to integrate digital learning, it was crucial for the adults to have access to computers and internet facilities. However, most critical was the need to develop the adults' skills to effectively utilise the computers and the internet facilities to learn online. The study by the OECD is highly relevant to this paper as it helps pinpoint how the changes brought by the pandemic in adults' education is changing the way learning is being conducted. It signifies a significant shift to digital or e-learning provision which has been found to face challenges in integration due to the limited resources and skills among the adult learners.

Generally, the major limitations to the implementation of digital literacy and integration of ICT to teaching and learning in adult learning centres is due to the numerous limitations and challenges stemming from lack of finances, lack of resources and lack of properly trained teachers. As Rose, Wang, Sainz, Joshi (2019) reiterate that adult education instructors and their adult learners face a myriad of challenges in integrating technology due to the limited availability of internet and mobile phone services .They also found that there was limited financial support for the educator's professional development.

4.8 Integration of e-consumer elements in Adult and Community Education

The fourth objective of the study aimed to investigate the level of integration of e-Consumer elements in Adult and Community Education.

Regarding the integration of digital literacy in teaching and learning in Adult and Community Education, the instructors were asked whether digital literacy classes are offered in their institutions. Figure 12 shows their responses where half of the respondents 50 per cent indicated that they offer digital literacy classes while the remaining half indicated that they do not offer digital literacy classes.

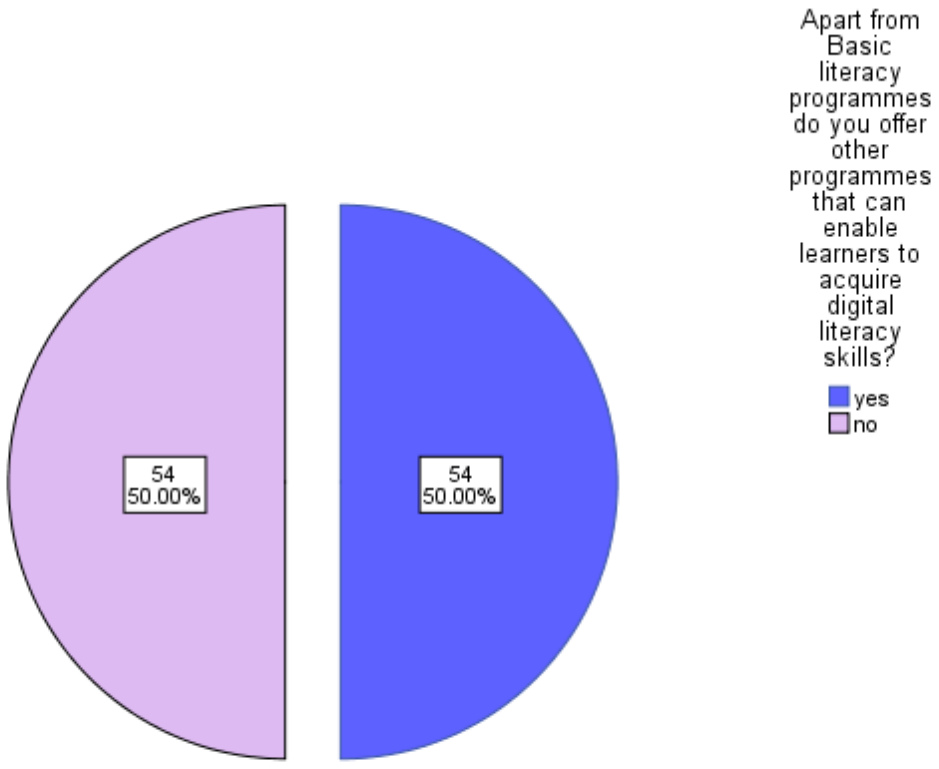

Figure 13: **Digital literacy classes**

The instructors were also asked whether the time allocated for teaching digital literacy classes was sufficient to engage students in participatory instructional approaches. Their responses are presented in figure 14.

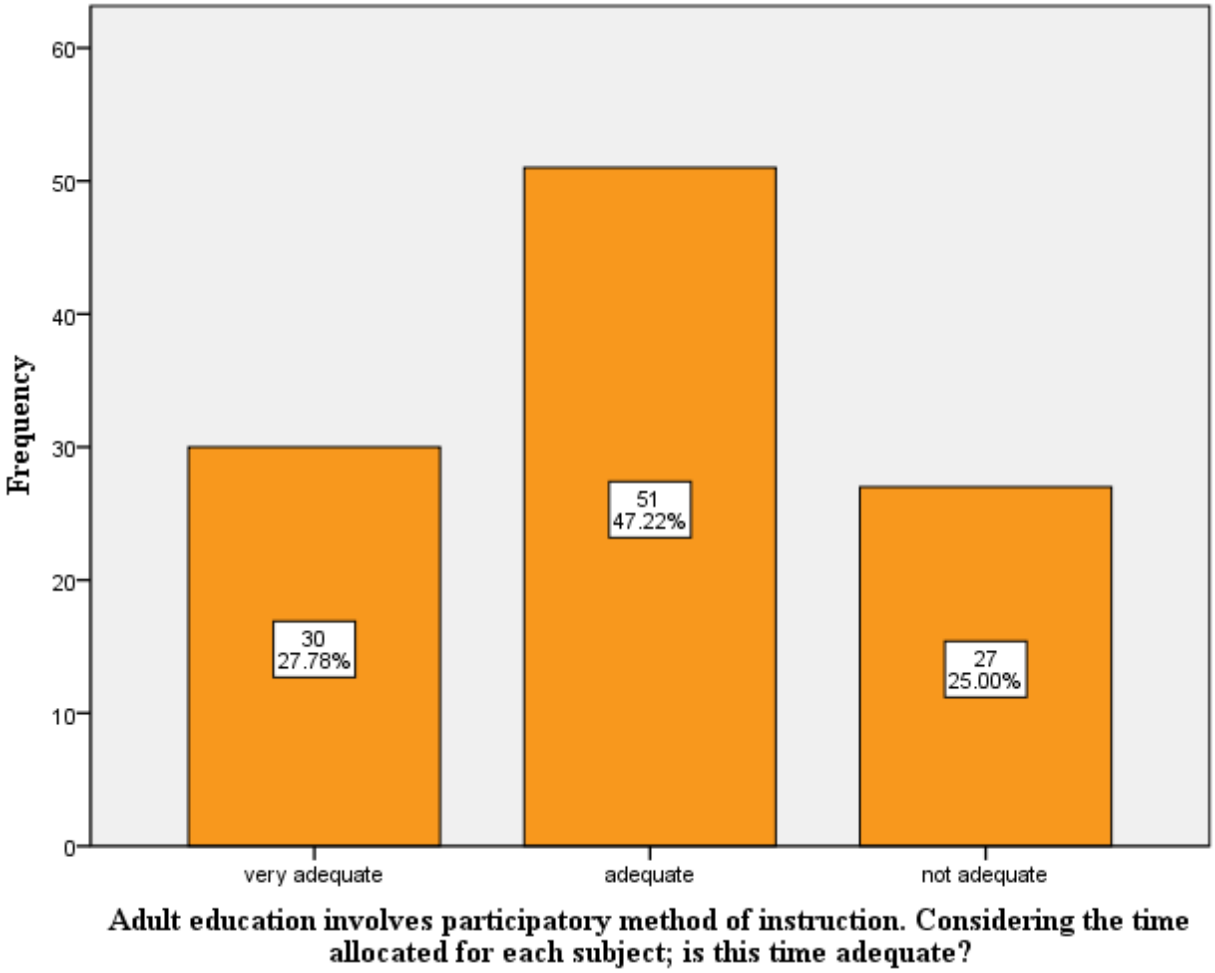

Figure 14: Time allocation

Most of the instructors'47.22 percent indicated that the time allocated to digital literacy was sufficient while 27.78 percent indicated that the time allocated was very adequate to promote participatory instruction. However, 25 percent felt that the time allocated for digital literacy classes were not sufficient to promote participatory instruction. These findings imply that the time allocated to digital literacy was perceived by the instructors as being sufficient for helping the adult learners acquire literacy skills. These claims were contrary to those by Rose, Wang, Sainz, Joshi (2019) who found that limited scheduling time was a major hindrance to the effective teaching and learning digital literacy in adult learning classrooms. The majority of the adult instructors at the centres had several skills and knowledge that they sought to equip their learners with and with the majority of their learners working part time, it was a challenge for the schools to schedule adequate lesson hours to equip the learners with high-level knowledge

and skills in computer literacy especially taking into account the other challenges such as the limited computers, lack of funding and lack of upgraded computers.

Further, Snyder, Jones and Lo Bianco (2015) argue, the eventual access to e-learning services calls for changes to the pedagogical practices and the eventual effort and ability to use e-consumer platforms by the adult learners. The researchers found that the use of technology to teach adult learners was widespread and this was due to the acknowledgement of the social and cultural importance of ICT technologies in teaching and learning. So, the instructors developed their teaching and learning strategies on the concrete social purpose of specific technologies. It was found that some of the older adults lack the incentive and opportunities to acquire skills needed to navigate the e-services sector attributed to the lack of adequate time allocated for learning e-skills in the classroom. However, the older adults who embraced computing were found to be able to improve the quality and the connectedness of their lifestyle and were able to access some of the key e-services. The study found that the use of emails, electronic chatting as well as text-messaging on mobile phones can be used extensively in adult education to expose the adult learners with skills and competencies on how the digital world operates. By communicating using these platforms, adult learners practice their technical skills.

The adult learners were asked to indicate the strategies used by their instructors regarding integration of ICT in Adult and Community Learning and table 4:13 provides their responses.

Table 4.13: Integration of E-learning- Adult learner's responses

Integration	N=375	Yes	No
Role play	F	144	231
	%	38.4	61.6
Process demonstration	F	147	228
	%	39.2	60.8
Trips to cyber cafes	F	63	312
	%	16.8	83.2
Lecture Method	F	207	168
	%	55.2	44.8

The table shows that role play is not mainly used by the adult instructors as indicated by most of the adult learners 61.6 percent with only38.4 percent indicating that their instructors do use role play. Regarding process demonstration, most respondents' 60.8 percent indicated that their instructors do not use process demonstration on how to use digital platforms to access e-consumer services. Only 39.2 percent indicated that their instructors use process demonstration to help them understand the use of e-consumer services. These findings imply that the teaching approaches employed by the teachers in their integration of ICT in teaching digital skills is crucial as supported by Ghaviferk, AbdRazak, Ghani, Ran, Meixi, and Tengyue (2019), who assert that the rapid growth of ICT and its ability to provide dynamic and proactive teaching and learning environments necessitates teachers incorporating ICT into their daily teaching and replacing traditional instructional methods with modern tools and facilities.. Therefore, in their paper, the Ghaviferk, AbdRazak, Ghani, Ran, Meixi and Tengyue (2019) examined the effectiveness of ICT integration in schooling. It determines the level of computer skills and knowledge among teachers in adult learning classrooms in order to determine the level of ICT integration in teaching and learning. It was found that the frequency in the usage of ICT rests on the obtainability of the internet and computers. Additionally, the teachers' skills in ICT use also had an influence on the teaching of ICT. The attitude of the teachers and the learners was also an important factor influencing ICT integration to promote mastery of digital skills that were reported to facilitate the use of e-services.

Field trips to cyber cafes was rarely a strategy integrated in adult and community learning with the majority of students 83.2 percent indicating that they are not taken to cyber cafes for practical experiences with e-consumer services while only 16.8 percent indicating that they visit cyber cafes with their instructors.

Mainly, the lecture method was found to be used by most instructors when teaching digital literacy in the classes 55.2 percent while only 44.8 percent of the adult learners indicated that their lecturers do not use lecture methods while instructing them.

The interview findings from the Adult Education Officer revealed that lecture method and process demonstration are mainly adopted approaches to ICT learning in the centres.

He argued *'well mainly the instructors tend to use lecture methods while teaching ICT, But we also encourage them to use practical methods and where possible we do field trips to promote the learners' interaction with some of the ICT facilities outside of the centre… though the use of more practical approaches to learning is constrained by lack of sufficient time and resources. The field trips could be highly recommended since it gives the students a first-hand touch to what is happening outside the classrooms. The teacher will use real life experiences while teaching and illustrating to the students, therefore making learning more real to the students.*

The study sought to know whether the approach taken to integrate ICT in Adult and Community Learning was significantly associated with the adult learners' use of e-consumer services. To achieve this, a chi-square Pearson analysis was conducted and table 4:14 shows the results.

Table 4.14: E-consumer use of and integration of e-consumer in Adult and Community Learning Centres

Integration	**N=375**	**Digitization**			**P value**
			Yes	**No**	
Role play	Yes	F	25	119	0.0065
		%	6.67	31.7	
	No	F	45	186	
		%	12	49.4	
Process demonstration	Yes	F	48	125	0.040
		%	12.8	33.3	
	No	F	22	180	
		%	5.87	48.0	
Trips to cyber cafes	Yes	F	35	133	0.036
		%	9.33	35.47	
	No	F	35	172	
		%	9.33	45.87	
Lecture Method	Yes	F	96	108	0.196
		%	25.6	28.8	
	No	F	99	72	
		%	26.4	19.2	

The table shows that the majority of respondents whose tutors integrated role play in adult education were digitised 6.67 percent whereas the majority of those whose instructors did not use role play 49.4 percent were those who indicated that they do not use e-consumer services. These findings suggest that the instructor's integration of role-play as a method of instruction is likely to influence the adult learners' use of e-consumer services as supported by the statistically significant p value 0.0065<0.05. Adoption and use of ICT in schools, according to Yin (2014), can encourage collaborative, active, and lifelong learning, increase student motivation, provide greater access to knowledge and shared working tools, deepen comprehension, and assist students in thinking and communicating creatively. Therefore, exposing the adult learners to e-consumer services through role play can enhance their understanding and creativity in using digital services.

The majority of respondents 12.8percent who were digitised were those whose instructors integrated process demonstration in adult learning while the majority 48.0 percent of those who were not digitised were those whose instructors did not adopt process-demonstration as a means of instruction which was statistically significant at p value 0.040. These findings suggest that instructors who demonstrate how processes work using practical methods are more likely to enable their learners to adopt the skills required to perform various e-consumer services as compared to those who do not. This may mainly be credited to the aptitude of the learners to master the process as the instructors demonstrate it practically. These are in line with Watson, Loizzo, Watson, Mueller, Lim and Ertmer, (2016) who argued that the importance of e-Learning and knowledge management at the workplaces is needed so that the workers can use the learnt skills in their workplace and can be best achieved through demonstration. Process demonstration leads to the adult learners being more relevant at their places of work. ICT is heavily reliant on literacy, and each technology places a specific demand on the users' literacy abilities. This means that the adult learners need to be ICT literate to use the ICT technologies

provided by the Government effectively (Watson, Loizzo, Watson, Mueller, Lim &Ertmer, 2016).

The table shows that trips to cyber-cafes were statistically significantly associated with the digitization of adult learning and education at p value 0.036. These findings suggest that most adult learners who were exposed to cyber-café trips were more likely to be digitised 9.33 percent while the majority of those who were not exposed to cyber cafes 45.87 percent were not likely to be digitised. These findings imply that taking the students to field trips where they can practice digital literacy is important in determining their likelihood of using e-consumer services. Itary (2017) emphasises that practical exposure to computer-assisted tutorials and other traditional technology-supported resources, such as radio and television, can help adults improve their ability to decode and comprehend prose text, thereby increasing their literacy, employability, and continued use of literacy skills to become lifelong learners, this will enable the adult learners to be informed and always keep up with the advancing technology making them still relevant to the job market. Similarly, Ni (2018) claimed that there is increased learning of blended learning in tertiary institutions where there is a rise in face-to-face teaching with online components. The shift is in line with the rise of the non-traditional students in the institutions including adult learners. Ni (2018) argued that adult learners take on the 'digital help curriculum.' Blended learning was found to be effective in promoting flexibility in learning, promoting efficient and effective learning and equipping the adult learners with the skills needed to navigate the highly digital world.

Lastly, the majority of learners who indicated that they were instructed using lecture methods 28.8 percent were not likely to use e-consumer services while the majority of those who were not instructed using lecture method 26.4 percent were likely to use e-consumer services. These findings imply that lecture methods did not promote the adult learners' use of e-consumer services at p value 0.019>0.05. Therefore, the findings suggest that the lecture method does not

have a positive influence on the adult learners' comprehension of the e-consumer processes. This can be attributed to the fact that, for any learning to take place, the instructor together with the learner both need to participate in the learning process, when the adult instructor engages the learners in the learning process, learners tend to remember more, what they have been taught. As Itari (2017) points out there are several challenges facing the integration of ICT in Kenya and one challenge stems from how learners are instructed on ICT. Torun (2020) also examined the relationship between e-learning readiness and the academic attainment of online courses in relation to the use of e-services and e-consumer services. It was found that where the students portrayed self-directed learning, they were more likely to effectively use the e-consumer services. Similarly, the motivation towards e-learning is a predictor of the student's attainment of skills and its application in real-life e-consumer services. The researchers attributed the students' motivation as being mainly driven by the changing demands of the marketplace where there is an increasing shift towards digitization of services including basic government services. So, where adults lack the digital skills to access and navigate the sites, they need in order to enjoy basic government services, they are likely to be locked out some vital services which can negatively affect their lives and make them pay government penalties, that could have been avoided if they had the basic ICT literacy skills for example the filing in their tax returns correctly and at the required time, for those adult learners with businesses. So, it was concluded that e-learning was driven by the desire to master the skills needed to be familiar with and be able to utilise the digital platforms to access different services and products available therein promoted by the teachers use of practical and blended learning.

The adult learners were also asked to indicate ways in which e-learning has been implemented and figure 15 shows the integration of e-learning in adult education.

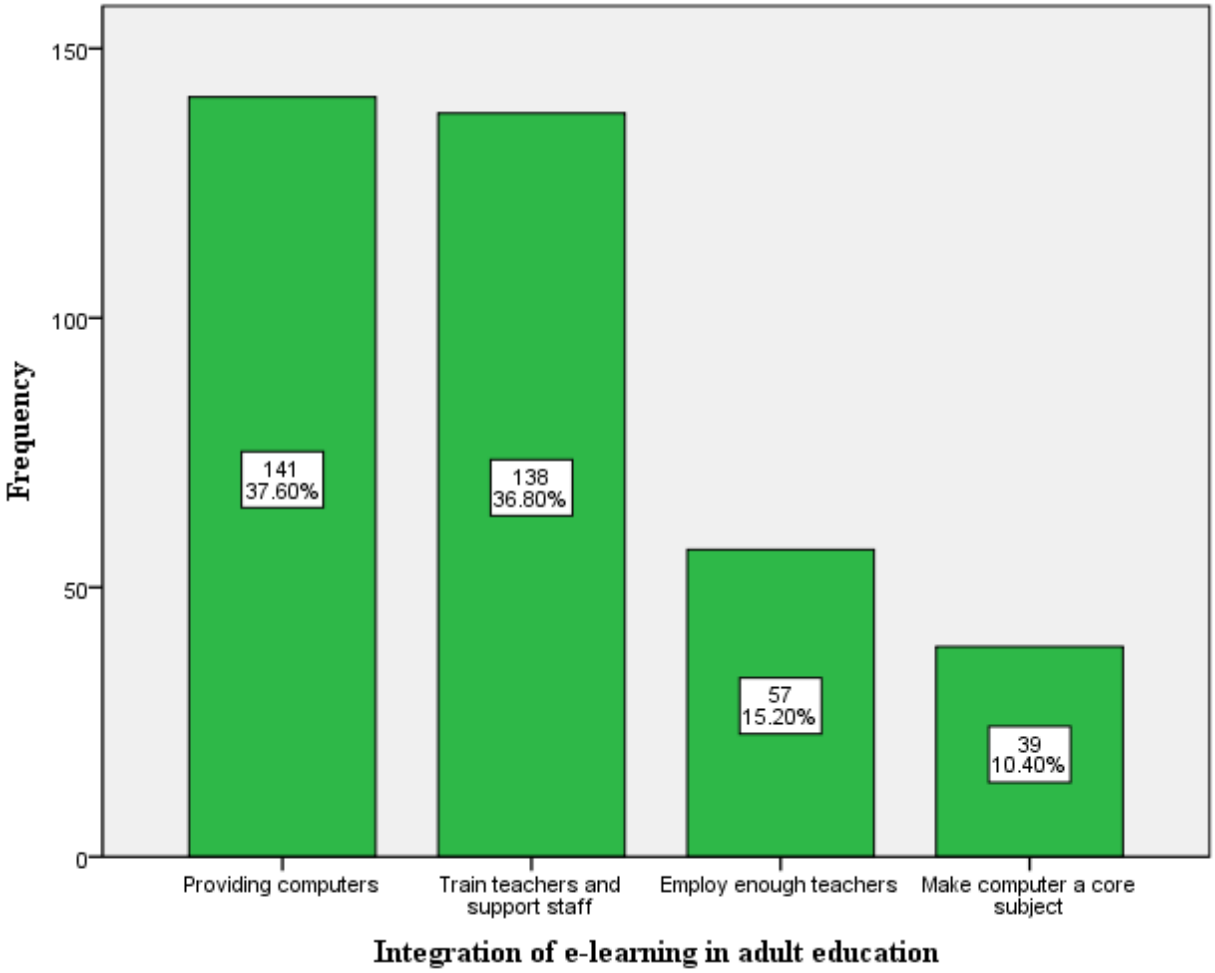

Figure 15: Integration of e-learning in adult education

The adult learners were asked how integration of e-learning has been implemented in adult education. Most of them 37.6 percent indicated that computers have been provided while 36.8 percent indicated that the teachers and support staff have been trained. The other 12.2 percent indicated that enough teachers have been employed as a strategy and 10.4 percent argued that computers has been made a core subject. These findings imply that efforts to integrate e-learning have mainly been done by providing computers and training teachers and support staff. The study wanted to examine whether there was an association between the strategies for integration of e-learning in adult education and the digital use among adult learners. These findings point towards major progress towards ICT integration and as Yobaski and Nolan (2011) argue that the interrelationship between literacy, technology, and development forms an integral approach to healthier living. Literacy provides technological skills and a wider text

establishment that includes the ability to solve problems using information, communication, analyses, access, evaluate, and generate new knowledge. Ghavifekr, AbdRazak, Ghani, Ran, Meixi and Tengyue (2019) found that the frequency in the use of ICT be determined by the obtainability of the internet and computers. Additionally, the teachers' skills in ICT use also had an influence on the teaching of ICT. The attitude of the teachers and the learners was also an important factor influencing ICT integration to promote mastery of digital skills that were reported to facilitate the use of e-services.

The interview with the adult education officer also revealed that there are several measures that have been put in place to promote the integration of ICT in the learning institutions. He stated

> '*Well of late, the government and well-wishers have worked in tandem to enhance ICT in the centres. They are donating computers, smartphones and laptops to the institutions, even though they are not near enough to meet the needs of all our learners. There have also been seminars and workshops for our instructors to help them master the new digital services and hopefully pass on this knowledge to the learners. The adult learners are also very eager to learn how to be computer literate since they are the immediate consumers of the e-consumer services that are being provided for, by the government and in their day to day lives. For instance, the use of smartphones, which offers a lot of e-technology not only just making and receiving calls.'*

The respondents were also asked to indicate the challenges facing integration of ICT in adult and community learning. Their responses are provided in figure 16.

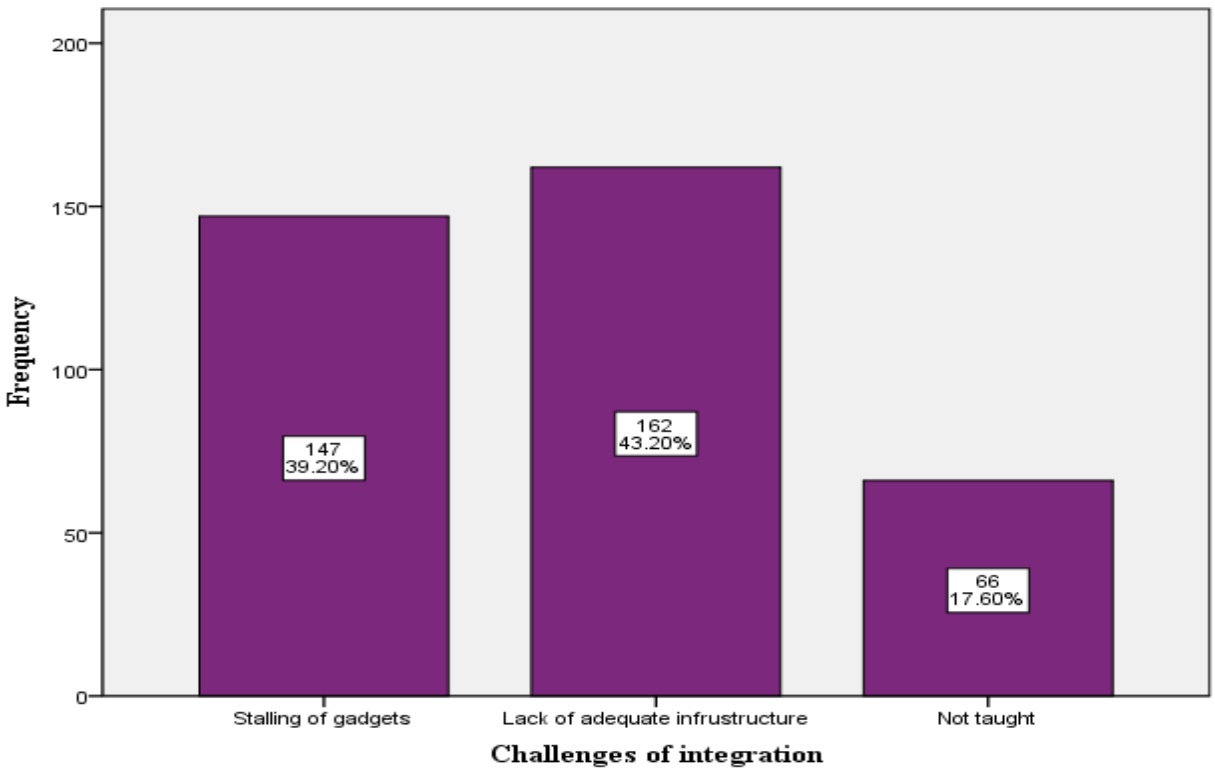

Figure 16: Challenges of Integration of ICT in adult and community education learning

One of the key challenges identified by the adult learners is stalling of gadgets 39.2 percent while 43.2 percent identified the lack of adequate infrastructure 43.2 percent and only 17.6 percent argued that not being taught was a major challenge. These findings support the claims by Stewart (2013) who argued that African countries face numerous challenges in integrating ICT due to lack of infrastructure to facilitate its smooth integration. Ramos (2015) found that most of the adult learners perceived integration of ICT with computers, mobile phones, the internet and other relevant applications. They believed that the integration of ICT in teaching and learning had a positive impact on their learning of digital competencies. The use of ICT in the classrooms and outside of the classrooms also promoted interactive and dynamic classes where the adult participants were able to gain competencies and skills that they could apply in accessing and utilising e-services. Similarly, Rose, Wang, Sainz, Joshi (2019) found that educational technology usage was reliant on the access to at least a computer lab in independent district schools or at community colleges. The key challenges identified included the limited availability of technology equipment in the classrooms. Rose, Wang, Sainz, Joshi (2019) also

established that the geographical circumstances limited the availability of reliable internet access especially in rural locations which made it difficult for the teachers and their learners to use online applications and tools. The other challenge was limited finding to support the integration of technology to teaching and learning. Most of the computers in the labs were outdated and others were not in a functional position, this was because there was a need for the computers to be serviced repeatedly, which was lacking. Mostly due to lack of enough funds and enough technicians to service the computers.

In an effort to sum up this section, the analysis revealed that there is great need to educate the adult learners and equip them with the knowledge and skills needed for them to interact effectively and efficiently with the e-consumer services that they interact with in their day to day lives. The adult education centres should be the places where adults learn effectively the skills they need. So as to navigate with ease in their day to day activities in digital literacy.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the study, a conclusion, and a recommendation. The purpose of this study was to establish the influence of E-consumer services on adult and community education in Nairobi County, Kenya. Finally, it makes appropriate recommendations based on the main findings found after the research.

5.2 Summary of the Study

The main purpose of the study was to establish the influence of E-consumer services on adult and community education in Nairobi County, Kenya. Four research objectives of the study were formulated to guide on data collection and analysis. These were: to determine the extent to which e-consumer services are used by adult and community education learners in Nairobi County; to examine the influence of e-consumer services on teaching and learning activities in adult and community education; to determine the extent to which e-consumer services influence the implementation of ICT in adult and community education and to investigate the level of integration of e-consumer elements in adult and community education.

The study adopted the Diffusion of Innovation (DOI) theory (Rogers, 2003) which explains why, how, and at what rate new ideas and technology spread. The study adopted a mixed method design combining qualitative and quantitative research techniques. Data was collected using questionnaires and interviews, and analysis was done descriptively, inferentially and thematically. The presentation was done using figures, tables and quotations.

5.2.1 E-consumer Services Use in Adult and Community Education

The study's first objective set out to determine the extent to which e-consumer services are used by adult and community education learners in Nairobi County, Kenya. It was found that

for most adult learners, 54.4 per cent indicated that they use e-consumer services, with the instructors supporting the claims. Most adult learners' 64 per cent, also indicated that they could access e-consumer services without help, with smartphones being reported as the main point of access, followed by cybercafés. The study found that most of the adult learners indicated that they use e-consumer platforms, but in regards to the extent to which they use them, the study found that the use is mainly to some extent as the responses were highly dispersed, with some cases revealing that some of the adult learners do use e-commerce services at a minimal level. This is when they are accessing government services that are mandatory for them to be filled or assessed through online platforms. The adult learners also indicated that they use digital gadgets, doing online shopping, paying for online shopping and searching for cheaper online transactions. This is a great positive move because it shows that adult learners are also embracing the many online facilities that are coming up and that are being provided to them by either the government or the private sector.

5.2.2 E-consumer services and Teaching and Learning

The study's second objective aimed to examine the influence of e-consumer services on teaching and learning activities in adult and community education. It was found that role-play, illustration and group discussion were the most used methods of instruction employed by the instructors. It was found that mostinstructors'83.33 per cent involve their learners in the choice of instruction method. Most instructors also indicated that they consider the learners' ability when choosing the method of teaching, while others consider the lessons' content and objective. It was also found that the teaching and learning aids were mainly sourced from the department of education and the learners' levies. It was found that the teaching aids were appropriate in meeting the learners' literacy needs. The research also established that generally, the learner's attitude towards adult education was positive with most perceiving it as a source of knowledge.

Regarding assessment, it was found that most assessments were formative and continuously administered mainly through written and oral tests.

5.2.3 E-consumer services and Implementation of ICT

The third objective of the study was to determine the extent to which e-consumer services influence the implementation of ICT in adult and community education. It was found that the centres offer basic literacy programmes that enable learners to acquire income-generating skills with the time allocated for each subject being adequate for participatory methods used in adult education. However, it was also found that there are some challenges in implementing computer literacy in adult education, including the lack of physical facilities and internet services. Nevertheless, the study found that the adult learners' attitude to the inclusion of computer literacy was positive, 97.2 per cent. Most of the learners claimed that e-learning had been implemented through the provision of computers, training of teachers, hiring enough teachers and making computers a core subject which was found to have a significant effect on digitisation of adult education.

5.2.4 Integration of e-consumer elements in adult education

The fourth and last objective proposed to investigate the level of integration of e-Consumer elements in Adult and Community Education. The study found that some of the centres of programmes that enable learners to gain digital literacy, where field trips to cyber cafes, role play, and process demonstration, were mainly used to promote digital literacy. The chi-square analysis revealed that role play (p-value $0.0065<0.05$), process demonstration (p-value 0.040) and trips to cyber cafes (p-value 0.036) were likely to have a statistically significant association with the digitisation of adult education. From this study, it can be concluded that adult learners require to be taught practically how to interact with the technology that is being provided by the government and private sector. When the adults are shown physically how to

use the gadgets, they can understand and acquire the required knowledge. This will enable them to use the knowledge gained in another place without requiring any assistance.

5.3 Conclusion

The purpose of this study was to establish the influence of E-consumer services on adult and community education in Nairobi County, Kenya.

Regarding the first objective, the study concludes that the adult learners use e-consumer services to some extent to access services such as their National Identification Cards, Driving License, company search, KRA pins and other services. However, they require assistance to access these services due to their limited digital skills and knowledge.

Regarding the second objective, the study concludes that e-consumer services influence teaching and learning activities. The third objective of the study aimed to determine the extent to which e-consumer services influence the implementation of ICT in adult and community education. The study concludes that the implementation of ICT promotes the digitisation of adult education.

The last objective sought to determine the integration of ICT in adult and community learning. The study established that the integration of ICT is critical for the digitisation of adult education. There are various approaches used to integrate ICT, such as the use of role-play, process demonstration and field trips to cyber cafes to expose the adult learners to e-consumer services. Overall, the process of integrating ICT in adult and community learning in Kenya is faced with challenges such as lack of resources, poor infrastructure and limited time allocated to ICT teaching and learning.

5.4 Recommendations from the study

Based on the findings and conclusions of the study, several recommendations have been made.

Recommendations for practice

a. Adult learners should be further educated and exposed to the different aspects of e-consumer services and be taught how to use the different platforms to access the services online.
b. Teaching and learning in adult education centres should be tailored towards the current digital needs required to navigate the e-consumer market to enable the adult learners to successfully access and use e-services.
c. The study also recommends that ICT should be implemented in the centres by providing physical facilities and infrastructure to promote teaching and learning of ICT which will digitise adult education.
d. Lastly, the study recommends that ICT should be integrated into adult education content delivery and instruction to enhance learners' understanding.

Recommendations for policy:

a. The ministry of education should enact policies to make it compulsory for e-learning practices to be adapted in adult learning institutions. Such policies would ensure that the adult learners are adequately exposed to the digital world.
b. Policies should be implemented by the ministry of education to integrate practical visits to different service provision points such as the Huduma centres by the adult learners to expose them to the different service providers.
c. Policies should be put in place by the government to ensure that each school is equipped with adequate ICT infrastructure and physical facilities to promote efficient teaching and learning of digital literacies.
d. Policies should be put in place mandating teachers of adult learners to undergo annual seminars and workshops on the utilisation of ICT facilities to promote digital literacies

among the adult learners. This is due to the daily advancement in digital literacy, the adult tutors need to equip themselves with the knowledge so as to be able to effectively transmit it to the learners.

5.5 Suggestions for further studies

The study suggested several areas for further research: these were;

A study on the factors influencing effective implementation of ICT and computer technology in the adult education centres.

The challenges the adult education learners face as they try to acquire education as a second chance.

i) The challenges the adult educators face as they teach the adult learners

ii) The challenges in financing the adult education programs in the country.

iii) Ways of integrating adult learning and formal learning in Kenya.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER TO THE RESPONDENTS

CEES
P.O Box 92
KIKUYU

To;
The Administrator
_____ Institution
P.O Box ……
……., Kenya
Dear Sir/Madam,

RE: PERMISSION TO COLLECT DATA

I am a postgraduate student in the University of Nairobi, pursuing a doctorate degree in adult education studies. I am researching THE **INFLUENCE-CONSUMER SERVICES ON ADULT AND COMMUNITY EDUCATION PROGRAMME IN NAIROBI COUNTY, KENYA.**

Your institution has been selected to participate in the research. You are requested to respond to the questionnaire item as honestly as possible and to the best of your knowledge. This research is purely for academic purposes. **Kindly note that your name and that of your institution should not be included in the research tools.**

Thank you.

Yours faithfully,

Anastasia Gakuru

APPENDIX II: QUESTIONNAIRE FOR ADULT INSTRUCTORS

You have been identified to participate in the study of the impact of e-consumer services on adult and community education in Kenya. Answer the question honestly according to the instructions given. The information collected is for research purposes only (Kindly tick (√) where appropriate)

SECTION A: Background information

1. Indicate your gender? Male [ ] Female []
2. What is your age bracket in years?

a) Below 30 years [] b) 31-40 years []
c) 41-50 years [ ] d) above 51 years []

3. What is your marital status? Single [] Married []Divorced [] Separated []
4. What are your employment terms?
   Volunteer [ ] Part time [ ] full time [ ] self-help [ ]
5. How many years have you worked as an adult facilitator/instructor?
   1-5 yrs. [ ] 6-10yrs [ ] 11-15[ ] 16-20[ ] above 21[ ]

SECTION B

6. Do your students use e-consumer services…Yes……No……?
7. Are your students able to access e-consumer services? Yes…….No……...
8. Do your students seek internet services? Yes…….No……
9. In your view indicate using a tick the extent to which the adult education learners use the following e-consumer services.

Statement	**Not at all**	**Very little extent**	**Little extent**	**Some extent**	**Great extent**	**Very great extent**
National ID						
Driving Licence						
Kenya Revenue Form						
M-pesa						
Mobile Banking						
Birth Certificate						
Passport						
Land ownership search						
company registration						
Company name search						
Any other specify						

10. Which of the following methods do you normally employ in teaching adults in your centre?

a) Role play [ ] b) Group discussion [ ] c) Illustration [ ] d) Lecture e) any other specify

11. Do you involve learners in the choice of teaching methods in your centre?
    a) Yes [ ] b) No [ ]
    Explain your answer (If yes how? if not why?) ……..

12. What mainly do you consider in the choice of a teaching method?
    a) Content [ ] c) Lesson objective [ ]

b) Learners' ability [ ] d) Available time [ ]

Where do you mainly get your teaching /learning aids for the adult education programme?

a) Department of adult education (Consumer) [ ] b) Learners levies [ ]

c) N.G.O's [ ] d) Community purchases [ ] E) any other specify

13. Are these aids appropriate to the literacy levels of your learners in terms of readability?

a) Fairly appropriate [ ] b) Very appropriate [ ] c) Not appropriate [ ]

14. Are the teaching /learning aids/material adequate?

a) Enough [ ] b) Not enough [ ] c) Not available [ ]

(ii) E-consumer services on integration of computers in adult education computers

15. Apart from Basic literacy programmes do you offer other programmes that can enable learners to acquire income generating skills? Yes…….No……. If your answer is yes, mention the programs taught…….

16. Rank the following programmes in order of importance in relation to how they help students acquire functional skills in your institution use 1,2,3 etc. to rank

a) Technology-plumbers, tailoring, carpentry, weaving [ ]

b) Business studies [ ] c) Agriculture studies [ ] d) Computers [ ]

17. Adult education involves participatory methods of instruction. Considering the time allocated for each subject; is this time adequate?

Very Adequate [ ] Adequate [ ] Not Adequate [ ]

18. What parts of the adult education programme or curriculum do you find most effective during the teaching and learning process for adults understanding computer literacy concepts? …….....

19. Are there challenges in implementing computer literacy in adult education in your institution?

Yes [ ] No [ ]

Explain your answer…….…….

20. What is your opinion on the attitude of adult learners towards inclusion of computer literacy in adult education curriculum?

Very positive [ ] Positive [ ] Negative [ ] very negative [ ]

21. Does your school have physical facilities that support the use of ICT?

Yes……No…….....

22. Does the school have internet facilities available for the students yes ( ) No ( )?

23. Do the teachers involve the students in the practical use of ICT in the schools Yes……? No…….

24. Are the learners taken to e-consumer service provider centres Yes…? No……

25. Has the government integrated e-consumer services in the teaching and learning process?

Yes……No…….....?

26. In your opinion, what do you think can be done in integrating e-learning and ICT facilities in your centres…….

(iii) Implementation of E-consumer services in adult education programmes

27. How do adult learners view literacy classes?

For the aged [ ] for illiterates [ ]

For source of knowledge [ ] for disadvantaged [ ]

28. Are adult learners in your centre proud to be associated with adult learning

a) Few [ ]b) majority [ ] c) Ashamed [ ] d) None [ ]

29. What kind of assessment do you employ in your centre? a) Formative [ ] b) Summative [ ]

30. How is the assessment administered in your centre?

a) Oral test [ ] b) Written test [ ] c) Through practical [ ]

d) Indicate any other……..

31. In your opinion, should computer literacy be taught in adult education programmes as a subject on its own? Yes [ ] No [ ]
32. Have you received any training on integration of computer literacy in adult education programmes? Yes [ ] No [ ] If yes at what level
    a) College training [ ] b) In-service training [ ] c) refresher courses [ ]
33. How do you rate yourself in content delivery?
    a) Excellent [ ] b) good [ ] c) Fair [ ] d) poor [ ]

(iv) Digitalization of Consumer services on use of computer by adult learner

34. How do you rate your effectiveness in the use of computers by adult learners?
    a) Very good [ ] b) good [ ] c) Average [ ] d) Below average [ ]
35. Is there any proficiency test given to adult learners in your centre?
    a) Yes [ ] b) No [ ]
    ii) Are learners awarded certificates? a) Yes [ ] b) No [ ]
    iii) Which level? a) Certificates [ ] b) Diploma [ ] c) degree [ ]
36. How did the training in adult education affect you personally on using computers? …….....
37. What do you think should be done to improve teaching of adult education in your institution to help learners use computers proficiently in their lives?
    (i)…….....
    (ii)…….....
    (iii)…….....
38. In your own view are the programmes offered in your centre adequate to provide adult learners with relevant skills so as to use the skills learnt in their day to day lives…….
39. What challenges do young teachers' facilitators/instructors face in handling adult learners while using computers? …….

Section c: Digitalization of Consumer services

40. What Consumer services can you access on your own??
    a) Pin certificate
    b) Application for procurement
    c) Renewal of driving licence
    d) Application of driving licence
    e) Revenue returns
    f) None

    If the answer to the question above is none whom do you engage in the access of the services? ……..
41. Do you sensitise your learners on access to these Consumer services?
    Yes [ ] No [ ] Explain your answer …….
42. In your opinion do you embrace digitalization of Consumer services? Yes [ ] No [ ] Explain your answer …… ……

Thank you for your participation!

APPENDIX III: ADULT LEARNERS' QUESTIONNAIRE

You have been identified to participate in the study on the Influence of e-consumer services on adult and community education in Kenya. Answer the questions honestly according to instructions given. The information collected is for research purposes only.

SECTION A: Personal information

Please respond by putting a tick next to the right response or that is applicable;

1) What is your gender? a) Female [ ] b) Male[ ]
2) What is your age bracket? a) above 60 [ ] b) 50-59 years [ ]
c) 40-49 [ ] d) 30-39 years [ ] e) 18-29 years [ ] f) Below 18
3) What is your marital status? a) single [ ] b) Married [ ]
c) Divorced [ ] d) separated [ ] e) Widowed [ ]
4) In which category of learners do you fall?
a) Full time [ ] b) Part time [ ] c) Any other specify
5) What is your occupation
a) Businessperson ( ) b) small scale farmer [ ] c) Any other specify

SECTION B

(I) Digitalization of Consumer services on adult literacy programmes

6. How do you rate your facilitator in the following areas?

	Excellent	Good	Average	Below Average	Poor
Improvisation of teaching/learning resources					
Effectiveness in the preparation of lesson notes					
Preparation of lesson notes					
Punctuality					
Willingness to assist student					
Content delivery					

7. How does tutor/facilitator instil discipline in adult learners?
a) Giving rewards [ ] b) expulsion [ ] c) through guiding and counselling [ ] d) none of the above [ ] (e) Any other please specify…….
8. Are you comfortable when taught by young instructors?
a) Not comfortable [ ] b) Comfortable [ ] c) Very comfortable [ ]

(ii) E- Consumer Services on adult literacy programmes

9. Do you use e-consumer services…yes……No……?
10. Are you able to access e-consumer services Yes……? No……
11. How often do you use e-consumer services?
a) Quite Frequently [ ]b) More Frequently [ ] c) Not Frequently [ ]
12. By use of ticks please indicate the extent to which you use the following e-consumer services

Statement	**Not at all**	**Very Little Extent**	**Little Extent**	**Some Extent**	**Great Extent**	**Very Great Extent**
National ID						
Driving Licence						
Kenya Revenue Form						
M-Pesa						
Mobile Banking						
Birth Certificate						
Passport						
Land ownership search						
Company registration						
Company name search						
Any other specify						

13. What is your attitude towards inclusion of computer literacy in adult education curriculum?
Very positive [ ] Positive [ ] Negative [ ] very negative [ ]

(iii) E-Consumer services on teaching and learning in adult education

14. Does your age interfere with your literacy learning process……..?
15. Do you feel proud to be associated with adult literacy programmes?
a) Yes [ ] b) No [ ]
16. At what stage is assessment carried out in your centre by facilitators?
a) Continuously b) At the end of the course [ ]
17. Are learners involved in the choice of assessment carried out at the centres?
a) Yes [ ] b) No [ ]
18. How is assessment administered in your centre?
a) Through practical [ ] c) through oral test [ ]
b) Through written test [ ] d) indicate if not there [ ]
19. Is there any proficiency test given at each level of literacy? Yes no
I) if yes, are there many authorised examining bodies? Name……
ii) Are you awarded any certificate? a) Yes [ ] No [ ]
iii) If yes, at what level? a) Certificate [ ] b) Diploma [ ] c) Degree [ ]
iv) Mention if any other……

(iv) Digitalization of Consumer services on use of computer by adult learner

19. Which of the following methods are mostly used by adult facilitators in your institution?
a) Role pay [ ]
b) Process demonstration [ ]
c) Field trips [ ]
d) Lecture method [ ]
e) Name if there is any other not mentioned above …….
20. Are the teaching/learning aids/material adequate in your centre?
a) Enough [ ] b) Not enough [ ] c) Not available [ ]

21. In your opinion, should computer literacy be taught in adult education programmes as a subject or on its own?
22. What challenges do you face when using computers……?
23. Has the government provided computers to be used in the learning……?
24. In your opinion what do you think can be done in integrating e-learning? Availability of ICT facilities in your centres……

Thank you for your participation

APPENDIX IV: INTERVIEW SCHEDULE FOR ADULT EDUCATION OFFICER

SECTION A

1. For how long have you worked as an education officer……?
2. Are there ICT facilities like computers and televisions for use in the learning process for the adult learners…….?
3. Do the adult learners use e-consumer services……...……?
4. Which method of teaching is mostly used by the adult teachers in the learning process……...……...
?
5. Are there challenges in implementing computer literacy in adult education programs…….?
6. Do the schools in your sub-county have physical facilities to support ICT ……...……...
?
7. What is your opinion towards inclusion of computer literacy programmes in the teaching of the adult learners……...…?
8. What do you think should be done to improve teaching of adults in your institution to help learners use computers proficiently in their lives…….……..
9. In your view, are the programmes offered in the adult centres providing relevant skills to the learners to be able to apply the skills learnt in their lives……?
10. What challenges do teachers face in handling adult learners while using computers…….……
?

APPENDIX V: INTERVIEW SCHEDULE FOR HUDUMA CENTRE/ CYBER CAFÉ

1. Which e-consumer services are mostly sort by the adults in your centre……..……?
2. Are the adults coming to your facility able to access e-consumer services without asking for assistance…….…….…….?
3. How are the adults assisted in assessing e-consumer services in your centre…….…….?
4. What are some challenges that are faced by the Adult learners as they try to access internet services in your centre…….....….?
5. In your opinion, should Adult learners be taught computer skills in their institutions…….…….?
6. About how many Adults come to your centre in a week…….....…….?
7. Which e-consumer services are mostly sorted by Adult learners in your centre…….....……?

APPENDIX VI: TIME SCHEDULE

REPUBLIC OF KENYA

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