

**Exploring the extent & impact of ICT use on Small and Medium Enterprises in
Developing Countries: *The case of urban women enterprises in Kampala,
Uganda.***

By

MARGARET KYAKUNDA

Director of Studies: Professor Amare Desta

Second Supervisor: Dr Saqib Shamim

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Abstract

Despite the improvements in access to and use of information and communication technology (ICT) around the world, there is evidence that suggests a persistent digital divide between and within countries. This gap is particularly evident in women small and medium enterprises in developing countries. Despite increasing numbers of women in developing countries creating business, studies suggest that only half as likely to use ICT in starting or running their enterprises compared to men. Small and medium enterprises run by women face challenges in adopting ICT, such as affordability of ICT devices and excessive services costs, limited access to ICT infrastructure, digital literacy, and socio and cultural barriers.

This qualitative study sought to understand drawing from urban women experiences the extent and impact of ICT use on SMEs and the challenges, and opportunities presented by ICT. This study was guided by the technology acceptance model (TAM2), four objectives, and qualitative data were collected from fifty-seven online questionnaires from urban women entrepreneurs who had basic ICT skills and various levels of access to ICT in the Ugandan capital city, Kampala. Additionally, semi structured interviews were conducted with a local commercial bank executive, policymaker, and multiple informants in four local non-government organisations that implement ICT training and development programs catering specifically to women entrepreneurs at grassroot level.

The data was analysed using Grounded Theory. The results indicated that while strategies have been created to connect ICT with SMEs, the success of these initiatives relies on factors such as the intention to use, ease of use, usefulness of the technology, access, and ICT skills.

In conclusion, this research highlights its academic, methodological, and practical contributions and suggests further studies to support women-owned small and medium enterprises in developing countries in adopting ICT and achieving sustainable growth and empowerment.

Keywords: Information and Communication Technology (ICT), Women entrepreneurship, Technology Acceptance model(TAM2), SMEs, Urban, Uganda, Developing countries.

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DEDICATION

To My Greatest Love & Blessing: My sons, Wasswa Othniel Mulira and Ethan Kizza Mulira

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List of Acronyms and Abbreviations

AU	Actual Usage
ATM	Automated Teller Machines
BITU	Behavioural Intentional to Use
CGT	Constructivism Grounded Theory
COMESA	Common Market for Eastern and Southern Africa
CSOs	Community Support Organisations
ICT	Information and Communications Technology
ICTs	Information and Communications Technologies
IS	Information Systems
IT	Information Technology
ITU	International Telecommunications Union
GT	Grounded Theory
CGT	Constructivist Ground Theory
GGT	Glaserian Grounded Theory
SMEs	Small and Medium Enterprises
MFPED	Ministry of Finance, Planning and Economic Development
MGLSD	Ministry of Gender, Labour, and Social Development
MoICT	Ministry of ICT
MoICT& NG	Ministry of ICT and National Guidance
NBI	National Backbone Infrastructure
NITA- U	National Information Authority Uganda
NIISP	National ICT Initiatives Support Program
OTT	Over the Top Taxes
PEoU	Perceived Ease of Use
PU	Perceived Usefulness
SACCO	Savings and Credit Cooperative Organisation
STG	Straussian Grounded Theory
SMEs	Small Micro Small Enterprises
TAM	Technology Acceptance Model
TAM2	Extended Technology Acceptance Model

TIN	Tax Identification Number
UBOS	Uganda Bureau of Statistics
UCC	Uganda Communications Commission
UIA	Uganda investment Authority
UN	United Nations
UNCTAD	United Nations Council for Trade and Development
UMEME	Uganda's main electricity distribution company
UWE	Uganda Women Entrepreneur
UWEP	Uganda Women Entrepreneurship Programme
WSMEs	Women Micro, Small and Medium Enterprises
WSO A	Women Support Organisation A
WSO B	Women Support Organisation B
WSO C	Women Support Organisation C
WSO D	Women Support Organisation

Chapter 1 Introduction

1.1 Introduction and Research Aim

This doctoral thesis centred on exploring the extent and impact of Information and Communication Technology (ICT) on Small and Medium Enterprises (SMEs) in developing countries. The focus was on SMEs run by women in urban areas of Kampala capital city of Uganda as an example to illustrate the phenomenon of ICT, answer research questions and develop a grounded theory. The focus on women SMEs in urban areas in this study justifies the selection of Uganda as a developing country, significance of women entrepreneurs as ICT users and role of women SMEs contribution to most the country economy.

The survival of these SMEs is crucial for job creation and wealth generation, for many underserved groups such as women. According Synder, 2003, most of Uganda's entrepreneurs are in agriculture and mostly women SMEs, which are active in the urban informal economy. Despite SMEs significant role in economic growth, this SMEs face obstacles in creating wealth (Snyder, 2003). Most are constrained by lack of access to urban finance, inadequate ICT skills, and affordability, due to excessive cost of ICT devices and access to resources, which can limit their ICT experience and wealth creation (Synder, 2003).

In developing countries, urban areas such as Kampala, capital city of Uganda, serve as digital hubs, and has allowed SMEs to use various ICTs (mobile phone, landlines, computer), providing reliable high-speed Internet infrastructure, which is essential for the success of SMEs (Roberts et al., 2017, p. 372) to operate at local, regional national and global levels.

ICTs such as mobile phones and internet, can help in addressing the unique challenges women SMEs face in urban areas by improving efficiency of SMEs. According to Qureshi and York (2008) when women-owned SMEs invest and effectively use ICT, can experience reduced costs and business grow becomes profitable. Moreover, (Mivehchi, 2019; Heeks, 2016) argues that investing in ICT in terms of profit is one of the most effective tools for women micro, small and medium enterprises (MSMEs)in developing countries.

For example, the increased penetration of the Internet and mobile phones in developing countries offers new opportunities to establish businesses and enable women MSMEs to effectively communicate through social platforms such as WhatsApp, Facebook, and Instagram.

The use of digital platforms serves as new marketing mediums for these SMEs for marketing their goods and products. Moreover, Wakunuma, Siwale, and Beck, (2019) states that most MSMEs are benefiting from innovative business models, are using mobile applications such as WhatsApp as a marketing tool for their products and services. Additionally, most SMEs are benefiting from the widespread availability of Internet cafés and mobile phones in urban areas which reflects varying levels of access to technology (Obijiofor, 2009, p.32; Willems, 2020). Thus, this research study places emphasis on the relevance of ICT as a support tool for SMEs growth and empowerment.

According to (ITU, 2019; Esselaar et al., 2006), ICT implementation by SMEs in developing countries can enhance their competitiveness. Additionally, the United Nations Conference on Trade and Development [UNCTAD] (2014) stated that the use of ICTs is rapidly transforming the global landscape, influencing way of life, work, and communication and doing business. Warnecke (2017) stated that underutilisation of human capital, due to lower technology adoption among women, can adversely impact economic growth. Warnecke (2017) argues further that when women-owned (SMEs) effectively uses ICTs such as Internet, mobile phone landlines, can experience growth, harness the benefits of technology, and become profitable and achieve empowerment.

Moreover, (The United Nations Conference on Trade and Development [UNCTAD] (2014); Qureshi and York, 2008) suggest that in most developing countries, such as Uganda, the importance of ICT has been recognised by various stakeholders as indicated in Table 2.1, who actively support and promote its use in SMEs. For example, in Uganda, The Uganda Digital Acceleration Project (UNDAP-GovNet) aims to extend mobile broadband connectivity and Wi-Fi hotspots to underserved communities (World Bank, 2021), by facilitating online service access. However, the success of these policy initiatives relies on adoption intention; of the user, simply transplanting technology is insufficient to a user group with no ICT skills.

To fully benefit from ICT adoption, (Chatterjee, Gupta, and Upadhyay, 2020) stated that in developing countries, most women entrepreneurs require mental preparedness, material resources, skills, and assistance. This is significant, for developing countries such as Uganda's entrepreneurial landscape, which is primarily comprised of women MSMEs, with a high concentration in the informal sector (Ministry of Trade and Cooperatives [MoTIC] 2015). Therefore, this led to this employing a comprehensive examination of the views of a varied group of stakeholders (i.e. fifty-seven urban women entrepreneurs, senior management of four local women support organisations, one ICT policymaker, and an executive from a local commercial bank of the link between ICT and business growth and empowerment. For example, the use and accessibility of ICTs on urban women's micro-enterprises in Uganda differ from urban entrepreneurial activities in an advanced economic setting. While women globally face similar challenges, the use of the local Ugandan setting is distinctive to this study. Therefore, understanding women's use and non-use of ICT can help achieve higher Internet penetration and digital inclusion. Improving gender equity can lead to substantial economic implications.

Furthermore, this study contains insights from empirical studies of the most influential Technology Acceptance model (TAM) Davis, Bagozzi and Warshaw, (1989) and the extended Technology Acceptance model (TAM2) (Venkatesh and Davis, (2000). TAM is based on user acceptance of information Technology at work in large organisations in developed countries. According to (Venkatesh et al., 2003) the two major factors that influences and individual's intention to use ICT are perceived usefulness (PU) and perceived ease of use (PEoU). However, TAM2 does not consider the perspective of user acceptance of Information technology in SMEs in an urban setting in a developing country (Tan et al., 2010). Therefore, this study aims to make a theoretical contribution to TAM2 in understanding the SMEs user perspective and entrepreneurial level in an urban local setting in developing countries. Therefore, this study addresses the gaps in the literature by expanding the TAM2 framework, to include additional constructs thereby responding to the need to understand SMEs adoption of ICT at local level.

Furthermore, this study adopts the TAM2 framework to explore the extent and impact of ICT use on SMEs and tries to understand, that despite of the impressive advancement in ICTs hardware and capabilities, the troubling problem of the users underutilised ICTs continue.

Low usage of available ICTs due to excessive cost, lack of access and inadequate ICT skills has been identified as a major factor affecting SMEs in developing countries. By understanding and creating the conditions under which ICT will be embraced by SMEs run by women in developing countries remains a high priority research issue. To explain the role of ICT as a facilitator for the successful expansion of women's SMEs and to address the research questions, a substantive theory has been applied in this doctoral thesis. The proposed substantive theory developed in this study is not only relevant to urban women's micro-enterprises in Uganda, but its relevance can be extended and applicable across developing countries and beyond.

1.1.1 Research Objectives

The primary objective of this research is to explore the extent and impact of ICT use on SMEs in developing countries, with a particular focus on urban women SMEs in Kampala, capital city of Uganda. This research study will conduct an online survey and subsequent analysis to understand the extent and impact of ICT use on the growth of SMEs and to understand the specific challenges and opportunities that ICT brings to women-owned businesses in a local urban setting.

This study has four main objectives:

1. To investigate the technologies that women microentrepreneurs in Kampala, Capital city of Uganda, use to grow their businesses.
2. To gauge urban women entrepreneurs' views on ICT's role and relevance in boosting enterprise growth and empowerment.
3. To explore government ICT policies that strengthen and support the position of women microentrepreneurs in Kampala, Uganda.
4. To examine the connectivity, access, and relevance of ICTs for women's entrepreneurship and empowerment to foster a favourable environment that encourages their success.

1.1.2 Research Questions

The research addresses the following questions:

1. What are policymakers' views regarding the link between ICT and the growth and empowerment of urban women's enterprises?
2. How are ICTs being used to accelerate growth in urban women's enterprises in Kampala, capital city of Uganda?
3. What are the main challenges and opportunities related to ICT access, usage, and ownership for enterprise growth in Uganda?
4. What lessons have been learned from past decades regarding ICT and women's entrepreneurship?

1.2 Problematising the use of ICT by women entrepreneurs in Uganda

. Despite women's significant contributions to the country's GDP and enterprise growth, empirical studies, Arun and Arun (2002) stated that several factors influence women entrepreneurs' acceptance of ICT (i.e. lack ICT skills, cost), therefore women entrepreneurs may require training and support to effectively use ICT tools for business task. Moreover, (Komunte et al., 2015; Cherie Blair Foundation, 2012) noted that women entrepreneurs are less likely to own mobile phones compared to men, and to use mobile phones for business activities (Ilavarasan and Levy, 2010) due to affordability and lack of ICT literacy.

Other barriers such as limited ICT access, the informal nature of their businesses, mobility constraints, unreliable electricity, lack of credit access, inadequate ICT training, illiteracy, socio-cultural practices, institutional challenges, legal issues, lack of knowledge and ICT skills, high equipment costs, internet taxes, and installation issues and gender specific constraints are hinderance to growth and sustainability of women's entrepreneurship.

Thus, this research study is valuable as it seeks to explore the extent and impact of ICT use on SMEs in a broader context of Uganda emphasising that women in developing countries may face similar challenges. This study findings will add to the body of knowledge on ICT and women entrepreneurship.

This study highlights the disparities from previous literature, in internet usage between men and women, with only 18 percent of women in developing countries using the internet compared to 24.9 percent of men (ITU, 2019; 2020; 2021). Moreover, (Ndiwalana and Tusubira, 2012) stated that Uganda is one of the developing countries with low internet use and internet penetration, with only 14 percent of the population using the Internet. In support by another survey report by (NITA-U, 2022; Kiyonga, 2020) found that In Uganda, access, and usage of ICTs, only 44 percent of women could use a phone at any time.

The above mentioned constraints from the literature review, led to this research study discussion, to argue that if women entrepreneurs exploited opportunities presented by ICT, women's economic opportunities will be increased, WSMEs' performance will improve, the digital gender gap can be reduced, communications and mobility costs can be reduced, intermediaries can be excluded, business networks can be expanded, and most WSMEs can be transformed, achieve sustainable growth, elevating women's position in society, and contributing to the national GDP. Therefore, this research is rooted in the need to explore the notion that women play a significant role in societal well-being and emphasises the economic necessity of utilising ICT to empower women. This study can argue that educated mothers can positively impact family and society and that access to ICT can enhance learning and contribute to the development of competent citizens. It emphasises the potential of ICT to empower women's micro-enterprises, which are vital to most developing countries.

This study will help illustrate the phenomenon of ICT and address the research questions by generating a substantive theory. The proposed substantive theory of this doctoral thesis as can be seen from Figure 6.1, suggests that the use of ICT as a developmental tool to support women SMEs of all sizes is significant in developing a competitive advantage for WSMEs.

There is an undeniable gender gap where only half of the population is contributing to the development of the economy.

There are human rights issues involved, as it is an ethical and moral dimension where society cannot prosper by ignoring half of the population. In developing countries, there are more women facing numerous barriers such as lack of digital skills and knowledge significantly affects these women due to their inability to pay for equipment, high operating costs, lack of opportunities to use or engage with these technologies, low self-esteem, security, and discrimination (Women, 2019).

Giving these women access to ICT could help half of the population become economically engaged. For example, according to the household survey report, (UBOS, 2024). in Uganda, women constitute more than half of the population Thus, this issue of gender inequality in ICT use must be understood and overcome, as ICT ownership, access, and use offer life-changing opportunities and benefits for underserved groups such as women, their families, communities, and the broader economy (Desta, 2010; GSMA, 2019; Women, 2019). According to (Association for Progressive Communications, 2016) a survey report carried out by the Uganda Communications Commission, 2014 found that the gender gap in internet access is particularly evident in Kampala and only six percent of women in Uganda are online

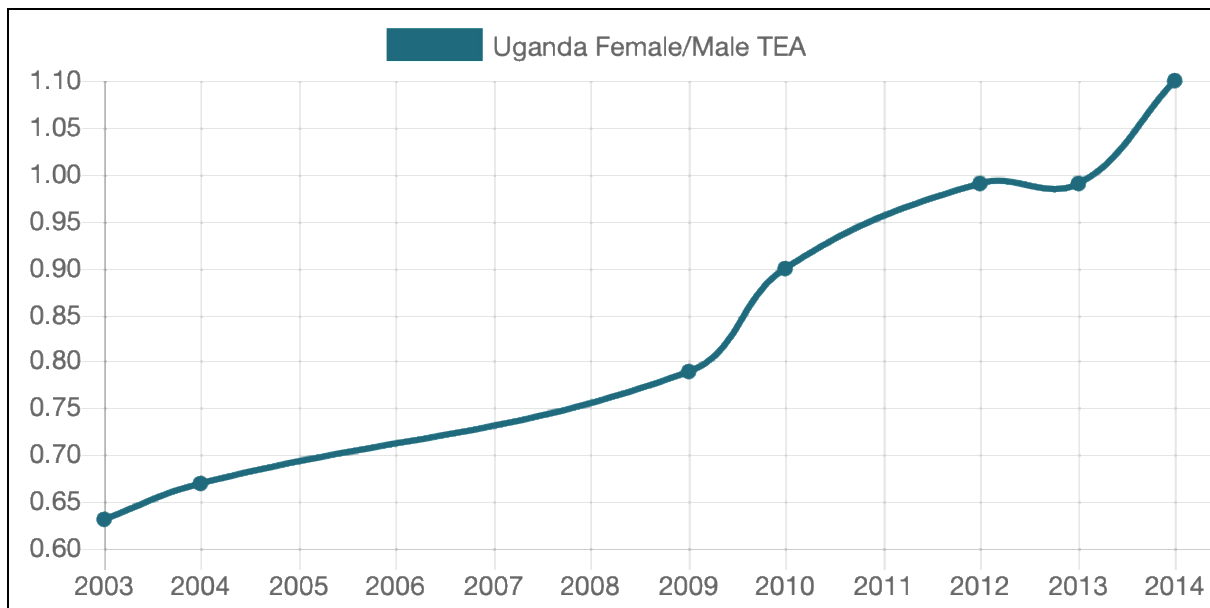
1.2.1 History of Enterprise growth and empowerment in Uganda

This section provides an analytical overview of the landscape for expanding businesses and promoting female entrepreneurship in Uganda. Most developing countries such as Uganda has made considerable progress in enterprise growth and women's empowerment (Snyder, 2000). According to (Ministry of Trade and Cooperatives [MoTIC] 2015; Snyder, 2000; 2003), government policies aimed at promoting gender equality have enabled more women to venture into entrepreneurship playing a crucial role in identifying and capitalizing on new opportunities, which results in economic growth and increased employment (Ministry of Trade and Cooperatives [MoTIC] 2015; Snyder, 2000).

It is evident that the informal sector in Uganda has also seen substantial growth, with over 60 percent of market vendors being women, creating a new entrepreneurial class, which are making substantial contributions to the country's economy. Snyder (2000) study emphasised that traditionally, women in Uganda had limited opportunities to start and run businesses.

However, there is now a thriving culture of entrepreneurship in Uganda, with women leading the way. Snyder (2003) observed that women are making significant contributions to Uganda's economy, especially in agriculture adding value through their MSMEs contributing to poverty alleviation and economic growth.

Figure 1.1 Female Early-stage Entrepreneurial Activity in Uganda.



Source: Adapted from GEM Uganda Report, 2012.

The data, as seen in Figure 1.1, shows the Female/Male Ratio in Uganda's entrepreneurial landscape (GEM, 2012). In 2003, the Female/Male Total Entrepreneurial Activity (TEA) ratio was 0.63, which increased to 1.1 in 2014. This indicates a steady rise in female participation in entrepreneurship since 2003. The increase in women engaged in entrepreneurial activities is a positive indicator, not only for their own livelihoods but also for the overall economic and human development of the country. The growth in TEA rates among women may be attributed to the limited opportunities for secure paid employment, leading women to pursue entrepreneurial activities for livelihood or to contribute to their family's income. Studies have shown that in Uganda, women are more likely than men to be driven to start businesses out of necessity (GEM, 2012).

Over the past decade, the growth in the number of women-owned businesses has surpassed that of male-owned businesses by 1.5 times, with most women-owned businesses operating as self-employment ventures (Synder, 2003; GEM, 2003; 2012; Mastercard, 2022; UIA, 2016). Uganda is one of the most entrepreneurial countries globally, with three out of 10 people having started, started, or being on the verge of starting a business (Uganda GEM Report, 2003). Recent reports from Mastercard (2022) indicate that in Uganda, 38.4% of businesses are owned by women, the second-highest proportion in the world, following Botswana. However, women-owned micro-enterprises in Uganda earn around thirty percent less profit than those owned by men (World Bank, 2019). This rise in women's empowerment through entrepreneurship has inspired studies which has focused on relevant and extensive use of ICT for the development of women entrepreneurship in Uganda (Hafkin and Taggart, 2001). This can imply that the high rate of entrepreneurial activity in Uganda's informal sector presents a valuable opportunity for use of ICT in promoting economic growth and sustainable digital development, particularly by focusing on enterprise growth and women's empowerment.

The business profile of Uganda suggests that women are pivotal in entrepreneurship where they account for fifty percent of employment, particularly in the informal sector. Uganda National Household Survey (2019/2020) [UBOS] (2021). Most women-owned micro-enterprises operate as sole proprietorships and remain unregistered, hence not paying taxes (Stevenson and St-Onge, 2005.). With women constituting more than 50% of the labour force, represent a significant pool of potential talent crucial for the country's development goals, particularly in entrepreneurship and MSMEs (Uganda National Household Survey (2019/2020) [UBOS] (2021). In Uganda, there exist substantial disparities between men and women in terms of employment opportunities and access to resources. Therefore, it is essential to provide women entrepreneurs with greater representation and opportunities in the business market by addressing issues of sustainability and implementing gender-sensitive policies. This would help narrow the gender gap by recognizing the significant contribution of women in business and elevating their role in entrepreneurial discussions (Uganda Investment Authority [UIA], 2016).

1.2.2 The Role, Extent, and Impact of ICT for Women Entrepreneurship in Uganda

In today's business landscape, women stand at a pivotal juncture of either be left behind or seize the opportunity and embrace information technology. (Sandys, 2005; Wakunuma et al., 2019) underlines the crucial role of ICT, stating that it can address the challenges that impede women's progress in urban contexts (Jorgenson and Vu, 2016). Due to the importance of SMEs in Uganda (Ministry of Trade and Cooperatives [MoTIC] (2015) the Ugandan government has recognised the significant role of ICT, which has become central element of government policies for economic growth, job creation, wealth creation and alleviation poverty in urban areas (Nieman, Hough and Nieuwenhuizen, 2003). Therefore, women entrepreneurs must try to acquire new ICT skills to harness the benefits of ICT to grow their SMEs.

According to Benites-Amado et al., (2010), appropriate ICT tools such as internet-enabled mobile phones and computers, social media, and mobile applications like WhatsApp, Facebook, and Instagram can create opportunities to improve women's economic situation and develop the performance of micro and small enterprises, depending on cost effectiveness and withstand competitive pressures. Furthermore, the government of Uganda devotes much effort and resources, investment, policies and strategies to promote women entrepreneurship in all sectors and ICT advancement of SMEs. However, despite government efforts Ugandan SMEs continue to suffer from ICT weaknesses that have limited the ability of SMEs taking full advantage of the fast-growing markets.

Moreover, (Qureshi and York, (2008); Chatterjee et al., (2021) stated that ICTs such as mobile phones, the Internet, and social media can help WMSEs, reduce. costs by improving their internal processes, enabling faster communication with customers, Asiedu et al., (2012), and expanding their market reach, accessing information and finance, promoting, and distributing their products more effectively online broadening their reach and enhance their competitiveness in the digital economy Komunte et al., (2012). On the other hand, Davidson (2012) found that educated women in Nigeria could effectively use computers as ICT professionals, improving their livelihoods.

Therefore, access to ICT is vital for women entrepreneurs in developing countries, particularly in urban areas with better infrastructure, to seize this opportunity and embrace ICT. This aligns with the second objective of strengthening the private sector to create more employment opportunities (Ministry of ICT and National Guidance, 2020). According to Sandys (2005), ICT has accelerated societal shifts towards entrepreneurship, played a crucial role in job creation and economic opportunities in particularly urban areas of the country, thereby boosting the country's economy therefore, the importance of ICT cannot be overstated. Moreover, Chen and Tsou (2007) suggested that ICT facilitates improved access to information and task efficiencies, Orser et al., (2007) assert that ICT is critical for competitiveness, growth, and survival. In addition, Nurdin and Kasim., (2017) confirms that entrepreneurship is now synonymous with ICT and technology, especially the Internet and social media, which have become platforms for product marketing for MSMEs, and encouragement for women SMEs to use the Internet as the foundation for starting their businesses and improving their performance and productivity (Mehta and Sinha, 2022). However, it is important to note that the relevance of ICT adoption may vary among SMEs as they operate at various levels.

1.2.3 Core Problems

The use of ICTs is transforming the operations of SMEs and creating new opportunities for marginalised groups, such as women micro-entrepreneurs who play a crucial role in a country's economy (Sandys, 2005). The significance and potential of ICT for these enterprises are well-documented in various empirical studies (Desta, 2010; Desta and Mengesha, 2016). However, the acceptance of ICT in SMEs can be challenging due to factors such as inadequate ICT, energy and telecommunication infrastructure, business owner and firm characteristics, costs, socio-cultural, political, and legal challenges (United Nations Conference on Trade and Development [UNCTAD] (2013).

Empirical studies (ILO,2013; Mugabe 2014) Lateh et al., 2017) have shown that SMEs vital for the informal economy and hold special importance for women entrepreneurs.

For example, in Uganda, the majority of MSMEs are informal, with more women starting businesses (UBOS, 2020; Mugabe 2014)). Despite this, enterprises of all sizes encounter barriers to wealth creation (Snyder, 2003). According to Larson (2000) developing countries are likely to face challenges in using ICT to improve and empower women's SMEs. Therefore, to leverage ICT opportunities, women SMEs, require government support to overcome hurdles such as weak infrastructures in ICT, energy telecommunication and finance and improve on the existing infrastructural facilities related to power generation, transmission and distribution, and telecommunication need to be not only adequate but also affordable, to avoid high business costs (UIA, 2016), improve on the infrastructure and access to ICT-based resources is common, and not having access is a significant problem, for many SMEs. The Ugandan government has invested significantly in ICT infrastructure and has implemented public policies to ensure sustainable development and the use of ICT to achieve its development goals (UIA, 2016).

Access to ICT infrastructure is crucial for sustainable growth in the sector, for developing new services, operational efficiency, and access to new markets for SMEs. The policy aims to transform Uganda into a knowledge society by 2025, with ICT central to all aspects of life. This raises questions about the increased use of ICT in SMEs and the motivating factors behind its adoption in women's enterprises (Kalanga, 2019). Therefore, Uganda needs to build and maintain such infrastructure by ensuring quality in infrastructure development, providing investment incentives, encouraging private sector participation in ICT infrastructure development, and urging Internet Service Providers (ISPs) to provide network access.

ICT support to affordable finance: As services, financial institutions, and consumer businesses continue to move online in response to the COVID-19 pandemic, there has been an upsurge in internet usage driven by necessity, yet the gender inequality in ICT usage persists, and women lag in terms of ICT access, a persistent trend. Such support will stimulate the growth of urban women SMEs, which are crucial for job creation, and wealth generation and embrace branchless banking options such as Automated Teller Machines (ATMs) and mobile banking, which offer low-cost access and remittance facilities (Mas, 2009).

Additionally, ICT support will enables SMEs to expand their market opportunities beyond urban markets (Duncombe, 2007), grow their customer base (Ilavarasan and Levy, 2012; Kolk, 2014), connect with government enterprises and agencies (Kleine, 2009), reduce travel time and costs associated with market information (Jensen, 2007; Jagun et al., 2008), access information (Frempong, 2009), increase social capital (Duncombe and Heeks, 2002), and promote self-employment (Huyer and Sikuska, 2003). Consequently, ICT is becoming a developmental tool for SMEs, particularly women-owned, for growth and empowerment (Huyer and Mitter, 2003).

Lack of ICT skills: According to the Uganda Bureau of Statics (2013), women constitute thirty-six percent of non-internet users (out of a population of 49.37 percent women), 23 percent lack ICT skills, and 13 percent may not need to use the Internet (Urbina and Abe, 2017). (Hashim, 2007) noted that language barrier is also significant for SME owners. Moreover, Vossenber, 2013) found that lack of technological knowledge also poses a challenge for women entrepreneurs. Furthermore, the existing ICT business solutions are not women-friendly, culturally accepted, accessible, and safe to use, making it difficult for women entrepreneurs to adopt these solutions in their enterprises. Most sites, software, and hardware use English as the primary language of communication, whereas most women micro-entrepreneurs are primarily familiar with the local language.

1.3 Researchers Background

This research study focuses developing countries using Uganda as an example. This research study will genuinely contribute to the body of knowledge, exploring, the extent and impact of ICT use on SMEs. I chose this topic due to my personal experience and passion for ICT to improve on SMEs growth and women entrepreneurship. The use of ICT will be significant in improving SMEs move from informal to formal sector.

My background and experience in a family-owned business environment run by women has motivated me to pursue a doctorate and contribute to empowering women entrepreneurs by sharing my business skills and knowledge(Guba and Lincoln 1994). Despite government efforts s through policy, investments, ICT initiatives, and the efforts of other stakeholders, women entrepreneurs still need to overcome significant challenges such as access to ICT.

I aim to provide insights through this study findings to empower women entrepreneurs in developing countries and other areas that require development.

This study aims to develop a substantive theory based on the existing Technology Acceptance Model (TAM2) Venkatesh and Davis (2000). TAM2 assists in understanding the user's acceptance of a technology in an organisation. However, the implications of TAM2 for women entrepreneurs in developing countries regarding ICT adoption require clarification on the challenges and opportunities of ICT on WSMEs. Therefore, this study aims to contribute to the TAM2 Venkatesh and Davis (2000) in understanding users' acceptance of the chosen technology. This can aid in developing practical implications of the theory for SMEs in developing countries like Uganda.

This study adopts the grounded theory methodology approach to explore the extent and impact of ICT use of SMEs. The grounded theory approach can provide a profound understanding of the significant contributions made by women entrepreneurs in developing countries towards ICT acceptance. By examining women entrepreneurs' experiences, failures and successes, this research aims to identify common themes and tactics that have helped them overcome obstacles to technology adoption and optimise progress in this area. Moreover, this approach can shed light on how cultural biases and financial constraints have impacted their journey and how they have navigated these challenges to significantly impact their country's economy and drive innovation in the tech sector.

The contribution of this research is detailed in Chapter 6 (Section 6.3) and its significance is briefly highlighted in this section.

1.4 Study Contributions

This doctoral study contributions to the theory and practice of ICT by exploring strategies and challenges within the context of women entrepreneurship using technology acceptance model as a theoretical framework. The contribution of this research is presented in Chapter 6 (Section 6.3) and its significance is briefly highlighted in this section.

The first implication of the technology acceptance model for ICT use on SMEs and women entrepreneurship is unclear. While there has been increasing interest in women entrepreneurship, relatively there are few studies focusing on ICT use in women SMEs in developing countries. Furthermore, little effort has been made to develop a practical working model for ICT use in WSMEs in an urban local setting. A substantive theory (see Figure 6.1) for technology acceptance model to ICT use in women SMEs at local level, which addresses key themes from the empirical evidence of this study is generated. This substantive theory aims to contribute to the theory by understanding how local urban women entrepreneurs in developing countries perceive technology adoption. This can aid in developing practical implications of the theory for entrepreneurs in developing countries.

This study adopts the grounded theory methodology approach in ICT and women entrepreneurship. The grounded theory approach can provide a profound understanding of the significant contributions made by female entrepreneurs in developing nations towards adopting and implementing ICT. By examining their experiences and successes, this research aims to identify common themes and tactics that have helped them overcome obstacles to technology adoption and optimise progress in this area.

1.5 Structure of the Thesis

The doctoral thesis consists of six chapters based on qualitative methods of research.

Chapter 1 The introduction chapter focuses on the background of the research aims, objectives that are briefly presented. It also addresses the problematic situation and articulates the research questions this study seeks to answer.

Chapter 2 Literature review: Provides an overview of the relevant literature applicable to ICT, women entrepreneurship, challenges, and opportunities of ICT use in SMEs, and the role of stakeholders supporting ICT use and training to SMEs.

Chapter 3 Methodology: This chapter focuses on the research methodology, explains the methodological aspects of this study (i.e. Grounded Theory) and describes how the data was gathered.

Chapter 4 Findings: The chapter presents the qualitative findings of diverse data collected from various stakeholders' perspectives on the extent and impact of ICT use in SMEs and women entrepreneurship.

Chapter 5 Discussion: Demonstrates the empirical evidence gathered from various stakeholders concerning the extent and impact of ICT use on SMEs within women enterprises in an urban local setting.

Chapter 6: Conclusion, Contributions, Recommendation and Future Research: Draws from the entire thesis to summarise the research contributions of this study and discuss the results using the theoretical model's assessment criteria. This chapter also identifies the research limitations encountered and provides a direction for future research.

1.6 Summary of Chapter 1

Chapter 1 emphasises the crucial role of investigating and implementing of ICT in SMEs, thereby fostering economic development and empowerment. Women entrepreneurs in urban areas can strategically and competitively position ICT to grow their enterprises. By leverage ICTs to establish efficient communication channels, build supportive networks, and explore new promotional avenues, all of which can drive economic growth and prosperity.

Despite the opportunities and benefits ICT brings to SMEs, ICT remains a challenge to SMEs in developing countries due to a weak ICT infrastructure. Previous studies have argued that the growing digital divide, SMEs in developing countries, particularly women SMEs continue to face great challenges(Akpan et al., 2022). Furthermore, the ability of SMEs to efficiently operate does not guarantee enterprise survival due to various factors which needs to be explained further(Lim, 2016).

The next chapter, Chapter 2, presents an overview of the literature, including studies that report on ICT and women's entrepreneurship.

Chapter 2 Literature Review ICT use on SMEs and Women Entrepreneurship

2.1 Introduction

In this chapter, the literature provides a deeper understanding of the extent and impact of ICT use on SMEs. The review explores various ICT-related technologies (Internet, mobile phone, computer other ICTs) assessing their relevance and appropriateness to SMEs.

In this chapter This study examines the importance of entrepreneurship as a powerful tool for women's advancement and explore various definitions of entrepreneurship. In addition, it examines the significance of SMEs in the informal sector.

Furthermore, the chapter carefully analyses the views on the link between ICT and women entrepreneurship, highlighting advantages and positive outcomes.

Additionally, the chapter explores into the challenges women entrepreneurs face in Uganda and sheds light on the essential role of stakeholders in supporting and empowering these entrepreneurs through ICT.

Lastly, the chapter offers an overview of This study 's theoretical framework and identifies the research gaps in this field.

2.2 Defining Women's Entrepreneurship

2.2.1 Entrepreneurship

The concept of entrepreneurship has given rise to various related terms, including entrepreneurial, entrepreneurship, and entrepreneurial process (Wickham, 2007, p. 5). According to (Wickham, 2001, pp. 5-9) the adjective 'entrepreneurial' describes how entrepreneurs undertake their work, while the entrepreneurial process refers to value creation.

According to (Wickham, 2001, p. 6) an entrepreneur is an individual who undertakes various projects to achieve a specific outcome and takes charge of the project is known as an entrepreneur. However, Burns, (2007, p. 9) suggested that there is no universal definition and suggests that:

"Entrepreneurs use innovation to exploit or create change and opportunity to make a profit. They do this by shifting economic resources from an area of lower productivity into an area's higher productivity and greater yield, accepting a high degree of risk and uncertainty in doing so." (Burn, 2007, p. 11).

Furthermore, Burns (2022), acknowledges that the definition of entrepreneurship has evolved over the past two decades, and can be described as a pattern or blend of social and technological change that presents an opportunity that can be successfully grasped by individuals possessing a particular personality type who are in the right place at the right time. Literature has shown that Information and communication technology (ICT) has facilitated the growth of self-employment, growth of SMEs, eased communication, enabled working from home, and allowed smaller market sectors to be serviced. As a result, SMEs in particular women entrepreneurs can take advantage of new markets and opportunities (Burns, 2007, pp. 8-9).

However, Rae, 2014, suggest that entrepreneurship creates value by exploiting a form of change, such as technology.

Thus, entrepreneur is a person who recognises and acts to exploit an opportunity. Entrepreneurs identify commercial opportunities, create new demand, and find new ways of exploiting existing markets.

Therefore, entrepreneurship is evolving, and it now emphasises the importance of contributing to an individual, creating social development and environmental value in addition to economic value while empowering marginalised communities.

2.2.2 Women Entrepreneurship.

According to (Sethi (1994) cited by Mukherjee, (2010) women entrepreneurship is an emerging reality and mainly an urban phenomenon where economic compulsion, collective forces of education and work experience has led most women, especially from the low socioeconomic strata, to opt for self-employment. Moreover, (Buttner and Moore, 1997, pp.34-46) defined an entrepreneur as one—who use their knowledge and resources to develop or create new business opportunities, who is actively involved in managing their business and own at least fifty percent of that business and have been in operation for longer than a year. According to (Etim and Iwu, 2019, p.1) entrepreneurship has traditionally been a more relevant topic to men, putting emphasis on new venture creation, successful entrepreneurship, growth, and access to finance.

Moreover, (Akehurst et al., 2012) suggested that a better understanding of women SMEs and success should consider factors such as motivations into entrepreneurship, barriers, and performance, which are instrumental in their success. However, (Calas et al., 2009; Hughes et al., 2012) in response to (Bowen and Hisrich, 1986) proposed for a career model that included determinates of women's entrepreneurial behaviour, suggested that a different model is needed to understand women's entrepreneurship, considering factors such as education (Sullivan and Meek, 2012) income, social and cultural norms, family responsibilities, infrastructure, self-perception, and politics (Ahl, 2006).

Moreover, (Sarfraz et al., 2014; Yadav and Unni, 2016) argue that the existing theoretical concepts do not explain the uniqueness of women entrepreneurship as a subject of inquiry and its significant role in economic development and entrepreneurship. Furthermore, (Brush and Cooper (2012) suggested that women entrepreneurship to date represents a vital component of the business sector worldwide. This is indicated in the growing literature on women's entrepreneurship, particularly in developing countries (Gundry et al., 2002) trying to identify factors more definite to women's entrepreneurship (Ahl, 2006; Synder, 2003; Stevenson and St Onge, 2005; Komunte et al., 2012). These debates and the ongoing research on women entrepreneurship have revealed that that entrepreneurship is a gendered phenomenon which is rooted in families due to entrepreneurial activities (Jennings and Brush, 2013) putting emphasis on the importance of human resources, which is a significant factor in economic development. Furthermore, this may be because the phenomenon of women entrepreneurship is new with previous mainstream literature focusing on male centred business model (Baker and Churchill, 1977; Jennings and Brush, 2013; Hirsch, 1990) or can suggest different conceptions and poor understanding of women entrepreneurship.

Literature on women entrepreneurship is steadily increasing (Gundry et al., 2002) particularly in the knowledge economy, putting emphasis on the meaning of women's entrepreneurship (Pathak et al., 2013; Ramesh, 2017) might be the sole reason. The other reasons might include the need to understand the gender gap in entrepreneurship and how to close it (Vossenber, 2013). Moreover, (Bullough et al., 2015; Nafukho et al., 2010) suggested the successful use of ICT to develop SMEs in developing counties. Additionally, (McLean et al., 2003) suggested that there is a link between developing human resources and national productivity and performance. The triumphs of women entrepreneurs in developing countries have shown the primary obstacles urban women entrepreneurs face while embarking on their entrepreneurial journey and how their involvement is crucial for economies to be well-rounded and sustainable (Byrne et al., 2019; Neumeyer et al., 2019). The support from local and international non-government organisations (NGOs) and governmental agencies have given impetus to women entrepreneurship.

The growing interest in the significance and contribution of ICT to women entrepreneurship and empowerment in developing countries promoted this research study. One of the objectives of this doctoral thesis outlined in Chapter 1, section 1.1.1, is to explore ICT use on SMEs, in developing countries.

Therefore, this study aims to explore the challenges and opportunities presented by ICT use on SMEs in developing countries in particular urban women SMEs and contribute to ICT and women's entrepreneurship in developing countries literature, which is overlooked in previous research.

2.2.3 In summary, section 2.2

This section explored a range of definitions, concepts, and components of entrepreneurship, specifically women entrepreneurship. It has become evident that there is no definitive definition of the phenomenon (Sethi, 1994; Burns, 2007; 2016; Wickham, 2007; Rae; 2014).

Additionally, the section underscored the mounting importance of women's entrepreneurship and the gender disparity that persists in developing countries. Consequently, comprehending the obstacles and motivations behind women's entrepreneurship, as discussed in section 2.4 (Gundry et al., 2002; Etim and Iwu., 2019; Brush and Cooper, 2012; Akehurst et al., 2012).

The following section presents the definition and role of SMEs in women's entrepreneurship.

2.3 Small and Medium Enterprises (SMEs) in Uganda

Literature indicates that in developing countries, small and medium enterprises (SMEs) make up about ninety percent of the private sector (Melhem and Tandon, 2009; World Bank, 2021). Women establish a considerable number of these enterprises either individually or through partnerships (Melhem and Tandon, 2009; World Bank, 2021).

Literature has suggested that different countries have their own definitions of what constitutes an SME (Frempong, 2009; Makoza and Chigona, 2012). For example, In Uganda, the most widely used framework the MSMEs National Policy 2015-2025, which replaced the MSME Policy 2011 (draft). This framework defines MSMEs in terms of the number of employees and annual turnover, as indicated in Table 2.1, encompassing all types of enterprises regardless of their legal forms or whether they are formal or informal (MITC, 2015). The inclusion of the informal sector in the MSME Policy 2015 is a significant move that recognizes, supports, and strengthens the role of MSMEs in Uganda.

To emphasize the importance of SMEs, the Ministry of Trade, Industry and Cooperatives (MITC) in Uganda has established the MSMEs 2015 Policy, with a mission to support and promote SMEs, particularly those owned by women (UNCTAD, 2023; MITC,2015). The economic importance of MSMEs and SMEs in general can be observed in different dimensions, including employment creation, contribution to GDP, and investment. These sectors significantly increase the average productivity of labour in Uganda. Acknowledging the contribution of women-owned SMEs to the economy (MITC, 2015; UIA, 2016 and UBoS, 2015) have highlighted how these enterprises provide employment opportunities and play a vital role in alleviating poverty within their communities (Fjose et al., 2010).

Furthermore, the Ministry of Trade, Industry and Cooperatives has developed the MSMEs Policy (2015-2025) and its implementation strategy 2016-2017 to address barriers to MSMEs development and guide the private sector as an important vehicle for knowledge exchange, technology and innovation development, research, and investment transfer to contribute significantly to sustainable and efficient value addition production (UNCTAD, 2023). The MSME Policy 2015 has led to achievements in accelerating Uganda's entrepreneurial culture and supporting informal enterprises, which is beneficial to women entrepreneurs in Uganda.

The policy's inclusive approach to all sectors and characteristics of MSMEs will encourage SMEs development and growth, enhancing its gender perspective to strengthen the support for MSMEs operated by women.

The Uganda Bureau of Statistics (UBOS), 2015) has adopted a categorization of enterprises based on the fulfilment of the minimum requirements of any two of the criteria of number of employees, capital investment, and annual sales turnover (MTIC, 2015).

Table 2.1 illustrates the characteristic of MSMEs in Uganda

Category	Number of Employees	Asset Value
Micro	0 - 5 employees	Assets not exceeding 10 million shillings
Small	5 - 49 Employees	Assets of 10 million100 million shillings
Medium	50 - 100 employees	Assets of 100-360 million shillings

Source: Uganda Bureaus of Statistics (2015); (Ministry of Trade, Industry and Cooperatives, 2015).

As indicated in Table 2, the characteristics of Ugandan, MSMEs (Micro, Small, and Medium Enterprises) are discussed below.

Micro Enterprises: These businesses employ fewer than five employees, with a turnover of less than 10 million Uganda Shillings. Examples include street vendors, hawkers, and those operating online (Ministry of Trade, Industry and Cooperatives, 2015).

Small Enterprises: These businesses employ fewer than ten employees and operate in both formal and informal markets(Ministry of Trade, Industry and Cooperatives, 2015).

Medium Enterprises: These businesses employ fifty to a hundred employees and have assets ranging from 100 to 360 million shillings (Ministry of Trade, Industry and Cooperatives, 2015).

SMEs play a crucial role in economic diversification due to their flexibility in responding to market demands (Ongori, 2009; Ministry of Trade, Industry and Cooperatives, 2015). They are essential for both developing and developed economies, revitalizing them during recessions and helping to reduce unemployment (Ongori, 2009).

2.3.1 Importance of SMEs

In Uganda, MSMEs are primarily concentrated in urban areas, especially in Kampala and the central region (Uganda Bureaus of Statistics, MSME Policy 2015). This private sector employs approximately 2.5 million people country making them the largest employers in the country (Uganda Bureaus of Statistics, MSME Policy 2015; (National Planning Authority, page 107). Therefore, this makes SMEs significance to sustainable growth and economic development of developing counties (Fjose et at., 2010). However, literature shows that there are few studies on specific roles and contribution of SMEs toward economic growth (Fjose et al., 2010). This can be attributed to the fact that, there is no since universal definition of SMEs as they vary with industry and whether they are informal or formal.

Literature suggests that although Uganda does not have a separate national entrepreneurship policy, it does have policies and strategies accumulated over the years that guide entrepreneurial activity (National Planning Authority, pg. 107). For example, the institutional framework provided by the National Development Plan III 2020-2024 aims to promote entrepreneurship (National Planning Authority, pg. 107) and the digital vision 2040 focus on private sector development and, importantly, the growth of MSMEs. However, the lack of coordination and partnerships has created a fragmented environment, hindering government institutions from strengthening collaborations.

2.3.2 Women and SMEs

According to the (Uganda Bureau of Statistics, 2015), the majority of MSMEs are of sole proprietorship operating the informal sector. Accounting for More than fifty percent of the Ugandan labour force are women and are an important pool of potential talent for the country's development goals, particularly in the areas of entrepreneurship (Ministry of Trade, Industry and Cooperatives (MTIC), 2015; Uganda Bureau of Statistics, 2015 ; Benzing and Chu, 2012).

For example, MSMEs account for ninety percent of the country's employment, job creation, poverty reduction and contribute eighteen percent of the country's GDP and are crucial for the country's economic development (Ministry of Trade, Industry and Cooperatives [MTIC], 2015; Rooks and Sserwanga, 2009; Uganda Bureau of Statistics MSME Policy, 2015). However, regardless of women SMEs economic contribution and the majority actors in Uganda's private sector (Sawhney et al., 2022), the SME sector is like other developing countries, that centred approaches to boost their contribution to the sector remain low and mostly of micro scale nature.

Moreover, some studies (GEM, 2012; Mastercard, 2022; Ministry of Trade, Industry, and Cooperatives (2015) have indicated that SMEs in developing countries have a high rate of failure, with one-third of new start-ups not going beyond one year. The failures of SMEs are a result of several challenges such as low levels of technology, and inadequate entrepreneurial ability and financial barriers. The (Ministry of Trade, Industry and Cooperatives [MTIC] (2015) assesses that because of various challenges such as financial barriers, lack of business knowledge, social barriers that make women entrepreneurs less accepted in society which makes women-led enterprises only contribute to about one percent of their market value (Mastercard, 2022). Furthermore, women entrepreneurs work from home, due to social norms that restrict their mobility. Flexible working arrangements suit them due to household responsibilities which affects their ability to make decisions (Mastercard, 2022; Ministry of Trade, Industry, and Cooperatives, 2015).

Although gender mainstreaming does not adequately address the gender bias that Ugandan women entrepreneurs face, the Ugandan government policy documents acknowledge the need to mainstream gender in all development (Ministry of Trade, Industry and Cooperatives [MTIC] (2015). Therefore, there is a need for practical solutions not theoretical solutions from the government, and other bodies to support SMEs in adopting technology, to boost productivity and improve profitability (NPA, 2021) as the current legal framework that supports MSMEs is fragmented, making it difficult to comprehensively assess how they are benefiting MSMEs (NPA, 2021). The following section presents some of the challenges making SMEs to implement ICTS as a competitive tool.

2.4 Challenges of Usage, Access, and Ownership of ICT in Women Entrepreneurship

One of the objectives of this study (Chapter 1, Section 1.2) is to examine ICT as a supporting tool for enterprise growth and empowerment. Previous studies (Hafkin and Taggart, 2001; Downing, 2005; Prasad and Sreedvi, 2007; UNCTAD, 2014) found that some of the key challenges hindering ICT use in SMEs were high costs, limited resources, online security concerns, social capital, lack of extensive networks, insufficient institutional facilities, inadequate finance (income, savings, collateral), lack of awareness of facilities and support services, poor information flow, socio-cultural, familial, and economic barriers impeding the enterprise growth making them non-profitable (Ddamulira, 2018).

A further review of the literature, (Chinomona and Maziriri, 2015; Goyal and Yadav, 2014) found further challenges preventing SMEs in adopting ICT. The key factors include gender digital divide, generation digital divide, rural-urban divide, weak ICT infrastructure, access to finance, policy and regulatory constraints, power outages, education and digital literacy, business size continue undermining and limiting women's entrepreneurial progress and access to technology in developing countries (Goyal and Yadav, 2014) suggests that there is need to address these complex challenges in a comprehensive manner, which can assist research and policy work on women entrepreneurs in developing countries.

This subsection will shed more light on some of the key challenges SMEs in developing countries face in adopting ICT.

Gender digital divide is one of the biggest challenges. The gender digital divide refers to the unequal distribution of internet access and technology resources between diverse groups. Literature has shown that in developing countries, the digital divide is of increasing concern, if access to and use of the ICTs is linked to social and economic development.

Therefore, it is imperative to ensure that women in developing countries understand the significance of these ICTs to business growth and empowerment (Hafkin and Taggart, 2001) states that , if not, lack of access to ICTs becomes a significant factor in further marginalisation

of women from the economic, social mainstream of their countries and the world. Previous literature has shown that in developing countries, enterprise ownership is challenging (Hafkin and Taggart, 2001) and can affect both women and men, but women entrepreneurs are more affected (Kantor, 2001). For example, the female gender career path is decided from birth due to traditional beliefs (Delmar and Holmquist, 2004). Thus, right from the start of the women entrepreneurial journey experience bottlenecks.

Excessive costs of data and services: Previous studies (Maier and Reichert, 2008; Hafkin and Taggart, 2001; Mugoshi, 2013) states that excessive costs of ICT acquisition and implementation presents major challenges to WSMEs in most developing countries. For example, excessive costs of ICTs impact adoption in most women owned SMEs. Moreover, (Chen et al., 2006), states that consumers must deal with non-negligible costs in switching between varied brands of products or relative services in various markets.

Similarly, (Agboh, 2015), states that the cost of ICT threatens future investments in ICT by SME, unsupportive communication infrastructure all lead to high charges and limit coverage, discourages SMEs from adoption basic ICTs. Therefore, for women entrepreneurs to invest in ICTs such as SMART phones, equipment costs, access cost and transaction fees are key components, in an individual decision to opt or invest in a better technology to run their enterprise (Hafkin and Taggart, 2001; Mugoshi, 2013).

However, most women SMEs in developing countries may not find these costs beneficial or necessary when it comes to using ICT services for business tasks (Maier and Nair-Reichert, 2008; Mugoshi, 2013; Uganda Investment Authority [UIA] (2016); Larson, 2000). For example, In Uganda, the Alliance for Affordable Internet A4AI reports that the country's new social media tax will make basic connectivity even less accessible for millions (Creative, 2018). This, along with new levies on mobile money transactions and over-the-top tax (OTT), has significantly impacted women SMEs in Uganda who rely on digital financial services (i.e. mobile money payments) and online marketing, as their customers can no longer afford to send money through mobile money agents or pay for internet access (Gillwald et al., 2019).

Weak communications infrastructure: Previous studies suggested that most developing countries, face challenges with limited telecommunications infrastructure. Network infrastructure availability is also a significant challenge for most SMEs (Jorge, 2002; Gillwald et al., 2019). While most countries like Uganda are taking solid initiatives in the transition to an information society (Gillwald et al., 2019) by setting up sound ICT infrastructures, such as Internet connectivity and mobile broadband infrastructure, issues such as poor network services by telephone providers(i.e. MTN and Airtel) have prompted many women entrepreneurs to own two mobile phones (see Chapter 4 section 4.5.4) to be able to run their business effectively. For example, in case of poor network connectivity or service failure (Jorge, 2002) the user can switch between networks.

Moreover, the lack of access to modern digital ICTs like smartphones, laptops, social media, and the internet in developing countries means that few women microentrepreneurs have direct access to the ICTs needed to operate their businesses (Duncombe, 2007; Sey and Fellows, 2009). To overcome these barriers, Antonio and Tuffley (2014) suggest that educating people on how to facilitate access and alter attitudes is necessary to reduce internet access inequality. However, most women microentrepreneurs in developing countries only have access to traditional ICTs like radio, and even access to personal landline telephones and television depends on the local telecommunications and physical infrastructure (Duncombe and Heeks, 2005; Wolcott et al., 2008).

Inadequate energy infrastructure: Uganda's infrastructure for power generation, network coverage, transmission, and distribution leading to power shortages, loadshedding were a major hinderance and has resulted in inadequate and costly telecommunication services, leading to high business costs (Gillwald et al., 2019). Severe, electricity shortages have constrained many SMEs successfully adopting ICTs (Ssenono et al., 2021). The ICT devices that support ICT use are adversely affected by intermittent electricity and black outs. For SMEs who rely on technology such as conducting online transactions and ICT devices such as charging of mobile phones, cannot be carried out without electricity. Thus, in Uganda, the general electricity shortages are a major constraint to transforming a traditional SMEs to online ICT system (Gillwald et al., 2019). Although SMEs had alternative options, such as generators it is another unwanted cost for MSMEs (Mutenyo et al., 2022).

Generation digital divide: The literature states that younger generations tend to be more tech-savvy, while older generations may require additional support with ICT (Wey Smola and Sutton ,2002; Gillwald et al., 2019). This divide stems from the fact that each generation grew up with different technological advancements, which can sometimes create a communication barrier between different age groups. Wey Smola and Sutton (2002) state that these generational differences can hinder participation in the use of ICT. However, Hughes (2003) states that the ICT access gap is not necessarily reflected in a difference in appreciation for its usefulness.in access to ICT.

Rural and urban divide: According to Uganda Bureau of Statistics [UBOS] (2021) Uganda National Household Survey (2019/2020) Kampala, the capital city, has a better ICT infrastructure than the rest of the country. Digital divide exists between urban and rural areas in most developing countries (Gillwald et al., 2019). The Uganda National Household Survey (2019/2020); [UBOS] (2021) found that only 18 percent of Ugandans reside in urban areas, resulting in a significant urban-rural divide in access. Literature states that more investments in ICT due to the advancement of mobile and cloud technologies, which can enable easy access from anywhere, for example, if internet enable mobile phones are made affordable to even the disadvantaged, can solve mobility and make it easier for women entrepreneurs to achieve a work-life balance and save costs.

Lack of access to finance: Empirical studies (Hisrich and Brush, 1984) have argued that one of the prerequisites for starting a business is capital (Asiedu et al., 2013; Agaya, 2018) found that access to affordable finance is one of the most significant constraints on SME growth in developing countries. The availability of, and access to finance is a critical element to the start -up and consequent performance of any enterprise (Marlow and Patton, 2005). Financial inclusion is a developmental problem in developing countries when it comes to women (Kedir and Kouame, 2022). For example, in Uganda access to credit is not a guarantee for women (Gillwald et al., 2019; Hafkin and Taggart, 2001).

Secondary, (Brush and Brush., 2006; Acs, 2006) found that female headed households claim that their inability to save up their start-up capital prevents them from engaging in business activities.

In addition, most women entrepreneurs rely on savings or informal loans from their families and friends to start up a business. For instance, in Uganda, Insufficient capital at starts up level impacts the survival rate of most women SMEs, impacting on the providing employment, and improving their status (Gillwald et al., 2019; Hafkin and Taggart, 2001).

Thirdly, (Ascher, 2012; Nziku and Henry, 2021) found that gender discriminatory property and inheritance practices in most developing countries limit women's access and control over resources, resulting in a lack of assets that makes it difficult for them to access funding, a factor which is affecting SMEs development. However, (Ishengoma, and Kappel, 2007; Asare-Yeboah et al., 2018), stated that another justification can be due to differences in social contexts, which shape the networks available to women entrepreneurs. In countries, such as Uganda, women enterprises are home based due to family responsibilities (Ishengoma, and Kappel, 2007; Asare-Yeboah et al., 2018) combining economic and social responsibilities which affects the financial requirements (Marlow et al., 2013).

Policy and regulatory constraints: (Gillwald et al., 2019) suggested that women entrepreneurs need more supportive policy formulation and regulatory environment to enable them to run their enterprises effectively. Despite Uganda having various laws and policies promoting gender equality, such as the ICT Policy and Vision 2040, strategy, none of these policies specifically addresses the digital gender divide, which is persistent in Uganda (Gillwald et al., 2019). This disconnects in gender-specific policies has resulted in knowledge gaps and bureaucratic complexities for women-led initiatives. Furthermore, efforts have been made by ICT governmental departments (NITA-U) by implementing initiatives such as free public Wi-Fi (MYUG WIFI) in some areas of Kampala, which has proved fruitless as it is not accessible to women enterprises. This free MYUG WI-FI service is only available starting at 6.00 pm when they are typically occupied with family responsibilities (Hafkin, 2002). This highlights the issue of gender in ICT based initiatives which are rolled out by the government to initiate the process of ICT adoption through easy access. If SMEs can get free access to Internet, technology can provide life-changing opportunities and benefit to women, their families, communities, and the economy (Women, 2019; GSMA, 2013).

Lack of education and digital literacy training to use technology effectively: Literature has shown that the field of ICT remains untapped, for women who lack adequate ICT skills and knowledge. Previous literature (Omwenga et al., 2013; Matangi et al., 2013) stated that many women entrepreneurs in Uganda lack education and are unaware of the development of recent technologies. Women need ICT training to use the available ICTs and ICT related devices such as accessing Internet, created websites, communication skill such creating and sending e-mails. To fully embrace ICT and create value, women entrepreneurs must understand develop ICT skills through training programs. According to Urbina and Abe (2017), thirty-six percent of non-internet users in Uganda are women, with twenty-three percent lacking ICT skills and thirteen percent not requiring internet access. Copley, 2021 advocates for training women with skills that foster a growth-oriented mindset.

(Hafkin and Taggart, 2001; Marlow et al., 2013) found that cost is a major factor affecting women's access to ICT education and training. According to (Hafkin and Taggart, 2001), women at grassroot level cannot afford fee-based training course offered at private training centres. (Hafkin and Taggart, 2001) stated that women are less likely than men to have funds available for tuition of fees because they have less control over family income in most developing countries. Furthermore, (Hafkin and Taggart, 2001), stated that the lack of appropriate skills, low technological knowledge, and limited access to markets and training programs are significant barriers due to the institutional culture in which affects the schooling system, in most developing countries, where the training offered also determines women's likelihood of accessing ICT training.

This is particularly the case for STEM (Science Technology Economics and Mathematics) courses offered at university or technical colleges in developing countries were few women enrolled on such courses. Hafkin and Taggart (2001) suggested that with basic literacy skills, brings ease of use to technology. (Hafkin and Taggart, 2001; Kotelnikov, 2007) states that ICT literacy among women SMEs must be improved to select appropriate technology and fully comprehend the potential benefit to their business.

According to ICRW, (2019) if women in Uganda can access proper education, professional and entrepreneurial lives will improve. In addition, governments should develop and implement training programs to support the upliftment of women entrepreneurs (Sharma and Maheshwari, 2015). Therefore, governments should prioritise providing ICT education at all levels of education given that most girls drop out early . For example, according to (UBOS, 2021), 51 percent of the Ugandan population are women who can be empowered to take advantage of the countless opportunities offered by ICT.

Access to Markets and information: Despite most governments in developing countries making efforts in providing women with market-related information stay limited, and programs linking women's microenterprises do not explicitly consider women's enterprises, or involve women in trade missions to other countries, the number of women exporters remains exceedingly small. For example, the "Access for Developing countries Businesswomen in International Trade" (ACCESS) program, launched by the International Trade Centre (ITC) and the Trade Facilitation Office of Canada (TFOC), (ITC, 2024) aims to offer women exporters in developing countries such as Uganda access to training and counselling services to enhance their export activities (ITC, 2024; Hafkin and Targatt, 2001, p. 2). The access fund is one of the solutions to the challenges faced by women entrepreneurs in developing countries as they seek to access new markets in a digital global trading system.

This ICT initiative is empowering women entrepreneurs in developing countries to thrive in the global marketplace will help bridge the gender finance gap as it is estimated that one in five exporting enterprises are led by women (ITC, 2024). The available ICT tools, such as mobile phones, commonly used by women in developing countries, play a critical role in narrowing the financial gap and enabling financial inclusion by empowering women-owned enterprises to thrive. This ICT initiative is therefore a wise investment in women SMEs, as it not only empowers individual women entrepreneurs, but also triggers a chain reaction of development and success that resonates beyond societies and countries worldwide (ITC, 2024). Furthermore, this initiative is significant in empowering women entrepreneurs, as these women-led SMEs not only generate income and provide job opportunities but also offer services and goods to meet the needs of society at a local level.

The ACCESS program is suitable and effective for women's development in developing countries, especially in providing women enterprises with access to wider markets and control over the supply chain (ITC, 2024). However, additional resources and advocacy, as well as partnerships with various stakeholders (see Figure 2.2), are required for most developing countries, such as Uganda, to benefit from such a program (ITC, 2024). Literature has emphasised that women SMEs have the potential for growth and innovation, but women face challenges in accessing the financial support necessary to leverage the potential of an ICT-based economy and business networks for the growth of their enterprises and engagement in international trade, as some of the major challenges faced by women SMEs in developing countries (ITC, 2024; Komunte et al., 2012; Hafkin and Taggart, 2001; Kotelnikov, 2007).

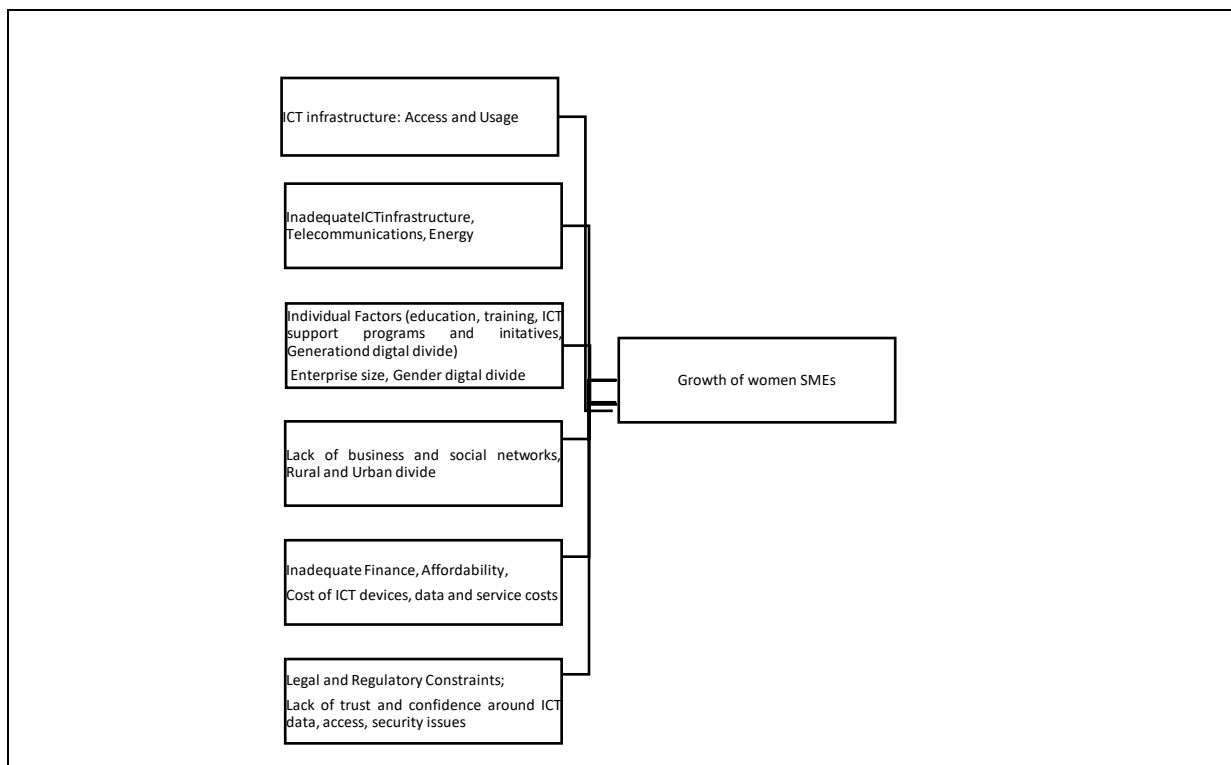
Enterprise Size, Relevance: Empirical studies (Hafkin and Taggart, 2001; Brush, 1992; Carter et al., 2007) states that there is an increasing number of women in developing countries running SMEs many of them in the informal sector (Moore, 1990; Renzulli et al., 2000). For example, in Uganda, women are the majority of an estimated ninety percentage of non-agricultural private sector employment in the country (Heeks, 2017). According to (Ishengoma and Kappel, 2007) due to the size of women enterprises which operate at micro level affects their purchasing and bargaining power in obtaining credit due to the excessive cost of obtaining credit risk collateral. (Abebe and Kegne, 2023) states that women entrepreneurs to have a high percentage of obtaining credit must apply for urban finance through microfinance institutions, SACCOs, or local commercial banks. However, accessing credit remains difficult for most women entrepreneurs.

Furthermore, (Klapper et al., 2009; Elk et al., 2014), stated that complex administrative procedures and high business registration costs can be significant deterrents to formalising a business at micro level. Moreover, de Soto (1989) has examined the relationship between informality and business growth among microenterprises. The United Nations (2014) report suggested that if these barriers to formalisation are eased, SMEs are more likely to register, borrow, and grow, generating economic development. This highlights the importance of assessing the extent to which business registration and licensing procedures in Uganda are gender sensitive.

According to Kibera and Kibera (1996), a lack of business and management skills is a factor that contributes to lower growth and profit potential among businesses owned by women entrepreneurs, particularly in markets with poor demand and management.

Language content: Most advanced ICT products are designed for larger firms and not SMEs. According Vossenberg (2013), women entrepreneurs face challenges due to their need for technological expertise. Additionally, SME owners may need help with language barriers, as most websites use English as a communication medium despite their familiarity with urban languages. Hashim (2007); Rauch (1991) suggested that SMEs face further obstacles, as workers with less entrepreneurial talent and education tend to find jobs in the informal sector, leaving those with more outstanding human capital to migrate to better-paying jobs in the formal sector. La Porta and Shleifer (2014) stated that only unregistered SMEs transition from the informal to the formal sector but eventually disappear because they cannot compete with much more productive formal enterprises. The formal sector experiences economic growth, because these enterprises are run by educated entrepreneurs and achieve higher productivity (La Porta and Shleifer, 2014).

Figure 2.1 Summary of the factors on growth of urban women SMEs in Uganda



Source: Authour

2.5 ICT and Women Entrepreneurship: Outcomes and Benefits

According to (UNCTAD, 2022) ICTs whether traditional or recent, have a potential to promote women entrepreneurship, offering new opportunities to start and grow businesses. Moreover, (Donner and Escobari, 2010) stated that rural women attending ICT training saw ICTs as a tool for increasing their economic empowerment. Similarly (Motilewa, Onakoya and Oke, 2015) indicated that women entrepreneurs in Nigeria were aware of new opportunities created by ICTs. These women acknowledged the benefits of ICTs in terms of greater flexibility, time saving and work-life balance. Specifically, ICT has the potential to improve efficiency and lower costs. Firstly, have an online business presence in form of e-commerce is comparatively less costly than opening a physical store and important benefit for women entrepreneurs in developing countries, whose access to financial services is limited by lack of collateral. This helps urban women entrepreneurs benefit by saving travel time between markets and suppliers, enabling them to manage paid and unpaid family activities easily. This can help bridge in breaching social barriers in developing countries, as ICT help in enabling women entrepreneurs to broaden their social networks and build solidarity with others (Hou, 2013).

According to Jain (2006) using mobile phones has shown how technology can benefit women's lives by saving time on travel between markets and suppliers, allowing them to call for product prices and facilitating the juggling of paid and unpaid family activities. However, Wamala (2012) stated that women entrepreneurs who use ICT can manage their time better, which is one of their significant challenges. Integrating ICT into their businesses has helped them become aware of modern business processes through e-commerce, social media. Moreover, Kamberidou (2013), stated that the number of women owned enterprises has been increasing due to social media, and the Internet, thus improving their microenterprises. Women entrepreneurs can stay connected directly to markets at local, regional, national, and international levels and do marketing online.

Affordable access to ICTs can enable entrepreneurs to communicate better along the value chain, cutting costs and facilitating faster communication with customers and suppliers.

ICT can also help SMEs better promote their products or services through online presence and improve their internal processes (UNCTAD, 2014) by eliminating go-between and avoid negative influences of male-dominated features of traditional structures (Suresh, 2011).

E-commerce in developing countries is relevant and beneficial for underrepresented groups in entrepreneurship such as women, as it minimised gender and race invisibility. (Martin and Wright (2005); Hafkin and Taggart (2001) argued that ICT access is cost-efficient as it allows women entrepreneurs to access markets from their homes and sell their products at the highest possible profit. This gives them broader access to regional, national, and global markets. ICT also allows them to sell their products directly online, maximising profit and, similarly, purchasing inputs directly, which reduces costs. ICT has opened doors for SMEs to discover various financial and other resources. Accessing financing at a lower cost is a challenge for SMEs. However, ICT has enabled women entrepreneurs to explore the online financial market, gather information, and compare borrowing options. Mobile banking has seen remarkable success globally, particularly in developing countries.

Secondly, ICT offers women entrepreneurs benefits such as online communications and networking, offering a new form of social interaction, significantly increasing women's social prospects (Sicat et al., 2020). For example, advanced communication technologies such as WhatsApp and email can help these SMEs communicate faster and more affordably with suppliers and customers. Moreover, (Martin and Wright, 2005; Ukpere, Slabbert and Ukpere, 2014) states that online interactions offer women entrepreneurs cost saving by minimising the travel time between markets and suppliers, thereby facilitating the management of paid and unpaid family tasks. In addition, good customer, and supplier relationships, increase sales and customer acquisition, facilitate knowledge acquisition, share experiences, pinpoint the ideal sales timing using ICT Jain (2006) and knowledge, keep up with current market trends and support growth and sustainability, which help women entrepreneurs succeed in their businesses.

Thirdly, ICTs give women entrepreneurs easier access to knowledge (Loane, 2005). In developing countries, traditionally women are limited to the male domain, such as market values, business trends and consumers behaviour and thus contribute to women markets intelligence (Sicat et al., 2020).

In today's information society, having up to date information is important for businesses especially those in the informal sector. For instance, Uganda is an agricultural country with a high concentration of women-owned SMEs in the informal sector (Synder, 2000).

These businesses need more information about the demand for their products and services to avoid low entry, exit, and low-yield markets (Komunte et al, 2015). Moreover, UNCTAD (2011) found that ICT is increasingly a prerequisite for integrating global supply chains and linking small businesses with larger ones. Women-owned enterprises, particularly MSMEs, risk becoming marginalised from international markets if they need access to ICT (UNCTAD, 2011). Therefore ICT, particularly the Internet, has given women entrepreneurs the same information tools as men to use in their economic activities (UNCTAD, 2014).

Fourthly, the advantages of financial technology, commonly known as FinTech, are gaining popularity, and yielding impressive results in digital monetary management (Ufia et al., 2023) in developing countries. Digital payments, such as mobile money (e-wallets), have simplified the traditionally time-consuming payment methods, making them accessible, user-friendly, and secure (Patil et al., 2018; Bazarbash et al., 2020). This is assisting MSEs in maintaining sufficient working capital to meet daily business needs (Chernov, 2020). In cash economies like Uganda, women SMEs typically use cash transactions for buying or selling goods and send cash to the bank for business transfers. Benzing and Chu (2009) suggest that the use of ICT, such as mobile phones with mobile wallets, could lead to women SMEs accessing formal financial services, potentially driving growth and expansion.

Additionally, mobile banking applications in business, for instance, MTN MoMo, and MyAirtel offer unbanked women entrepreneurs the option of having a mobile money account, providing an economical alternative and independence (Koomson et al., 2023; Dorfleitner; 2022; GSMA, 2022). This is a more effective way of ensuring financial access and credit for the unbanked population. Therefore, in this study ICT is theorised as a strategic process which aims to stimulate productivity, foster business growth, empowerment, increase financial capital and assets for women entrepreneurs (Sarangi and Pradhan, 2020).

However, it is important to note that the adoption and impact of ICT tools can vary based on socio-economic factors within the regions where the enterprises operate. For example, disparities in education, income, and communication factors can lead to different outcomes in business performance (Geng, 2023). Despite the potential benefits of ICT for women in developing countries, (McGowan et al., 2012) found that women are still underrepresented and confront challenges such as limited use or access to ICT tools and training in the ICT sector (Kamberidou, 2013).

The following subsection will highlight ICT access and usage in urban women enterprises in Uganda.

2.6 ICT Acceptance and Usage in Urban Women Enterprises: Growth & Empowerment

ICT has become a critical growth tool in developing countries (Hafkin and Taggart, 2001) with the mobile phone being the most crucial component (Solomon and van Klyton, 2020). One of the most significant factors is the reduced cost of mobile technology, which has enabled marginalised groups, such as women, SMEs and households, to incorporate technology into their daily routines. In developing countries, the mobile revolution has been particularly beneficial to women entrepreneurs, who have connected with customers and improved their operations (Solomon and van Klyton, 2020). Best practices in digital technology have enhanced SMEs' growth in general (Zhu, et al., 2022) due to shifts in consumption patterns, business competition, and a supportive environment, SMEs have increasingly adopted digital platforms for growth (Fauzi and Sheng, 2020). The potential growth of mobile technology has changed the traditional value chains. It has become accessible to underserved groups, particularly women, helping women microentrepreneurs grow their businesses, increasing the marketing of goods and services, and giving SMEs an online presence. Consequently, it is becoming a norm to own a mobile phone, regardless of age.

The potential of ICT to enhance one's social transformation and economic growth is evident in Uganda. According to the [UBOS] (2021) Uganda National Household Survey (2019/2020), Uganda's population is increasingly getting connected to digital information via mobile phones and Internet services.

Moreover, (Venkatesh and Davis, 2000; Ozsungur, 2019), views on feelings, expectations, performance, and essential sentiments play a significant role in an individual accepting a technological product and its innovations. Skills training and awareness heavily influence the adoption and usage of ICT among women-owned microenterprises (Ozsungur, 2019). Moreover, Nikulin (2017) found that ICTs can enable the inclusion of low-skilled and traditionally marginalised groups, such as women, into the labour market.

This research study highlighted the positive impact of ICTs on women's labour force participation in developing countries. In Uganda, the government has introduced multiple ICT-based initiatives and training programs specifically designed for women entrepreneurs. In addition, urban women's support organisations provide ICT training to grassroots-level women entrepreneurs and help them access the Internet. As a result of these ICT training programs, most women SMEs in Uganda use simple ICT tools such as mobile phones for voice calls and messaging and traditional technologies like radio, fixed landlines, and television, as well as more advanced tools like email, WhatsApp, social media, Internet, and computers to improve their enterprise performance and processes. (Ndubisi and Kahraman, 2005; Hafkin and Taggart, 2001) states that while the extent to which these technologies are adopted varies among micro-enterprises, the overall trend is towards increased use of ICTs in every business sector, especially in urban cities. Given the demonstrated benefit of incorporating ICTs into women-oriented businesses, technology can create opportunities and support entrepreneurial interests (Ndubisi and Kahraman, 2005).

Literature suggests that the increased use of ICT in SMEs is due to the following factors:

Social Influence: Previous research has shown that undoubtedly, social influence holds a significant impact in shaping several aspects of our lives (Venkatesh and Morris 2000; 2003) perceived usefulness of technology and people's behavioural intention to adopt the technology. Highlighting the critical role social norms and context play in creating awareness, access, and adoption of ICTs. As more technologies emerge, particularly social technologies, social influence may become even more critical in determining which technologies succeed.

Therefore, understanding how social influence, such as demographic antecedents, beliefs, and users' attitudes in the sector, affects technology adoption in women SMEs in Uganda is essential for this study.

Perceived Usefulness and Perceived Ease of Use: Several studies (Davis, 1989; Venkatesh and Davis, 2000; Agarwal and Prasad, 1997; Igbaria et al., 1997; Mathieson, 1991) have demonstrated the usefulness of the technology is a significant predictor of TAM2 (Venkatesh and Davis, 2000) constructs are valid, indicating the significance of perceived usefulness in their technology adoption decisions for many SMEs owners. Although there are non-significant effects, perceived usefulness remains a critical factor in technology usage by women SMEs.

According to Pipitwanichakarn and Wongtada (2019), the more valuable women perceive technology to be, the more likely women entrepreneurs are to use it. This aligns with Davis (1989), Venkatesh and Davis (2000); Ndubisi et al., (2003), who emphasise the importance of perceived usefulness in driving technology adoption in SMEs. Moreover, (Adams et al., 1992; Igbaria et al., 1997) state that ease of use plays a significant role in ICT adoption, while ease of use does not directly influence technology usage, it can be a deciding factor when women entrepreneurs consider easy-to-use systems useful. This highlights the importance of considering contextual factors such as business size and geographical location when assessing ease of use. For instance, ease of use in developing countries may vary from that of developed nations.

Experience: In Uganda, female microentrepreneurs are exploring the potential of ICTs, which may eventually become more user-friendly. (Davis et al., 1989; Venkatesh and Davis, 2000) state that ease of use of technology can play a crucial role in its initial adoption, but sustained usage decisions may depend more on the perceived benefit over time. This is reflected in the strong productivity orientation often seen in technology usage decisions, as users believe that continued use will yield significant advantages (Venkatesh and Brown, 2001).

Despite this, scholars such as Cataldo et al., (2020) have observed that women-led SMEs in developing countries are often hesitant to embrace (ICT). Moreover, (Chakraborty and Al Rashdi, 2018) argue that pre-existing beliefs and attitudes can heavily influence decisions around ICT adoption.

Trust: In electronic exchanges, trust is a critical concern associated with risk. Jarvenpaa et al., (2000) states that trust is a pivotal part in e-commerce, which is more complex than traditional business transactions. Networks are also crucial in any e-purchasing website (Lim et al., 2008; Lim, 2015) and a prominent level of trust in a particular website can enhance customer confidence. Therefore, trust plays a significant role in a both enterprise owners and customer's decision to use an application and purchase (Yoon and Kim, 2001). However, it is essential to note that some experts argue that women entrepreneurs often perceive and adopt ICT sceptically, and pre-existing beliefs and attitudes frequently influence their decision to use these technologies. For microenterprises, trust is a determining factor in the intention to use ICT and the Internet.

Enterprise Size: A diverse range of businesses, encompassing micro-enterprises and large corporations, characterises Uganda's business landscape. While MSMEs form a huge portion of this sector, women entrepreneurs need to catch up to larger firms regarding their digital footprint and adoption (ICT). Thus, the growth prospects of MSEs hinge on owners' ability to embrace innovative technologies that can optimise their business operations (McGowan and Durkin, 2002).

ICT Infrastructure: According to the United Nations Conference on Trade and Development [UNCTAD] (2023) women currently need more basic information and communication technologies infrastructure and low levels of digital literacy as these factors directly impact their ability to flourish and prosper. According to (NITA-U, 2021) the Ugandan government has expanded digitisation in the economy, thus enabling marginalised groups to access ICT. The Ugandan government is bolstering the country's ICT infrastructure (NITA-U, 2021) which will drive economic growth and support women-owned businesses, Improved access to ICT can benefit MSMEs (Gillwald et al., 2019).

Internet access to narrow the digital inclusion gap: To achieve digital inclusion, in most developing countries, the Internet must be accessible and affordable. However, women entrepreneurs in particular SMEs owners, often need help with affordability issues with their ICT-based businesses due to the excessive cost of mobile phones. Literature has suggested that public telephones can play an essential role in providing market information to most SMEs. For example, telephone services, both landlines and internet enabled phones(i.e. mobile phones) can help women entrepreneurs identify market niches, analyse competitive behaviour, and connect with buyers and sellers.

However, gender-related barriers (Hafkin and Taggart, 2001) can restrict women's access to and use of ICT, so it is crucial to acknowledge and address these obstacles to promote women's entrepreneurship and enterprise growth through ICT (Ukpere et al, 2014). Institutional, organisational, and regulatory factors also play a critical role in shaping the economic landscape for microentrepreneurs, with branchless banking regulations and mobile technologies leading to a shift towards more individual-based lending. Investing in technology can be quite expensive for SMEs. As a result, the decision to adopt technology suitable for their business lies with the business owner.

Additionally, despite being aware of the significant benefits of digital communication techniques at various business stages, including growth, having an online presence, stability, and slowdown, only a few MSMEs due to the size and sector are adopting them. This is because lack of ICT awareness and most digital marketing literature focuses on large businesses, making it difficult for MSMEs to access the necessary information.

The next section draws on how different stakeholders are supporting ICT use in SMEs.

2.7 Supporting Women's Entrepreneurship: Stakeholders and ICT

Empirical studies have indicated that the role government in supporting SMEs in ICT transformation is debatable). However, some studies argue that the government played a vital role in developing ICT capabilities and focus on creating an enabling environment that support entrepreneurship and development of ICT solutions and growth of MSMEs rather than directly funding them.

Previous studies have shown that developing countries (i.e. Uganda, Kenya, and Rwanda), recognises the importance of technology and has implemented a digital strategy to promote data inclusion and empower its citizens (UNDP, 2007). However, despite the development of policies for supporting SMEs many still lag.

Various stakeholders as can be seen in Figure 2.2, shows the ICT and entrepreneurship ecosystem support efforts to achieve digital inclusion. According to Maplecroft (2009), these stakeholders include the government, which leads the development of policies, initiatives, and programs for women's entrepreneurship and digital inclusion. The private sector, which develops and distributes technology for infrastructure, content, and applications; civil society, which engages citizens in technological activities for digital inclusion; and international and regional institutions, which provide resources for digital inclusion.

Due to the limited data, many previous studies exploring MSMEs ICT use in business activities on accessing internet, mobile usage, without specifically focusing on whether these activities relate to their business (Ilavarasan, 2019). For the case of Uganda, more research is needed on how WSMEs are using usage of ICT for business activities and what problems and opportunities they face. Therefore, this study will help to fill the gap by providing empirical qualitative study exploring the extent and impact of ICT use on SMEs in developing countries focusing mainly on urban women enterprises in Kampala, capital city of Uganda (see Figure 2.2) supporting ICT use for enterprise growth and women's empowerment in Uganda.

Government policies and interventions: Governments play a vital role in fostering economic growth in both urban and rural areas by establishing policies that promote job creation and enterprise development. These policies could include tax incentives and investment opportunities. In addition, it is important to have institutional structures that support women across government Ministries, Departments, and Agencies (MDAs) as well as the private sector. The major government MDAs in Uganda that contribute significantly to the country's development are the Uganda Investment Authority (UIA), MoGLSD, Ministry of ICT, MTIC, Uganda Manufacturers Association (UMA), Uganda Industrial Research Institute (UIRI), and Uganda National Bureau of Standards (UNBS).

The Ministry of Communications of ICT in Uganda (MoICT) and NITA-U are at the forefront of IT policy making, often seeking the assistance of the national telecommunication regulatory body to reinforce the technical aspects of the exercise. These ministries must collaborate and understand the ICT needs of rural and urban women entrepreneurs and develop policies to ensure ICT inclusion for all. To make ICT relevant to micro-enterprises, particularly those in urban areas with better infrastructure, increasing awareness about the value of ICT is a crucial step to encourage behaviour change in ICT use and access. To promote the access of ICT in the urban areas of the country, NITA-U introduced an access program to enhance businesses operating in urban areas including women led enterprises.

MYUG Wi-Fi is a Free internet access service introduced by the National Technology Authority Uganda (NITA-U) to offer free internet access to e-government services (NITA-U, 2021). Though this access initiative, was for inclusiveness, it has failed in some respects as it is not gender sensitive. This access program did not fit its purpose as for those women owned enterprises who tried to access the free internet service. The free internet services were between 6.00pm and 6.00 during weekdays and Saturdays 3pm to Monday 6am (NITA-U, 2021). These times are not practical for women who are multi-tasking their business and home responsibilities. Very few women SMEs could benefit from the service.

The government of Uganda has recognised the immense importance of ICT in achieving its national Vision 2040 (Gillwald et al., 2019). To enhance digital literacy, ICT skills, and knowledge, the government is committed to upgrading and refining its ICT knowledge base, as well as establishing comprehensive, high-speed, and intelligent ICT infrastructure throughout the country to keep up with evolving technologies.

One of the ways the Ministry of ICT and National Guidance (MoICT and NG) is supporting this initiative is through the National ICT Initiatives Support Program (NIISP) provides a conducive environment for Uganda's ICT innovators to thrive in a competitive and productive ecosystem. The legal and policy framework governing ICT in Uganda is pertinent to both ICT in governance and enterprise growth.

The relevant laws include the Uganda Communications Act, 2013 (Dorothy, 2023); the NITA-U Act, 2009; the Computer Misuse Act, 2011; Electronic Transactions Act, 2011; and the Electronic Signatures Act, 2011(NITA-U, 2018) these efforts are aimed at promoting the use of ICT in business and bridging the gender gap in ICT adoption.

According to the Female Entrepreneurship Index (FEI), Uganda ranks 74th out of seventy-seven countries surveyed regarding institutional support for high-growth women entrepreneurs. Uganda's Global Entrepreneurship Index (GEI) stands at 18.4%, indicating a lack of specialised support for women entrepreneurs (Terjesen and Lloyd, 2015). Despite challenges such as paperwork requirements for group assistance, women's collective groups are crucial in promoting socioeconomic resilience for women entrepreneurs seeking dignified lives (UNDP (2015).

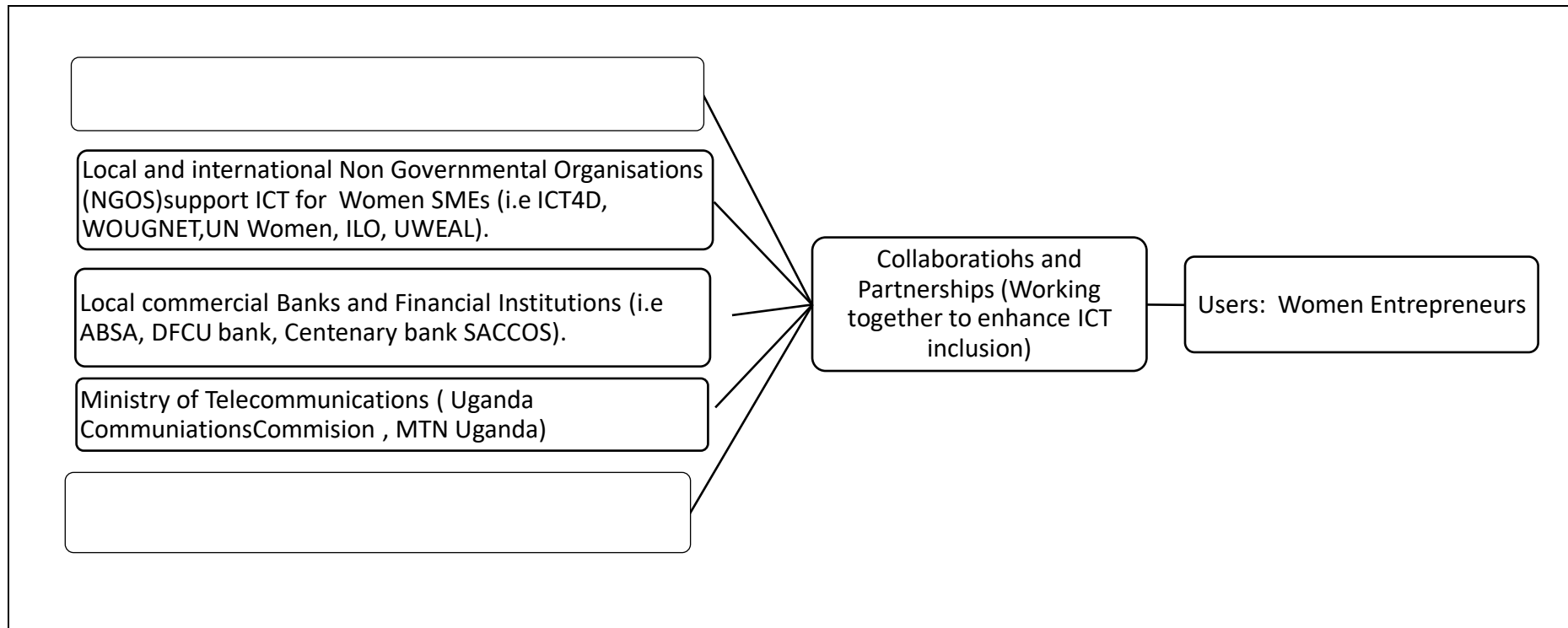
The Ministry of Gender, Labour, and Social Development (MGLSD) is a staunch advocate of technology innovation and digital entrepreneurship. Its initiatives, including the Uganda Women Entrepreneurship Programme (WEP) are providing funds for income-generating ventures to underprivileged and jobless youth across the nation. Numerous endeavours in the ICT field, for example financial services are leveraging mobile platforms, particularly mobile money, to facilitate their expansion and prosperity (Mugabi, 2014).

International development organisations: Most international development organisations provide financial and technical support for ICT programs and initiatives focused on women's empowerment in Uganda (UN Women – Africa, 2022). The non-state actors from the development partners include the International Labour Organisation (ILO), UNIDO and World Bank and from the private sector, UWEAL and USSIA. Investments in Uganda's ICT infrastructure have been made to close the digital divide in the country (Mmeeme Leticia Luweze, 2024). The global technology giants Facebook and Google have both played a part in this effort. Facebook partnered with Airtel Uganda and Bandwidth and Cloud Service (BCS) in 2017 to build a 770 km fibre backhaul network in the north-western part of Uganda as part of it is Telecom Infra Project (Mmeeme Leticia Luweze, 2024).

Information and Communications Technologies for Development (ICT4D): The notion of Information and Communications Technologies for Development (ICT4D) pertains to the utilisation of ICT for international socio-economic development (Roztocki et al., (2019). The overarching goal is to leverage these technologies to alleviate poverty, with ICTs serving as direct aid to disadvantaged groups or indirectly assisting governments through the aid of non-governmental organisations in enhancing the socio-economic climate of their nations.

Private sector initiatives: Agaba (2023) reports that in Uganda, telecom companies like MTN Uganda have partnered with various organisations, including Private Sector Foundation Uganda (PSFU), ATC Uganda, UN Women, DFCU Bank, NSSF, MasterCard, Innovation Village, Outbox Hub, to expand their supplier base by 2025 and ensure that women tech entrepreneurs benefit significantly (Mastercard, 2022). Private sector initiatives, such as collaborations with mobile network operators and technology firms, could also enhance women's access to ICT. The three-year program, Advanced Women Entrepreneurship (AWE), aims to boost women's participation in the supply chain sector by providing them with the necessary skills to establish sustainable enterprises (MTN Uganda, 2023).

Figure 2.2 Role of Stakeholders in supporting and strengthening women entrepreneurship and enterprise growth using ICT.



Source: Authour

While there is no doubt that ICT can be a powerful tool for economic growth that enables women microentrepreneurs to transform their businesses, open opportunities and provide international trade links for growth and development and empowering women. It is important to note that the effectiveness of ICTs including educational levels, income inequalities, the level of development of the country, and social norms. Therefore, concerted efforts (See Figure 2.2) are needed to overcome these constraints in the access and usage of ICT in Uganda.

2.8 Theory Background

This research study aimed to shed light on the factors that challenges and opportunities presented by ICT use on SMEs in developing countries. The findings of this study can influence policy, academics, local and international organisations supporting women, and financial institutions, to understand the needs of women and create an ICT enabling environment that can expedite the process for women entrepreneurs to realize the potential of ICT for business growth and empowerment.

2.8.1 Extended Technology Acceptance Model (TAM2)

The Technology Acceptance Model (TAM) is praised for its meticulousness and analytical ability, making it adaptable across various situations (Kamdjou et al., 2021). According to Venkatesh et al., (2003) TAM has been one of the most influential models of technology acceptance, with two main factors influencing an individual's intention to use the technology. Perceived usefulness (PU), where an individual believes that using a system would improve their performance and play a positive role in the business is the system is adopted effectively and perceived ease of use (PEoU) is a degree to which each individual believes that the use of a technology to be free from physical and mental effort (Davis, Bagozzi, and Warshaw, 1989). However, some previous studies question TAM's predictive power regarding acceptance. For example, TAM2 model, an information systems theory (Venkatesh and Davis, 2000) illustrates how external factors like social influence indirectly affect the intention and actual usage of technologies through their impact on perceived usefulness (PU) and ease of use (PEoU).

Empirical research revealed that although the use ICT can help SMEs gain success, various factors constrain the successful implementation of ICT in SME (Awa et al., 2015).

This study will prioritise examining actual or current usage over usage intention of ICT at enterprise and individual level to explore the factors of individual acceptance to use ICT that could be beneficial for SMEs considering usefulness and ease of use. Enhancements to the original TAM (Davis, 1985, p. 1993) have bolstered its explanatory power concerning ICT diffusion in developing countries. Chakraborty and Al Rashdi (2018) assert that individual pre-usage, attitudes, pre-usage beliefs, and performance-related expectations are crucial components in understanding ICT usage among misperceived usefulness is swayed by the ease of use of ICT, as the simpler the system is to use, the more valuable it can become. For instance, in Uganda, female entrepreneurs' increasing adoption of mobile technologies and access to social media is credited to the ease of use and the ability to meet individual needs for connection and learning. Therefore, this study adopted TAM2 framework to explore the extent and impact of ICT use on SMEs and illustrate the role of women SMEs in the perception of effective use of ICT by analysing several factors.

This study is one of the first to adopt and then extend TAM2 as a framework since very few studies have applied the TAM framework to investigate ICT use on SMEs in a Ugandan urban local setting. Therefore, this study addresses a critical gap in the existing literature by expanding the TAM2 framework to include additional factors and thereby responding to the need to understand women entrepreneurship at local level. This serves as insightful theoretical framework that unravel the details of technology adoption and usage in urban WSMEs in developing countries.

2.8.2 Research Gaps

Theoretical Gap: Despite the extensive and in-depth literature on entrepreneurship (Kikooma, 2012; Jagero and Kushoka, 2011), the role of women in urban informal economy entrepreneurship should be explored in both societal and academic contexts.

The growing body of literature on women and entrepreneurship criticises the concept of entrepreneurship for being discriminatory and biased towards gender. While the role of ICT has gained increasing attention, most studies focus on why women become entrepreneurs (Sarri and Trihopoulou, 2005) or the obstacles women entrepreneurs face when starting a business (Brindley, 2005).

This research study was conducted to address these literature gaps and demonstrate the extent and impact of ICT use on SMEs in developing countries. Despite the urgent need for research on this topic, there needs to be more theoretical, and analytical studies on how women SMEs in developing countries like Uganda perceive and use ICT. Furthermore, the intersection of the digital divide, gender, and entrepreneurship remains unexplored in academic literature. Therefore, further research is needed to determine the suitability and relevance of ICT for urban women SMEs in developing countries and to identify potential barriers and challenges that may hinder their effective adoption and use of these technologies.

A recent systematic literature review Correa et al., (2022) highlights the continued need for more systematic and comprehensive literature on this topic. These studies emphasise that most articles focus on understanding women entrepreneurs' challenges, the factors affecting their entrepreneurial performance, and ways to encourage entrepreneurship (Sicat et al., 2020; Ilavarasan, 2019). While this study has provided significant insights into the relevance and impact of ICT use on urban women-owned SMEs, the findings are only partially replicable in the context of a Uganda. According to Donner and Escobari (2009), there needs to be more comprehensive data on the current state of ICT and entrepreneurship among SMEs run by urban women in developing countries.

Obtaining reliable statistics on women's Internet use in developing countries is challenging. Reports from the World Economic Forum (2009); World Bank (2009) indicate that the lack of knowledge and well-researched data on computer use by SMEs and their owners reflects the lower computer and broadband penetration levels in developing countries. Furthermore, Huyer and Mitter (2003) state that little data suggests how ICT use empowers women at the grassroots and individual levels. This suggests that it is crucial to understand the specific

challenges and opportunities faced by these women and their enterprises to empower them with ICT as a supportive tool for business growth and empowerment.

Additionally, the need for more sex-disaggregated data and analysis is a serious gap that needs to be addressed better to inform necessary and effective policy and program interventions. The research literature that explicitly discusses ICT's possible positive economic impact on women-owned SMEs needs to be more extensive (Aminuzzaman et al., 2003; Prasad and Sreedevi, 2007; Buskens and Webb, 2009). However, (Guihuan, 2005) argues that women benefit from ICT usage is undeniable that the advent of ICTs has had a profound impact on society, particularly in terms of empowering women and driving economic growth. Moreover, McGowan et al., 2012; Kamberidou, 2013) stated that women are underrepresented and face challenges such as limited use or access to ICT tools and training in ICT.

Methodological Gap: Investigations into urban women microentrepreneurs in Uganda have revealed a significant need for comprehensive data and an understanding of the challenges and opportunities associated with ICT in entrepreneurship. As a result, there is a pressing need for further research to gain a deeper understanding of the factors determining the success or failure of ICT investments among SMEs run by urban women in developing countries.

Additionally, analysing government policies and support systems aimed at empowering urban women microentrepreneurs with ICT could offer valuable insights into how to foster entrepreneurship and ICT in developing countries.

Lastly, examining policymakers' views on the relationship between ICT, enterprise growth, and the empowerment of women entrepreneurs could inform policy decisions in this area. The Grounded Theory (GT) approach seeks to discover and develop a theory related to the subject of this study.

In contrast to the study's methodological research design, the GT approach focuses on discovering and developing a theory related to the subject of the study. On the other hand,

the phenomenological research design (Creswell, 2016) seeks to gain an in-depth understanding of the concept explored in this research study through the stakeholders' ICT experiences (Kumar et al., 1999).

This study makes three key contributions. Firstly, it will generate empirical knowledge that has yet to be explored in ICT and women entrepreneurship by examining the extent and impact of ICT use on SMEs in developing countries, focusing on an urban Ugandan setting, thus filling a theoretical gap.

Secondly, this research study will develop a substantive theory to understand the role and relevance of ICT and its direct and indirect impact on the growth of women-owned enterprises and women's empowerment. This study also bridges a methodological gap by redefining the approach to understanding ICT and providing new empirical evidence to enrich the existing literature.

This study also bridges a methodological gap by redefining the approach to understanding ICT and providing new empirical evidence to enrich the existing literature.

Thirdly, this research study will offer practical recommendations for ICT and entrepreneurship in Uganda.

Previous studies have focused on the obstacles women face at the start-up and growth stages of their enterprises. This research will help narrow these gaps by examining the suitability and impact of ICT on women's economic empowerment in developing countries, using Uganda as an example.

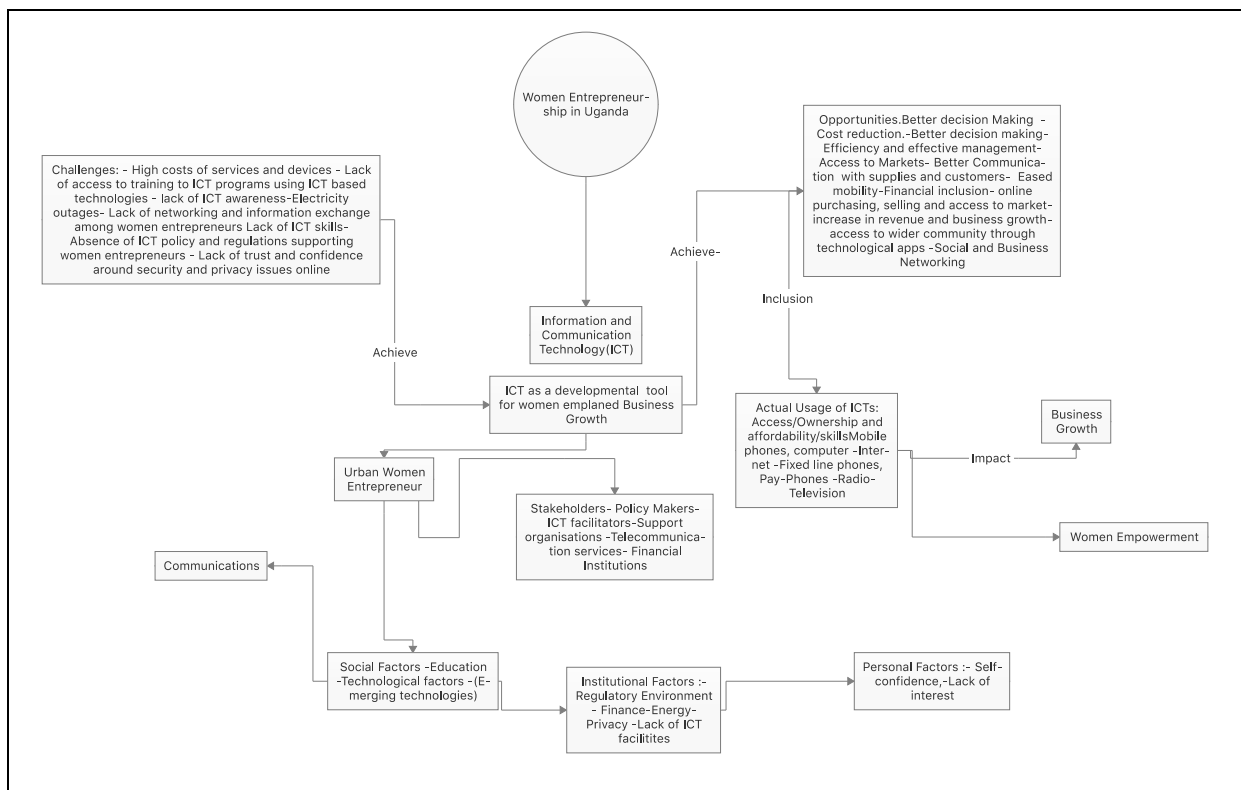
After reviewing the literature, this study presents the conceptual framework (as shown in Figure 2.3) in the next subsection for identifying various roles and benefits as well as other factors on the extent and impact of ICT use on SMEs in developing countries.

2.9 Conceptual Framework

This research aims to comprehensively examine the acceptance and utilisation of ICT in MSMEs. The theoretical framework is grounded in a meticulous analysis of existing literature, which will serve as the basis for the research analysis. The conceptual framework outlines the initial stages of the investigation, while the philosophical framework highlights the researcher's concerns, which will broaden the study's direction (Miles et al., 1994).

This research study aims to investigate the interactions of various structures and examine proposed factors, such as age, education, business size, user expertise, institution support, and trust, to enhance the platform's perceived ease of use and usefulness. Furthermore, this study has endorsed the inclusion of additional constructs (see Figure 6.1) TAM2 (Venkatesh and Davis, 2000) which will facilitate the adoption of ICT, such as internet-enabled computers and mobile phones, for women entrepreneurs to engage in technology and innovation. In general, this research will serve as a valuable guide for women entrepreneurs in Uganda who intend to incorporate ICT into their MSMEs and assess the link with entrepreneurship.

Figure 2.3 Illustrates This study 's Conceptual Framework.



Source: Researcher Study's conceptual framework. Adapted from the Technology Acceptance Model (TAM 2) (Venkatesh and Davis, 2000).

The above framework(Figure 2.3) illustrates the interconnectedness of various elements in women's entrepreneurship, such as ICT factors, motivation for usage, challenges, opportunities, and primary stakeholder groups related to social, environmental, personal, and institutional factors. This model is a plan to represent the views of women entrepreneurs in urban areas of Uganda, particularly regarding their ICT competencies and motivation for entrepreneurship. Research has shown that perceived ease of use and usefulness are crucial factors that affect user acceptance and usage behaviour of ICT (Venkatesh and Davis, 2000).

This study aims to conceptualise the perceived use of ICT and inspire behavioural capability intentions that could lead to entrepreneurial ideas. Given that women have high access to and use ICT (Smith, 2010), this research study can infer conclusions about perceived ease of use and behavioural capabilities. By establishing a platform for examining women's micro-entrepreneurship and their perception of ICT, this study contributes further knowledge to the literature.

2.10 Summary Chapter 2

After extensive analysis of current knowledge on the subject, the literature review chapter concludes that ICT is crucial for empowering and promoting growth among women entrepreneurs in Uganda.

Despite this, further theoretical groundwork is necessary to fully understand the impact of ICT on women's entrepreneurship in the country. Policymakers should prioritise policies that improve access to ICT tools and training to support women entrepreneurs in Uganda; addressing cultural biases is also essential to encourage more women to participate in business. By enabling and empowering women entrepreneurs, policymakers can unlock their full potential, leading to economic growth and development in Uganda. The review emphasises the significance of gender equality and women's empowerment in driving economic advancement in the country through ICT.

Chapter 3 outlines the research method and approach to inform and provide insight into the role and relevance of ICT in women's entrepreneurship in Uganda. The aim is to determine how women entrepreneurs perceive and use available information and communication technologies and their attitudes, intentions, perceived usefulness, and actual user behaviour. Furthermore, to learn how stakeholders can better support the adoption of ICT among women micro-entrepreneurs to close the gender gap and for enterprise growth.

Chapter 3 Research Methodology

3.1 Introduction

This thesis aims to explore the challenges and opportunities presented by ICT use on SMEs in developing countries, using local women entrepreneurs in Uganda as an example. The research seeks to critically examine how ICT can be used as a support tool for women entrepreneurs, emphasizing that entrepreneurship is essential for ICT to have an impact. This study findings highlight the potential of ICT as an effective tool for women's SMEs in Uganda. However, factors such as cost, inadequate digital skills, lack of awareness, age, education, experience using ICTs, trust, voluntariness, and gender play crucial role in influencing ICT adoption within women-led SMEs.

This chapter also justifies the choice of research methods, philosophy and a detailed discussion of other important elements, namely: 1) Rationale for selecting qualitative methodology - grounded theory; 2) Research design; 3) Staging the research; the purpose of the research; 4) Overview of the fieldwork procedure; 5) Ethical Issues; 6) Piloting; 7) Data collection and methods; 8) Interpreting, reducing and analysing data; 9) Appraising constructivist GT methodology; 10) Reflections of the researcher; 11) Limitations of this study.

3.1.1 Research Purpose

This study aims to examine how ICT use on SMEs has impacted women's entrepreneurship in Uganda. The research will focus on strategies to improve women entrepreneurs' access to ICT resources, tools, and training while addressing cultural biases hindering their business participation. This study employed qualitative methods to gather and analyse data, adding to the existing literature on women's entrepreneurship and ICT. Additionally, the research provides policy recommendations to promote women entrepreneurs' access to ICT tools and training in Uganda. To develop research questions, I considered issues within this study's scope and shared these questions with urban women entrepreneurs in Kampala. The urban women entrepreneurs' responses provided valuable insights into how technology can help women succeed in business.

The research questions are:

Research Question 1: What are policymakers' views on the connection between ICT and the growth and empowerment of urban women's enterprises?

Research Question 2: How is ICT used to empower urban women entrepreneurs in Kampala, Uganda?

Research Question 3: What are the main challenges and opportunities of ICT for enterprise growth and empowerment in Uganda?

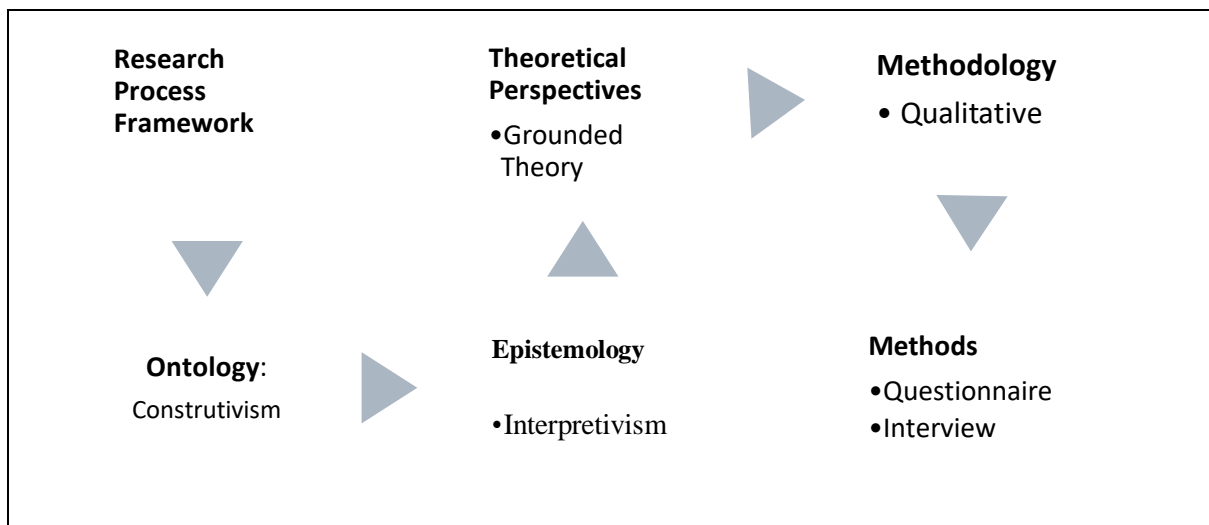
Research Question 4: What lessons have been learned about ICT and women's entrepreneurship in past decades?

This study focused on the extent and impact of ICT use on women's SMEs in developing countries. This qualitative exploratory study aims to generate a theory based on data collected using GT (Glaser and Strauss, 1967; Charmaz, 2006) applying it to the Uganda situation.

3.2 Research Design

The research design is a meticulously crafted plan to respond to a specific research inquiry accurately. It encompasses attributes, tactics, and techniques for gathering and scrutinising data. Figure 3.1 illustrates the representation of the design for this study, while this chapter explores each element in detail. According to Saunders et al., (2018) the research design plays a pivotal role in ensuring optimal research data management. Cooper and Schindler (2008) states that it is crucial to thoroughly consider a study's objectives and methodology when designing research. A research design for this study outlines the framework, research problem, structure, relationship between variables, and investigation plan used to gather empirical evidence on those relationships.

Figure 3.1 The adopted paradigm for this research study



Source: Adapted from Chepp and Gray, 2014; O’Gorman and Macintosh, 2015.

Additionally, it is necessary to maintain transparency throughout the process and explore alternative explanations for findings.

This study used a grounded theory qualitative research design to establish the correlation between ICT use on growth of women-owned SMEs and empowerment in Uganda. By adhering to these criteria, the researcher could design this research study strategically, gain valuable insights, and impact the advancement of knowledge in ICT and women's entrepreneurship in developing countries.

3.2.1 Rationale for selecting the Qualitative Methodology: Grounded Theory

This research explored into the correlation ICT use on women urban SMEs, adopting a grounded theory as a research methodology to generate a theory from systematically collected and analysed data instead of testing hypotheses. This research study adopted a cyclical process of collecting qualitative data gathered through techniques such as online questionnaire surveys and interviews, and employed inductive strategies for data analysis, by analysing data from participants until new data emerged (Charmaz, 2006), given that this study involved sensitive subjects related to human behaviour, even in different cultural contexts, the grounded theory proved to be the ideal approach. Table 3.1. presents a summary of the specific factors that emphasises the suitability of grounded theory. Grounded

Theory helped the researcher understand the unique experiences and challenges WSMEs face in adopting ICT and the opportunities it brings. This led to development of a substantive theory that was grounded in the realities of these WSMEs thus providing valuable insights for policymakers, practitioners, and other stakeholders interested in women entrepreneurship and support through ICT.

Table 3.1 Summary of GT and Justification of CGT approach in ICT research

A grounded approach is applicable when:	Relevance criteria for this research study
Relevance of ICT use in SMEs.	<p>There is lack of extant literature on the topic under investigation.</p> <p>The literature reviews have shown that very few studies exist concerning the role of ICT in women SMEs in developing countries (Chapter 2).</p> <p>The method is particularly relevant for research on issues for which limited prior research has been conducted and for which theory building is needed (Wiesche, et al., (2017)</p>
Theory Development:	<p>GT methodology is designed to enable the discovery of inductive theory(Wiesche, et al., (2017). It allows the researcher to develop a theoretical account of the general features of a topic while simultaneously grounding the account empirical data (Charmaz, 2006; Wiesche, et al., 2017)</p>
Opportunity to investigate the development of new areas.	<p>This study investigates the use of ICT use on SMEs in an urban setting (i.e. the user experience, challenges, and opportunities)</p>
Situated process and action	<p>Women entrepreneurs business process and actions Information sharing in women SMEs in a Ugandan urban local setting are to be examined.</p>
Understanding User Experience	<p>GT can be used in technology research to explore user experiences, technology adoption and technology design. It can provide insights into the factors that influence technology outcomes.</p> <p>GT allows, for exploration of complex phenomena, such as the adoption and use of ICT in women led SMEs. It helps understand the underlying processes, challenges, and outcomes associated with ICT adoption (Orser et al., 2019).</p>

<p>Informing of policy and intervention Development:</p>	<p>The insights gained from GT can inform the development of technology interventions and policies to support the integration of ICT in women - led SMEs (Orser et al., 2019).</p> <p>The research recommendation of this study, anticipated that different stakeholders such as policymakers, women support organisation international, academia and anyone interested in bridging digital divide.</p>
<p>Rigor:</p>	<p>Grounded theory provides researchers with guidelines, advice, and perspectives regarding its use and to ensure the rigor of the research contribution.</p> <p>Through its iterative process of data collection and analysis, GT can help identify the key barriers and facilitators to ICT adoption in women - led SMEs (Orser et al., 2019).</p>

Source: Adapted from Locke, 2001, p. 18 and pp. 95-97; Turner, 1983, p. 334.

Table 3.1 above illustrates that in the context of women-led SMEs and ICT in developing countries. Grounded Theory can help researchers understand the unique experiences and challenges these businesses face in adopting ICT. This can lead to the development of theories and models that are grounded in the realities of these businesses, thereby providing valuable insights for policymakers, practitioners, and other stakeholders.

3.3 Philosophical Underpinnings: Theoretical & Methodological Approach

3.3.1 Research Philosophy

Research philosophy is a crucial aspect of knowledge development, and selecting the right philosophy can ensure that the research is conducted rigorously and with validity. There are several research philosophies, when conducting research such as positivism, interpretivism, and critical realism (see Figure 3.2) each with its principles and methods. For this study, the most relevant philosophical assumptions relate to the underlying epistemology guiding the research are illustrated in Table 3.2.

This research study aims to understand the perceptions, behind ICT adoption in women SMES in a local setting. Furthermore, this study will uncover the factors leading to low adoption levels, factors influencing adoption, ICT use relevance to SMEs, the role ICT in enterprise growth, and empowerment of local women entrepreneurs.

The research questions and objectives (Chapter 1, sections 1.4 and 1.2) are shaped by my assumptions about reality (see Table 3.2) as they focus on ICT use and urban women SMEs in Uganda. Previous studies (Saunders et al., 2009; Guba and Lincoln, 1994) highlight the different fundamental beliefs that come into play when gathering and analysing data (see Table 3.2) provides a detailed description of each paradigm.

Table 3.2 Fundamental Beliefs of research Paradigms in Social Sciences

Research Paradigms		
Fundamental Beliefs	Interpretivism (<i>Constructivism</i>)	Positivism (<i>Naïve realism</i>)
Ontology assumptions Position on the nature of reality.	Socially constructed, subjective, may change, multiple times.	External objective and independent of social actors. Single external reality.
Epistemology assumptions: View on what constitutes acceptable knowledge. relationship between reality and research	<i>Subjective meaning and social phenomena.</i> Focus upon the details of situation, the reality behind these details' subjective meanings and motivation actions.	Only observable phenomenon can provide credible data, facts. Focus on causality and law-like generalisations, reducing phenomenon to simplest elements.
Axiology: The role of values in research and the researcher's stance.	<i>Value bond and emic:</i> Research is value bond, the researcher is part of what is being researched, cannot be separated and so will be subjective.	<i>Value Free and etic:</i> Research is undertaken in a value freeway; the researcher is independent of the data and maintain an objective stance.
Research Methodology: The model behind the research process.	Qualitative.	Quantitative.

Source: Authour (adapted from Saunders et al., 2009; Guba and Lincoln, 2005; Lincoln et al., 2011).

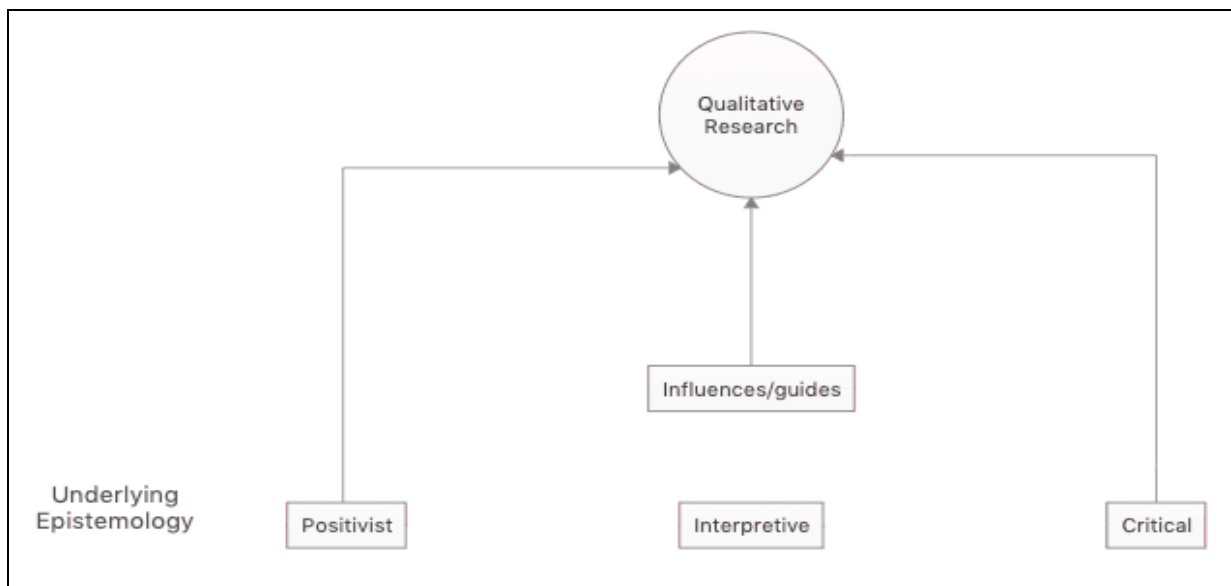
The following section will provide a detailed account of the philosophical underpinnings of This study, including epistemology, ontology, axiology, and methodology (Denzin and Lincoln, 2003; Saunders et al., 2018).

Ontology assumptions: A researchers' beliefs about the nature of reality can affect how they study the relationship between ICT and female entrepreneurship. This can influence the types of research questions and their objectives. It is important for the researcher to examine the behaviour of women entrepreneurs considering ICT to bridge the existing gender digital gap and empower women (Hafkin and Taggart, 2001) as detailed in Chapter 2. Thus, the findings of this study can give practical recommendations to stakeholders(i.e. policymakers, academia, management, and women entrepreneurs).

This study focuses on the access, use, and ownership of ICTs by urban women entrepreneurs (Bell and Bryman, 2022). According to Scotland (2012) technology adoption is a mental process based on individual experiences. Therefore, this study, can assume that women entrepreneurs have embraced mobile phone as the most useful and ease to use technology tool for SMEs. This can be a result of limited access and use of other available ICT resources for enterprise growth and empowerment, leading to a gender digital divide (Hafkin and Taggart, 2001) Therefore, this study main aim is to identify ways to empower women entrepreneurs by giving them access to, ownership, and affordability of ICT and increasing their digital skills thus narrowing the digital gender divide.

Epistemological assumptions: According to (Chen and Hirschheim, 2004) epistemology refers to the assumptions about knowledge and how it can be obtained. Additionally, s (Scotland, 2012) found that it is vital to find facts through adequate knowledge (see Figure 3.2) which illustrates the three philosophical positions relating to epistemology in information systems (IS) qualitative research. According to (Myers, 1997) qualitative research can either be positivist, interpretivist, or critical. Thus, the choice of a specific qualitative research method, like Grounded Theory (GT), is independent of the underlying philosophical position being adopted. These philosophical perspectives are discussed below (see Figure 3.2).

Figure 3.2 Philosophical perspectives in qualitative research



Source: Authour adapted from Myers (1997)

Positivist research: In Information Systems, research can be classified as positivist if it incorporates formal propositions, measurable variables, empirical testing, and extrapolating conclusions from a sample to a defined population (Orlikowski and Baroudi, 1991). This methodology aims to validate theories and enhance the predictive understanding of phenomena. However, (Benbasat et al., 1987) have applied a positivist approach to qualitative research, which is a noteworthy consideration. Therefore, this research study aimed to develop a foundational theory through an abductive approach (See Figure 3.3) while acknowledging the positivist perspective. The researcher found it essential to consider the philosophical assumptions that guide the research consistently. The analysis included a comprehensive breakdown of each paradigm presented in Figure 3.2.

Interpretive research: The interpretive research approach assumes that reality is constructed socially through shared meanings, consciousness, and language. The purpose of this approach is to understand phenomena by examining the meanings individuals (i.e. urban women entrepreneurs) assign to them, and research methods (section 3.4.4) are geared toward comprehending the context of the information system and how it influences and is influenced by its surroundings.

Interpretive research does not predefine dependent and independent variables, but instead, looks at the complete complexity of human sense-making as situations unfold, Kaplan and Maxwell (1994). Additionally, Walsham (1993, pp. 4-5) supports this approach explaining that interpretive methods in information system(IS) aim to create an understanding of the context of the information system and the process by which it is affected and affects its environment.

Critical research: On the other hand, *critical research* according to Myers and Klein (2011); Ngwenyama and Lee (1997) works on the assumption that social reality is historically constituted and produced by individuals and that various forms of domination limit their ability to alter their conditions. The primary objective of this approach is to bring to light the oppressive and alienating circumstances of the status quo through social critique (Myers and Klein (2011)

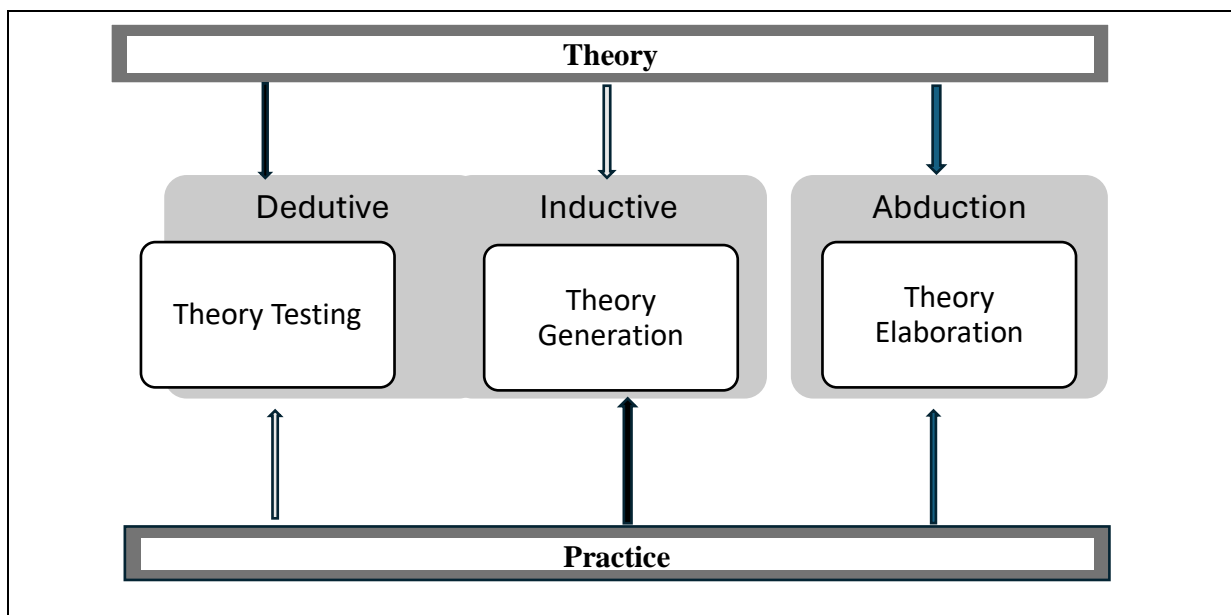
Given that this research study examined the impact of technology on women-owned businesses in developing countries, it adopted an interpretive approach. This approach allowed for a better understanding of the social and cultural context surrounding the role of ICT being studied (Creswell, 2014) technique of taking a comprehensive approach to disclosing study methods as a powerful tool for improving the validity and credibility of social scientific research. Therefore, this study employs the interpretive paradigm. This approach would provide a more profound understanding of the impact of technology on women-owned businesses in developing countries. Despite facing challenges during the data collection, this research study persevered and generated a ground theory through an abductive approach (Dubois and Gadde, 2002; Charmaz, 2014).

The following section outlines this study's research approach in detail.

3.3.2 Research Approach

According to Saunders et al., (2018) in any research study, the chosen research approach depends on the research questions and the nature of the investigated problem as described in Chapter 2 of this study. The adopted research approach shaped the entire research design of this study. According to Easterby-Smith et al., (2003) interpretive research is often associated with an inductive approach. Whereas (Saunders et al., 2018), identified two primary researcher approaches, deductive and inductive (see Figure 3.3). Moreover, Carson et al., (2001) suggested that both inductive and deductive reasoning have their own merits and are equally important. Considering this, the researcher's decision was not to use inductive or deductive approaches (see Figure 3.2.2) Instead, an empirical approach was employed to explore the concerns of local urban women entrepreneurs in Kampala, Uganda.

Figure 3.3 Deductive, Induction and Abduction Approach



Deductive approach: The deductive approach involves starting with a theory and evaluating it through empirical data collection. Saunders et al., (2018) states that the researcher develops a hypothesis and then collects data to confirm or refute it.

Whereas Fisher and Buglear (2010) argue that this top-down deductive method aims to find the explanation that begins the inquiry through scientific inference. The main purpose of this method is to answer research questions, ranging from claims to educated assumption. However, Soiferman (2010); Charmaz and Belgrave, (2019) suggested that searching for theories to support research questions in the deductive method can provide evidence that either supports or denies the research query.

Inductive approach: According to Glaser and Strauss, 1967, inductive approaches rely on grounded theory, where the theory is systematically generated in data. Moreover, Strauss and Corbin (1990) have suggested that in the inductive approach, emphasise that the researcher starts from the research question and works their way towards analysis and explanation. A researcher starts with a set of observations or data and then try to develop a theory or explanation based on emerging patterns. According to Saunders et al., (2018) this approach concludes with specific observations or instances without relying on previous theories. This method can be beneficial, as it allows for flexibility and context to be considered, leading to the creation of new theories. However, some critics argue that inductive research can be slow and painstaking, especially when there is already a significant amount of existing literature to draw from (Simon, 1996).

Abductive approach: *Abductive approach:* The abductive approach uses inductive and deductive approaches (See figure: 3.3). According to Dubois and Gadde (2002) the logic of abductive is more useful than using a purely inductive or deductive approach. The abductive approach allows creativity and intuition to inform theoretical evolution and understand the observed phenomena' generalisability and specifics. According to Lukka and Modell (2010), interpretive research gradually accepts abductive. On the other hand, critics (Svennevig, 2001) argue that the approach is limited by its characterised lack of completeness in either evidence, explanation, or both, along with the practice challenge. Instead of verifying an existing theory through hypotheses that exclude the positivist perspective, this research study aims to generate a substantive theory through an abductive approach (Dubois and Gadde (2002); Charmaz and Belgrave, 2019); Lukka and Modell (2010).

Given the lack of empirically grounded theoretical suggestions for the extent and impact of ICT use on women entrepreneurship in developing countries, the data analysis findings are firmly grounded in this research study.

In summary, based on this research focus, the most appropriate research viewpoint is interpretivism. This approach helps to understand the application of ICT in women-owned enterprises and provides credible advice to policymakers, education establishments, management, and women support organisations and banking institutions.

3.3.3 Research Strategy

Various techniques are available to gather data and comprehend intricate human behaviours when conducting research. Commonly used methods are case studies, ethnography, survey research, action research experiments, and grounded theory research.

Grounded theory research: This approach involves developing theory by systematically collecting and analysing data. It is helpful in information systems studies since it provides descriptions and explanations based on real-world observation, Orlikowski (1993); Martin and Turner (1986) pointed out unlike other research methods, grounded theory research emphasises the interplay between data collection and analysis to develop a theoretical account of what is happening in the real world. It is essential to consider the population surveyed when conducting a survey study. Survey techniques use questionnaires to gather data from a diverse range of people. However, Glaser and Strauss (1967) emphasise the importance of selecting a diverse population to obtain valuable and reliable data.

There are different research methods: qualitative, quantitative, or mixed methods. For instance, Creswell (2017) defines quantitative research as testing objective theories by analysing the relationships between variables. Considering the different research methods discussed earlier, it is essential to note that this study leans towards a qualitative research approach.

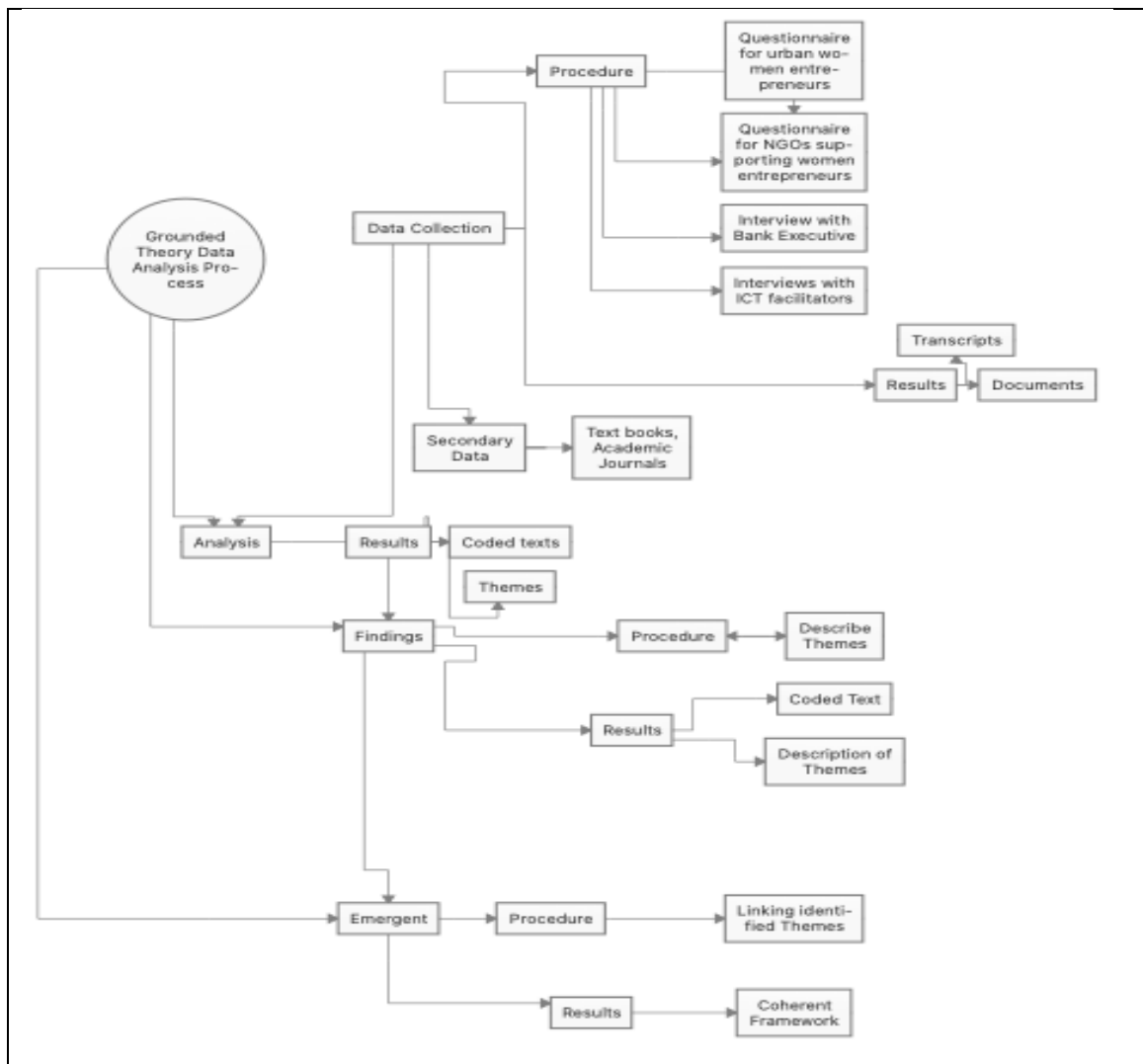
Qualitative research is suitable for exploring and investigating complex human behaviour and generating a deep understanding of a concept instead of measuring or quantifying a problem, which is relevant in a quantitative approach. Qualitative research is well-suited for exploring and investigating complex human behaviour and generating a deep understanding of a concept. Unlike quantitative research, which measures or quantifies a problem, qualitative research focuses on explaining and understanding the underlying reasons behind a problem. The researcher used grounded theory as a qualitative method in this research study. Glaser and Strauss (1967) argue that this approach involves developing a theory based on collected data, making it an essential aspect of research.

Additionally, Strauss and Corbin (1998) emphasise the importance of analysing participants and their interactions in the Grounded Theory (GT) process. This method allows for developing a theory based on the collected data, making it a crucial aspect of research. Therefore, this research will explore deep into grounded theory, and its application in understanding complex human behaviours.

3.4 Overview of the Fieldwork Procedure - GT Designing Process

A meticulous fieldwork procedure was implemented for data collection using online questionnaire and semi structured interviews between March and September of 2022, accompanied by a preliminary literature search and review for the success of this study. During this phase, the research adopted a GT designing process to identify central themes and patterns within the data. The resulting comprehensive understanding of the extent and impact of ICT use on urban women SMEs Kampala, Uganda will provide practical policy recommendations to policymakers, women support organisations and financial institutions and telecommunication companies for improving access, usage of ICT, by women entrepreneurs. A research design framework was developed to build a detailed narrative of the events and interpret the urban women micro-enterprises and strategic context in a local setting. The figure below (Figure 3.4) illustrates this study design framework showing the interplay between the essential grounded theory methods and process.

Figure 3.4 Research design framework: summary of the interplay between the essential grounded theory methods and process.



Grounded Theory designing Process

The sub section below details the procedures involved in GT design for this study.

3.4.1 Phase 1: Getting started - Grounded Theory Methodology.

This research study utilised GT (Glaser and Strauss, 1967; Glaser, 2007) to systematically build a theory from data explaining a particular process. During data collection, the researcher ensured that the research problems (Chapter 1, Section 1.2) aligned with the participants' interests maintaining unbiasedness (Glaser and Strauss, 1967).

Following the guidance outlined in (Chapter 1, Section 1), the researcher determined the selection of participants. Subsequently, a narrowed literature review was conducted Glaser (2007); Charmaz (2006:2016) in the same substantive areas of this study after the initial theory, in contrast with the new data produced by theoretical sampling (Charmaz, 2006). This interplay of essential GT methods and processes was crucial (see Figure 3.4).

3.4.2 Phase 2: Selection, Recruitment and Identifying stakeholder participants.

This qualitative research study used the following sampling techniques.

Purposive Sampling: In the initial stages of GT purposeful sampling technique is employed (Cutcliffe, 2000) to consciously select subjects who can effectively communicate their experiences related to the areas under investigation (Burns and Grove, 2001). According to Pare (2004) the researcher adopts purposive sampling in a study when a diverse sample is required or when the opinions of experts in a specific field are of interest.

Women entrepreneurs who are the main stakeholders for this study, were sent an online questionnaire to gain a comprehensive understanding of the opportunities and challenges of ICT use on SMEs. On the other hand, obtaining perspectives from ICT experts, and policymakers and financial institutions was equally important. Therefore, semi-structured interviews were conducted with informants holding senior management positions, as well as experience and expertise in the field of ICT and women entrepreneurship. The input from senior management stakeholders was crucial due to their knowledge of ICT from a policy perspective, particularly pertaining to the relationship between ICT usage, business growth, and women empowerment.

Snowballing Sampling: Snowball technique was applied in this research study to take advantage of the researcher's existing family business background knowledge and experience. The Snowball technique involved using initial participants (women entrepreneurs and senior management) as informants to recommend other suitable candidates who fit the sampling criteria for the research study. This method proved to be valuable in identifying and engaging with other participants, particularly for a specific subset of the population where creating a list of potential participants was not feasible. Additionally, leveraging the network of a local and recommendations from previously contacted women entrepreneurs further enriched the pool of participants for this study. The Snowball technique served as a supplementary method to the main recruitment approach, facilitating the identification of suitable participants and ensuring study's success.

Sampling Strategy: Theoretical sampling strategy was used to select participants, for this exploratory study, allowing for a theoretical replication logic (Corbin and Strauss, 2014; Eisenhardt, 2007; Yin, 2018). The sampling strategy was twofold, clarifying the strategy for both urban women entrepreneurs and senior management participants. The inquiry into ICT uses in urban women enterprises consisted of the following criteria:

Area of Study – Kampala, Capital City of Uganda: The research was carried out in Kampala, the capital of Uganda, which was deliberately chosen for its status as a major business hub, with high concentration of SMEs and women-owned enterprises in both the formal and informal sectors, as well as its historical significance and accessibility. The study's sample population was drawn from Kampala, Uganda, with a projected population of over 1.6 million (UBOS, 2021). Businesses thrive in Kampala, particularly in marketplaces, along roadsides, and in neighbourhoods. However, most enterprises operate informally, and a sizeable portion of the urban population resides in low-income or inadequate settlements with minimal infrastructure and services (Anyansi-Archibong, 2021). The selection of the study location was considered crucial for the research, due to its historical significance and accessibility, as it will provide substantial evidence and a clear understanding of the relevance and extent and impact of ICT use in women-SMEs, as well as the opportunities and challenges ICT presents. Furthermore, as the capital city of Uganda, Kampala benefits from good ICT infrastructure and hosts different markets in the country.

Sample population and Size: The study's sample population was drawn from Kampala, Uganda. *The total sample size* was fifty-seven women entrepreneurs as shown in (Figure 3.3) who were actively trading and using ICTs in their businesses (see Table 3.3). Women entrepreneurs either owned 100% of the enterprise or had 50% ownership. It was important to ensure that these women entrepreneurs were the main decision-makers in their enterprises. The participants were chosen based on their potential to provide rich and interesting insights into the research questions.

To support the questionnaire results, semi-structured interviews were planned to be conducted with fifteen senior management professionals including ICT policymakers, local commercial banks, and local NGOs. These interviews were arranged by contacting a list of twenty relevant individuals, however six of them agreed to take part in the study (see table 3.3). The total sample of all participants(see Table 3.3) was enough to reach theoretical saturation (Corbin and Strauss, 2015; Charmaz, 2014) and to obtain a good analysis on the extent and impact of ICT use on SMEs.

According to Chiovitti and Piran (2003), when auditing grounded theory, researchers need to specify how and why participants were chosen for inclusion and recognize the impact of the research on participant recruitment (Neill, 2006). This helps readers understand the connection between data sources and interpretations, showing that the data has been analysed, condensed, and synthesized (Wolf, 2003). Refer to Table 3.4 and Table 3.5 for the selection criteria of this study. Before I started recruiting participants for this study, I had to clearly define the goals of this research.

Table 3.3 Sample Size of Participants

N=Participants	Profession or Industry	ICT experience	ICT use and ownership
57	Urban women entrepreneurs	Enterprise owner ICT use and experience	Mobile phones, Landline (Fixed phones), Computer/Laptop, Radio, Television, Fax, Printer, Handheld Tablets, MI-FI(portable Wi-Fi connection device), and Internet.
1	Ministry of ICT	Policy and Strategy and Gender issues	Mobile phone, Internet access, Computer/laptop.
1	Local commercial Banks	Credit and digital financial services for women in business	Mobile phone, Internet, Computer/laptop, Routers Modem, MIFI, landline telephone
1	Local Women ICT support and entrepreneurship organisation (NGOs)	Advocacy, capacity building, ICT training support to women entrepreneurs	Mobile phone, internet, computer/laptop Handheld Tablets, Fax, Printer, MI-FI(portable Wi-Fi connection device), and Internet and Landline (Fixed phones),
1	Women Support Organisation (WSO, A)		
1	Women Support Organisation (WSO, B)		
1	Women Support Organisation (WSO, C)		
1	Women Support Organisation (WSO, D)		

Source: Authour

3.4.2.1 Identifying participants:

Stakeholder analysis: A comprehensive stakeholder analysis is conducted to identify all relevant parties to ensure a representative sample of stakeholders in Uganda's ICT and entrepreneurial sector. The selection process carefully considered each participant's role in ICT and entrepreneurship. This research study generated meaningful and insightful findings by meticulously identifying the stakeholders. The results identified four stakeholder groups, including senior management executives from urban non-government women's organisations, one government official, and one bank executive were recruited for the data collection process.

In this research, the following steps were used to identify the key stakeholders:

1. Define stakeholders:

This research study collected empirical data from various stakeholders, including urban women entrepreneurs, government officials in the ICT sector, senior management in women's support organizations and executives from banking institutions. Each group offered valuable insights and unique perspectives on ICT, enabling the researchers to gain a thorough understanding of their diverse needs and capabilities. The primary goal of this research study was to use this knowledge to advance digital inclusion and equity through informed policy-making and effective interventions. The key stakeholders in this research are women entrepreneurs and the organisations that provide, and support ICT use and entrepreneurship. The stakeholder groups included (see Table 3.4).

Table 3.4 Stakeholder groups in ICT and Entrepreneurial Sector in Uganda

N=number of	Participants	Role in Entrepreneurship and ICT
57	Urban Women Entrepreneurs	Urban women entrepreneurs operating MSMEs, both informal and formal sectors in Kampala, Uganda, age group 18 -65 plus, have one or two owners with basic technology skills.
1	Women Support Organisation (WSO, A)	Supports and enables women to use various ICT tools to learn, start, and grow their businesses.
1	Women Support Organisation (WSO, B)	Target, grassroots women, empower women economically and socially through education through theoretical and practical training
1	Women Support Organisation (WSO, C)	Trains women in skills such as making dolls, crafts, and how to use ICTs in their businesses and communication.
1	Women Support Organisation (WSO, D)	Builds the capacity of women for gainful employment, either as entrepreneurs or in formal or informal institutions.
1	ICT Policymaker	Responsible for leading and formulating ICT policy in Uganda. (i.e. increasing access and usage of ICT infrastructure and services, ensuring effective communication of government policies and programs, and promoting a national ideology for social and economic transformation.
1	Bank Executive	Anticipating the use of digital financial services for women in business, through mobile money services in facilitating financial inclusion.

Source: Authour

Urban women entrepreneurs: The first stakeholder group included fifty-seven urban women entrepreneurs in Kampala, Uganda who were using ICT for business activities and had basic ICT skills. (see Table 3.4). The goal was to understand the challenges and benefits experienced on ownership, access, and affordability of ICT. This was important for this study to provide valuable insight into the individual needs of women entrepreneurs. The following section outlines the criteria used for sampling senior management interviews, as detailed (see Table 3.4).

These stakeholder groups represented a diverse group (i.e. the banking sector, government, and local non-governmental organisations (NGOs)). To ensure the selection of participants was valid, it was important to assess whether the chosen informants demonstrated exceptional and commitment to support women entrepreneurs in using ICT for enterprise growth and empowerment. This approach aimed to capture a range of experiences related to the challenges and the benefits that ICT can bring to SMEs. By including participants from urban backgrounds with diverse perspectives, this selection criteria aimed to enrich the data with insights from a variety of sources.

Support Organisations: The second stakeholder group consisted of four organisations chosen based on their focus on supporting women business owners in enterprise start-up and growth, providing ICT-related training, offering mentorship to business owners using ICT and to enhance digital literacy, business skills, and empowerment among women entrepreneurs. The questions for this stakeholder group explored programs and initiatives offered that support women's success in terms of finance, skills development, access to markets, and technology utilisation. This aimed to assess the extent to which organizations leverage technology to support women entrepreneurs.

ICT Policymaker: The third stakeholder group comprised of an ICT policymaker within the Ugandan government who is responsible for planning, advising on ICT, and investing in ICT gender initiatives for development.

The researcher intends to conduct individual interviews with government officials to obtain first-hand information about current ICT public programs, short- and long-term ICT strategies, policies, or reforms that support ICT for women entrepreneurship. The interview questions explored the extent to which public entities, such as financial and telecom providers, are collaborating with the government or other partners to address digital gender gaps in entrepreneurship. Furthermore, the interview questions assessed the perception, extent, and role of the government in improving and supporting women's economic participation through specific ICT programs, as well as any investments, failures, and lessons learned. The questions aimed to determine whether addressing digital gender gaps in entrepreneurship is a government priority and whether the existing government programs specifically benefit women entrepreneurs.

Local commercial Bank: The fourth group of stakeholders comprised a key member of the financial sector, including commercial banks collaborating with women on WSMEs-related financial initiatives, financial institutions offering credit to women entrepreneurs through digital financial services. The questions were designed to assess attitudes toward women-owned enterprises and the challenges faced by local commercial banks and other financial institutions in conducting business with WSMEs, from providing services to using them as suppliers. The questions also sought information on whether the banks track relevant gender data, such as the percentage of female suppliers or customers, loan applications, and any changes in introducing financial digital services to women in business, and other related information. Each group provided valuable insights and distinct perspectives on ICT, enabling the researchers to comprehensively understand their varying needs and experiences. This research study aimed to leverage this knowledge to promote digital inclusion and equity through informed policy-making and effective interventions.

2. *Analyse stakeholders by impact and influence:*

During the stakeholder analysis, the following step involved evaluating each stakeholder's impact and influence to determine the most critical parties for data collection.

Following thorough deliberation, it was determined that urban women entrepreneurs would be the primary focus. An online questionnaire with open-ended inquiries was dispatched to these entrepreneurs to gather their valuable insights.

A selection of a few urban women supports organisations, government officials, and bankers were also included in the data collection efforts to understand better how ICT influences SMEs. Interviews were scheduled with government officials, bank executives, and support organisations.

3. *Planning and managing stakeholders:*

The selection criteria (see Table 3.3 and Table 3.4) were used to evaluate potential participants and various stakeholders, with concerted efforts to gain access (Shenton and Hayter, 2004). Subsequently, urban women entrepreneurs were contacted through various communications methods (see Table 3.5) to facilitate their participation in the research. Meanwhile, the researcher sought ethics approval for the research from the University of Wales Trinity Saint David (UWTSD) London Campus Ethics Committee.

Table 3.5 Illustrating Various Communication methods employed to reach prospective research participant.

Prospective Participants	Communication Methods
Urban Women Entrepreneurs	<ul style="list-style-type: none"> • Mobile Phone (Voice Call) • Mobile Phone - Short Messaging Service (SMS) • Email
Local NGO – Women Support Organisation (WSO, A)	<ul style="list-style-type: none"> • Email • Mobile Phone - Short Messaging Service (SMS) • Mobile Phone (Voice Call)
Local NGO - Women Support Organisation (WSO, B)	<ul style="list-style-type: none"> • Email
Local NGO - Women Support Organisation (WSO, C)	<ul style="list-style-type: none"> • Email
Local NGO - Women Support Organisation (WSO D)	<ul style="list-style-type: none"> • Email • Mobile phone, text messaging, (SMS)
ICT Policymaker	<ul style="list-style-type: none"> • Mobile Phone (Voice Call) • Email
Bank Executive	<ul style="list-style-type: none"> • Mobile Phone (Voice Call) • Email

Source: Authour

a. Communication methods used to reach study participants.

The research study used various communication methods to reach out to study participants.

Email: The researcher contacted key stakeholders via email, sending messages to fifteen senior management members in relevant government ministries and women's associations. The email included a cover letter explaining why they were chosen for this study, the research study's aims and purposes, the type of research being conducted, and how it would be beneficial to the ICT and women entrepreneurship sector in the country.

Additionally, recipients could reach out to the researcher with any questions, promoting understanding and confidence in participating in the survey. However, a disadvantage was that respondents might take longer to respond, particularly in developing countries with limited internet access and connectivity issues. This method was effective as it allowed communication across different time zones.

Mobile Phone - Short Messaging Service (SMS): Study participants were contacted via SMS, with a survey link sent directly to their mobile devices. This method effectively caught their attention. However, a potential disadvantage was delayed response times due to internet connectivity problems and challenges such as poor internet infrastructure, network connections, lack of electricity to charge mobile devices, and limited data in places like Uganda.

Mobile Phone (Voice Call): The researcher used voice calls to reach out to potential participants, introducing themselves and explaining the purpose of this study. For those who agreed to participate, the researcher asked for their preferences for future contact and discussed how the data collection would be conducted.

4. Engaging with stakeholders:

After obtaining approval and confirming access to urban women's support organisations, women entrepreneurs, government officials, and bank executives established a study plan

through negotiations with the gatekeepers. Four urban women’s support organisations were selected along with one ICT policymaker and one bank executive for this study (see Table 3.3). I negotiated a study plan with these groups to start my research.

Overall, conducting a stakeholder analysis is crucial for understanding the impact of policies and actions on diverse groups and ensuring that all voices are heard in decision-making processes.

Table 3.6 Research participant groups and negotiated research study plan for data collection.

Sample	Respondents	Consent Method	Method of data collection preference
57	Urban Women Entrepreneurs	Email and WhatsApp SMS via Mobile Phones	Qualitative questionnaire
1	Women Support Organisation (WSO A)	Email and WhatsApp SMS via Mobile Phones	Qualitative questionnaire Semi Structured Interview
1	Women Support Organisation (WSO B)	Email and WhatsApp SMS via Mobile Phones	Qualitative questionnaire Semi Structured Interview
1	Women Support Organisation (WSO C)	Email and WhatsApp SMS via Mobile Phones	Qualitative questionnaire Semi Structured Interview
1	Women Support Organisation (WSO D)	Email and WhatsApp SMS via Mobile Phones	Qualitative Questionnaire Semi Structured Interview
1	ICT Policymaker	Email	Semi Structured Interview
1	Bank Executive	Email	Semi Structured Interview

Source: Authour

3.4.3 Phase 3: Ethics Considerations for this study

As a researcher, it is essential to prioritise ethical considerations in all aspects of the research process, especially in qualitative research where participants' lives may be intruded upon (Neuman, 2011). Ensuring ethical practices, even when participants may be unaware or unconcerned about ethics means considering various ethical issues such as integrity, risk assessment, privacy, confidentiality, and anonymity at every research stage (Neuman, 2014).

This study involves collecting data from human participants through virtual interactions. (Saunders et al., 2019). formed consent and comply with Uganda's data protection and privacy laws. Data Protection and Privacy Act, 2019 (Turyasingura, 2020) and potential data transmission and storage risks have also been addressed with the participants during the informed consent process. It is also crucial to acknowledge the importance of respecting the participants and ensuring that the research is valid and not misleading or harmful. I was granted ethics approval to conduct my research by the University of Wales Trinity Saint David (UWTSD) Ethics committee.

3.4.3.1 Gaining access:

According to Shenton and Hayter (2004) gaining access key participants and informants is crucial, in qualitative studies. To achieve this, the researcher identified individuals who could provide access to the research for example the researcher attended online conferences and webinars organised by women's associations and organisations that support women's development to network with influential people in ICT, women's empowerment, and entrepreneurship. Further introductions to potential participants relevant to the research study was through word of mouth and by contacting other organisations, such as senior management of financial institutions, to request a meeting to discuss the research project. I used different forms of contact, such as email, text message, used to establish contact with the prospective participants.

After I gained access and contact the participants who agreed to take part in the study. I received confirmation of the participants consent by either text message or signed letter as (see Table 3.5. Once the participants signed and returned the consent forms, other participants were identified using a snowballing technique through referrals from others who had already agreed and participated in this study. This was an exciting way to reach out to other women entrepreneurs who might not have considered participating in the research study.

3.4.4 Phase 4: Data Sources and Data Collection Methods

3.4.4.1 Pilot Study

Before conducting primary research, a pilot study took place between January -February 2022, to assist the researcher in identifying questions and thematic areas that would be useful to pursue the chosen research methods, help in planning or modification of the main study and resolving ethical and practical issues that could affect the main study.

The pilot study involved formal discussions, testing questionnaires and interview questions with urban women entrepreneurs, senior management from women support organizations, ICT policymaker, and banking institutions while evaluating the effectiveness of data collection methods and seeking feedback on their relevance to the research (Warren, 2002).

Stage 1 – Aim: The study aimed to evaluate the feasibility of the research, identify design issues, estimate sample size, gain preliminary insights, and bolster confidence in the Grounded Theory methodology (Charmaz and Belgrave, 2019).

Stage 2 – Choose Sample To identify potential participants for this study, I utilised my local connections, reaching out to former university classmates, women entrepreneurs, examining local newspapers, and Google search on SMEs in Uganda, digital platforms i.e. Facebook, Instagram, Twitter) websites of local NGOs supporting ICT and entrepreneurship in Uganda. The next step involved selecting a sample for my pilot study, focusing on women entrepreneurs operating in Kampala, Uganda, and who use ICTs for business purposes, ensuring a realistic yet significant sample size relevant to the research study.

After selecting the sample, I then recruited participants using various methods (i.e. email invitations, and WhatsApp messaging and voice call. This approach guaranteed a well-rounded pilot test of the research questionnaires in line with the research goals, considering the available resources.

Stage 3 – Conduct Test The pilot study was important because it allowed to evaluate survey questions with the target population (Yin, 2014; Creswell, 2014) and gather valuable feedback. I conducted one-on-one telephone interviews with one woman entrepreneur to assessing the survey questions (Willis, 2005). It was fascinating to observe the respondents' thought processes as they answered, and their feedback was instrumental in refining the questions to ensure they accurately measured what they were intended to measure. I used techniques such as concurrent thinks aloud and retrospective probing to gather rich information and feedback from the respondents.

I evaluated the online questionnaire with other participants, sending the survey link via email, WhatsApp, and other messaging platforms. However, I encountered challenges related to internet connectivity in Uganda. In addition to the urban women entrepreneurs, I conducted pilot interviews with senior management via email, WhatsApp, mobile phone voice calls, and zoom. Each approach provided unique insights and helped me refine my data collection methodology effectively.

Stage 4 - Analysed the feedback: After collecting preliminary data from female entrepreneurs and senior management in urban areas, an analysis was conducted to identify any issues that may have affected the quality of the survey. The researcher made sure that mobile users did not face any technical difficulties when accessing the survey link on various devices. Furthermore, reviewed non-response rates, response times, and the presence of ambiguous, confusing, or leading questions. Additionally, I evaluated the reliability and validity of the responses, while also checking for errors.

Stage 5- Revised online and interview questionnaires: After analysing the feedback, I updated my questionnaire to align with the study objectives. I carefully revised and reorganized the questions, simplified them, and adjusted the survey's design.

To address this, I modified the data collection instruments based on participant feedback and redesigned the online questionnaire to be mobile-friendly. During the pilot study, it became evident that improving business processes for women-owned enterprises, particularly in terms of establishing an online presence, is crucial at a micro level. Despite encountering a few setbacks, I was able to overcome them through careful planning and consideration.

The pilot study highlighted issues with ICT infrastructure, connectivity, data costs, and electricity power cuts, which affected response times. The results emphasized the usefulness and effectiveness of data collection through open-ended questionnaires and semi-structured, despite connectivity and data cost issues affecting response times.

Participants endorsed that the data was collected without any undue influence, and conducting survey questionnaires and interviews in a relaxed and productive environment proved to be effective for both the researcher and participants. This study also revealed that focusing on open-ended interviews and defining primary concerns is crucial for ensuring valuable quality data in future research in this field.

The pilot study confirmed that the grounded theory approach was a practical way to investigate women's entrepreneurship and ICT use on SMEs in developing countries. In addition, the pilot study introduced and validated theoretical sampling as a participant selection, data processing, and analysis technique. Future research in this field should prioritize performing open-ended interviews and defining primary concerns to ensure high-quality data collection. Lastly, this study highlighted the importance of being prepared and adaptable to unexpected challenges during the research process.

The following data collection sources and the procedures were employed for this research.

3.4.5 Data collection Methods

3.4.5.1 Primary Data:

Over a 6-month period, I collected a wide range of data, including online questionnaire, secondary data, and semi-structured interviews.

The following data sources and the procedures employed for the data collection direct from participants (Creswell, 2013; Edwards et al., 2001).

3.4.5.2 Online Questionnaire

Questionnaire Schedule: The questionnaire was designed based on an extensive literature review in chapter two of this thesis to adjust the context of this study. The questionnaire design considered that the target audience would be using small screen and keyboard handheld devices such as mobile phones and tablets, which differ from computers or laptops. The schedule was piloted and amended during the pilot study.

The final version of the questionnaire comprised six sections with open ended questions. A copy of the questionnaire for urban women entrepreneurs used in data collection can be found in Appendix C.

The first section of the questionnaire contained informed consent language, requesting participants' agreement to take part in the research.

The second section gathered demographic information about respondents and their enterprises.

The third section of the survey consisted of open-ended questions devoted to knowing urban women entrepreneurs share their experiences, challenges, and benefit of ICT usage in their businesses.

The fourth section of the survey aimed to gather insights into the factors impacting ICT access, acceptance, usefulness, and usage, as well as women's perceptions of ICT in SMEs

In the fifth section, the Technology Acceptance Model (TAM2) (Venkatesh and Davis, 2000) approach was used to investigate the usage and acceptance of ICT using various aspects, such as perception of ICT (POI), perceived ease of use (PEoU), perceived usefulness (PU), intentions to use (ITU), and attitude to use (ITU).

The objective was to determine the factors that affected the acceptance of ICT, alongside how national culture contributed to the usage of these systems.

The sixth section included broad questions exploring how social-cultural dimensions of Ugandan culture affect how women entrepreneurs perceive and use ICT to empower their businesses.

Questionnaire means of distribution: To ensure that all necessary categories are addressed, with tailored content for each participant's demographic, a meticulous plan was created for distributing the questionnaires. Along with an invitation letter and personalised cover letter for each potential participant (see Appendix A B, and C). This study used various questionnaire distribution methods (see Table 3. such as e-mail and WhatsApp. This personalised touch encouraged higher response rates a method previously shown to be effective (Edwards et al., 2001).

Despite some participants initially not returning their questionnaires within the allotted time, regular reminders were sent every two weeks to ensure that no valuable data was missed. With the help of these reminders, data was collected from all participants. This research study demonstrated the effectiveness of personalised questionnaires in achieving a higher response rate (Edwards et al., 2001).

3.4.5.3 Semi-structured Interviews

interviews were chosen to collect data from senior management (Alvesson, 2003) semi-structured interviews are particularly relevant in qualitative research as they offer more flexibility to the interviewer. This approach, the researcher prepares questions in a preferred order before the research, and this approach enables the interviewer to explore essential and relevant subjects to the research and understands the interviewee perspectives in detail (Creswell and Creswell, 2017). Furthermore, this approach allows for more open questions, allowing open discussion with the respondent (Saunders et al., 2009). However, it is essential to acknowledge that interviews have their limitations.

For example, identifying enough experts in each field (see Table 3.3 and Table 3.4) deciding which to include, and managing time and costs, especially the research was carried out during a pandemic, if most participants need to be interviewed, can pose challenges. Additionally, verbal scaling can pose issues with the accuracy of measurements. The research supplemented the questionnaire responses with interviews from senior management (see Table 3.6) and reviewed literature (Chapter 2). This approach gives this study a holistic view of the topic under investigation.

Interview process: The data collection process began with recruiting participants who met the criteria (see Table 3.3 and Table 3.4). To ensure the accuracy and reliability of the interview questions, the researcher engaged in formal discussions about ICT in general in Ugandan SMEs and about ICT infrastructure, future policies and strategies and how they are supporting SMEs in adopting ICT, with both the ICT policymaker and the financial expert in the credit sector. Following these discussions, the researcher formulated the interview questions based on the literature review and expert opinion (Straub et al., 2004).

All suitable candidates were contacted by phone and later with an introduction e-mail with a participant information sheet which outlined the purpose and conditions of This research study (see Appendices B and C), and Interview questions and consent (see Appendices E, F and G) were sent to candidates who agreed to take part in this study.

Actual Interview: I arranged the interviews at the convenience of the participants and took place between March – September 2022. Prior to each interview, participants were required to provide consent for recording. The first interview involved an ICT policymaker, while the second interview featured a bank executive, both conducted at agreed upon times and dates. To protect privacy, all personal details i.e. names and positions of the participants were confidential. Due to the pandemic, I conducted interviews over the telephone and lasted between 45 and 60 minutes.

The interviews were in English using a semi-structured format with open-ended questions. I informed the participants that the interviews are going to be recorded, and their consent obtained before each interview. The interviews aimed to explore participants' experience working with women entrepreneurs in ICT, the challenges and opportunities perceived with ICT, and their impact on women entrepreneurship. As new concepts and categories emerged, the interview questions were updated to gain further insights. Appendix D and E presents the questions and the interview guide of this study. As new concepts and categories emerged, the interview questions were updated to gain further insights.

After Interview: After the interview, I transcribed the interview data (Chapter 3 - Data Collection Methods). I used the data analysis software tool, NVivo software 11™. This analysis tool offers advantages in analysing qualitative data and identifying patterns across the primary and secondary data through coding and organisation data fragments (Miles and Huberman, 1994). For instance, NVivo software 11™ facilitates storing a large volume of data, editing and material management, and streamlining the data searching and retrieval process. The coding and recoding process is simplified (Lacey and Luff, 2009). (NVivo software 11™, 2015) is deemed useful in qualitative research, offering a hierarchical mechanism that aids in identifying relationships between coded data and generating reports (Brazeley and Richards, 2000; Gibb, 2002). Furthermore, NVivo software 11™ provides various functions that support the coding and retrieval of text and enable the researcher to document research memos during the analysis process.

Note: interviewed informants' multiple times during the three collection stages and due to the nature of the exploratory study, some additional questions (probing) were asked for clarity and complement the understand regarding some specific aspects.

3.4.5.4 Secondary Data

Other secondary sources were also used, such as literature review on roles and benefits of ICTs and factors influencing the successful adoption of ICTs among SMEs in particular women enterprises, analysis of government documents, reports and websites to gather additional introductory information and context of ICT related activities, information relevant to analysis (Saunders et al., 2009). This information was relevant during interviews with senior management and women entrepreneurs, as it facilitated verification a significant factor in qualitative research (Yin, 2018)

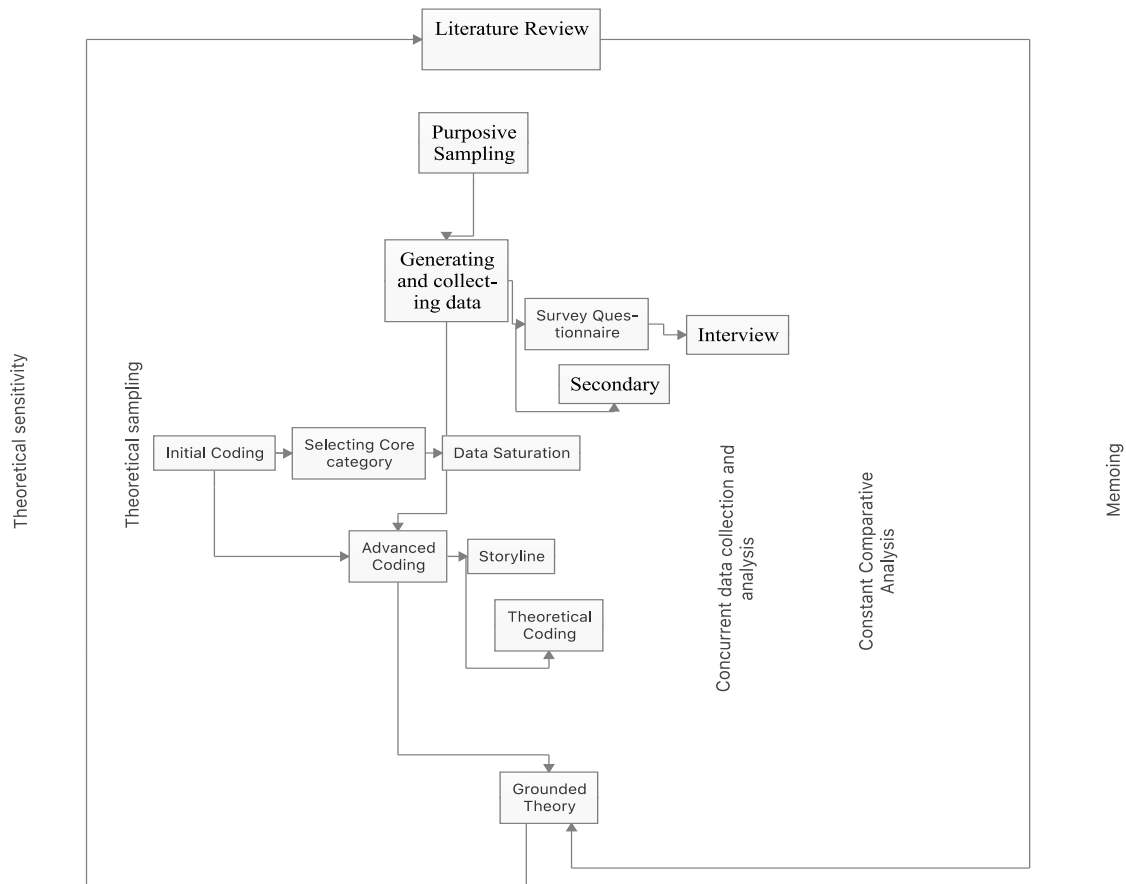
3.4.6 Phase 5 Interpreting, reducing, and analysing data.

The previous section of this study provided an overview of the data collection methods employed, including an open-ended questionnaire survey to gather information from urban women entrepreneurs and semi-structured interview for senior management. This section will identify common patterns and themes from the participants' responses, followed by a critical analysis to achieve study's research questions and objectives.

This section will identify common patterns and themes from participants' responses, which will be followed by a critical analysis to achieve study's research objectives (Chapter 1, Section 1.1.1) and research questions (Chapter 1, Section 1.1.2). This thesis adopted the GT method approach, and this subsection seeks to improve data analysis and the results, integrity, by presenting data analysis process's nature.

The data interpretation method, explores the data's underlying meanings, reducing information to abstract terms and summarising information is (see Figure 3.5).

Figure 3.5 Illustration of the GT Analysis Process



Source: Adapted from Charmaz (2006)

Three primary steps comprise the method of data processing (see table 3.5) data processing and interpretation procedures, including evaluating data, reducing the data to abstract concepts, and summarizing the data. I followed (Charmaz, 2006) recommendations by applying multiple interpretations of the data, being flexible, when looking at the new data and leads.

When using grounded theory-based analysis, researchers typically follow these steps:

- Reviewing the data to identify recurring themes,
- Assigning keywords and phrases to these emergent themes,

- Arranging the codes into hierarchical concepts,
- Categorising the concepts based on their relationships.

(Source: Adapted from Mackenzie, 2006, Glaser 1992)

3.4.6.1 Data Analysis in Grounded Theory

When conducting qualitative research, it is important to adopt a method that allows for multiple interpretations of the data. The grounded theory method was used in this study (Weltz et al., 2011) discussed earlier, which involved being flexible when searching for answers and leads in GT methodology (See Figure 3.5) and as detailed in the discussion that follows, the process of doing a GT research study is not linear, rather is iterative and recursive.

Table 3.7 Data analysis in Grounded Theory -based analysis

Data Analysis and representation	Grounded Theory
Data Preparation	<ul style="list-style-type: none"> • Data collected and data cleaning is performed. • Begin to develop tentative categories grounded in the data (Okta, 2012; Mackenzie, 2006; Glaser, 1992; ; 2014).
Initial coding	<ul style="list-style-type: none"> • Label and categorise data based on emerging themes (Charmaz, 2014) • Examine the raw data line by line to identify initial concepts. (Goulding, 2002).
Focused Coding	<ul style="list-style-type: none"> • Group codes into concepts hierarchically. • Identify relationships between concepts. • Refine and organise the emerging categories (Bryant et. al., 2012).
Theoretical coding	<ul style="list-style-type: none"> • Search for core categories that explain the phenomenon. • Develop a coherent theory based on the data (Charmaz, 2014) • Ensure the theory accounts for variations and discrepancies in the data. • Continuous comparison until saturation achieved (Robins, 2016; Charmaz, 2014)
Write-Up	<ul style="list-style-type: none"> • Last step <p>Start writing the principle that accompanies the theoretical overview (Belgrave,2019)</p>

Source: Adapted from Okta, 2012; Mackenzie, 2006, Glaser 1992; Bryant et. al., 2012; Belgrave, 2019; Goulding, 2002; Robins, 2016; Charmaz, 2014)

Data preparation: To prepare the data for analysis, a thorough four-step process was undertaken in this study:

1. Stakeholders uploaded their questionnaire responses onto a Microsoft Excel Worksheet (.xlsx) after collecting the data.
2. The NVivo software 11™ is used to import the data from Excel.
3. Open-ended responses are grouped into nodes, while participants' information is placed into the case, and demographic information was classified according to the case.
4. Four central nodes were created to represent each research question before the data was reorganized.

Subsequently, data exploration was conducted to familiarise with the data, followed by coding relevant information. Finally, themes were generated to address the research questions. This process ensured a rigorous and accurate analysis. Research questions. This process ensured a rigorous and accurate analysis.

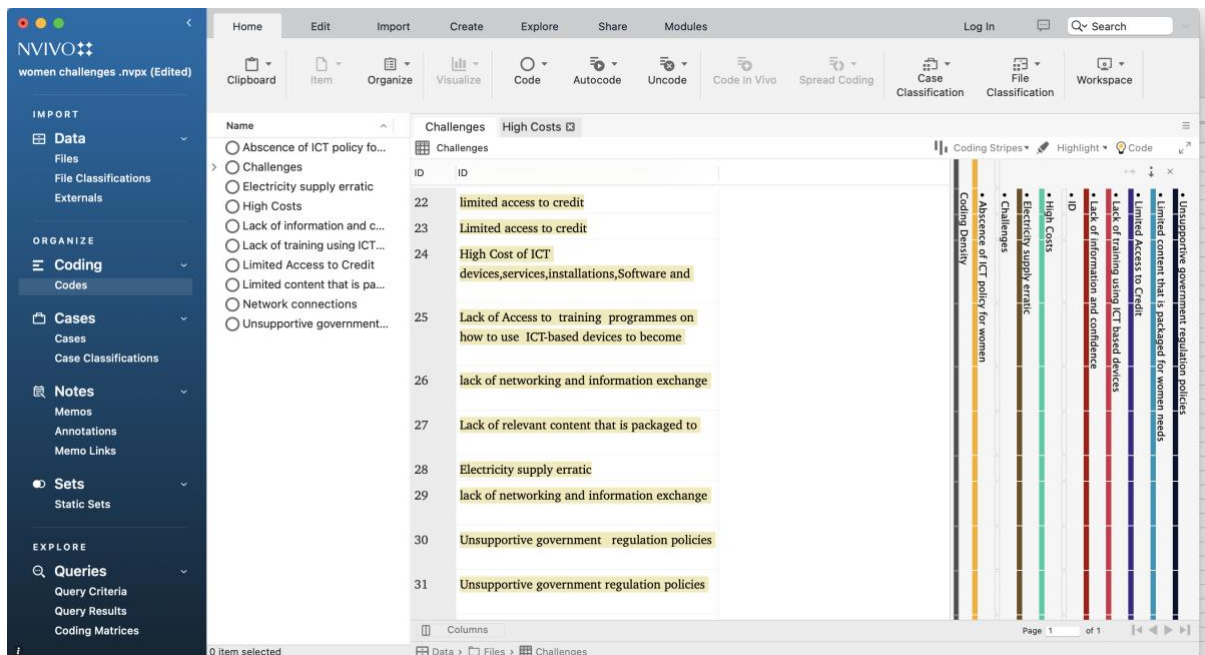
Initial coding: Once I collected the data, the next step was to start analysing it. One of the key aspects of grounded theory is initial coding. The coding process consists of several distinct stages, and my first step was initial coding, as suggested by Charmaz (2004). Initial coding involves identifying patterns in the data by breaking it down to compare incidents, looking for similarities and differences in the emerging patterns. The survey questionnaire was designed to ask essential questions that would help assign meaning to the data during the initial coding stage. To facilitate effective expression from both my urban women entrepreneurs and other stakeholder groups (Sunday, 2006).

An analysis was conducted starting with a systematic breakdown of the data using the open coding approach (Glaser and Strauss, 1967). This kind of coding is also referred to as initial coding (Charmaz, 2014). The transcripts were independently reviewed, and descriptive codes related to each interview or questionnaire response were identified to document and assess the level and breadth of theme support among study participants. During the process, when I came across differences in opinions, questionnaire responses, and interview scripts were consulted for clarification.

Codes that were similar were grouped into first-order categories, following the (Charmaz (2014), and my coding was refined through constant comparison with the conceptual framework (Chapter 2, Section 2.9, see Fig. 2.3). The coding of the participants' responses continued until theoretical saturation was reached (Charmaz, 2014; Glaser, 2004), and the recursive process of reading the data multiple times (Lincoln and Guba, 1985) allowed for the development of an initial classification system, reflecting the perspectives of this study participants. Once I was satisfied with the initial categorization and definitions, I proceeded to the next stage, which involved open coding by breaking the data into distinct experiences, acts, and ideas and designing appropriate codes (e.g. see Figure 3.6). Therefore, I started with actions and processes.

During this stage, I identified codes that were relevant to the data and started writing memos, taking a fresh look at the data, which is a heuristic device for learning about the world I was researching. This process allowed the researcher to explore, challenge, and strengthen their understanding of the data. Moreover, this early coding process allowed for additional information gathering (Charmaz, 2006) (see Figure 3.6)

Figure 3.6 Illustrates Line by line coding process.



Source Researcher: Survey Data

Focused coding: After establishing the first-order categories (see Table 3.8). I proceeded to identify their relationships, developing links and distinctions (Strauss and Corbin, 1998). This comparative analysis helped me to understand the differences and similarities across participants' data. I then made sense of the emerging practices and focused on areas where further analysis of the complete sample was needed (Charmaz, 2006). To ensure validity and construct, I relied on triangulation of the primary and secondary data. I continued to go back and forth between any emerging theoretical themes and the data (see Table 3.8) until no new categories emerged. I applied iterative process of initial coding, as well as focused coding, as described by Charmaz, 2006). This iterative process allowed me to organize codes into broader subgroups. Each code represented a theme, and all common frames were assigned a unique theme. I found that sorting and choosing the dominant codes from the data I had gathered was necessary, to more data generation to identify similarities and fill gaps in the essential categories and into insights (Gibbs, 2007, p.38) suggests that coding is how the researcher define what data you analysing is about.

Participants' quotations were first coded based on initial findings, and when quotations continually reappeared, they were coded with the same code using focused coding (see Table 3.5). When new quotations emerged, they were again coded initially until found elsewhere (Strauss and Corbin, 1990). Not only was the interview or questionnaire data analysed but additionally conducted a methodical literature review to become adaptable to ICT, which was not done previously during the coding process (Charmaz, 2006). Based on the empirical data and through my analytical process, I aggregated the findings into different themes composed of eleven categories. In addition, abduction is defined as a form of reasoning that begins with an examination of the data and the formation of several hypotheses that are then proved or disproved during the analyst process (Birks and Mills, 2015).

Theoretical coding: In grounded theory, coding functions as a vital link between data collection and the development of a theory that elucidates the data (Charmaz, 2012). The research study employed the constructivist grounded theory coding process, encompassing initial, focused, and theoretical coding (Mill and Birks, 2014).

This comprehensive process includes amalgamating focused coding categories to construct an abstraction of an action through abductive inference (see Table 3.6) subsequently, this abstraction can be transformed into a theory. The theory is then compared with current data generated by theoretical sampling, and constant comparison is conducted until saturation is attained (Charmaz and Belgrave, 2019). The core categories are then selected to align with the data obtained from all the participants' responses, and oriented coding is used to transform needs into theoretical coding.

Table 3.8 Steps to establish emerging categories.

Initial Codes	Focused codes	Category	Connection of the categories to theory (TAM2) (Venkatesh and Davis, 2000)
<p><i>Age group ranged from 18-65+.</i></p> <p><i>"We need ICT training facilities for the elderly."</i></p> <p><i>"My enterprise is too small to invest in ICT."</i></p> <p><i>"With my education I can use ICTs without a problem."</i></p> <p><i>"I do not know how to use my computer."</i></p> <p><i>"I do have not trained or have knowledge on house to use ICT for business."</i></p>	<p>Personal Demography</p> <p>Enterprise Demography</p> <p>Education level</p> <p>Understanding ICT capabilities</p>	<p><i>Personal Demography:</i> Participants Demographic profile ranged from 18-65+.</p> <p><i>Properties:</i> Age was important for an individual's belief and influence on ICT adoption behaviour.</p> <p>Enterprise Size determined the PU of ICTs.</p> <p>The more an individual is educated their belief of intention to uses is decided by the perceived ease of use of the technology and usefulness.</p> <p>Lack of ICT skills among the participants. The decision of the business owners to adopt ICT begins with the knowledge, experience, usefulness and ease of use.</p>	<p><i>Age:</i> Age was important for an individual's belief and influence on ICT adoption through both perceived usefulness and perceived ease of use (PEoU).</p> <p><i>Enterprise size and sector and sector:</i> Enterprise's size and sector has a significant impact on the levels of ICT utilisation.</p> <p>According to this study findings, enterprise size and economic sector determined the perceived usefulness (PU) & PEoU of ICT.</p> <p>There is a big gap in the type of ICTs used in SMEs and economic sector.</p> <p><i>Education:</i> Is a strong determinant of perceived ease of use. As the findings revealed depending on business owners' knowledge acquired at an education establishment.</p>

			<i>ICT Skills:</i> The behaviour intent to use and actual use of a technology is based on individual ICT skills. The behaviour intent to use, and actual use of a technology is based on the enterprise owner's perception on the usefulness and ease of use of that ICT for the task intended.
<i>"ICT is our most powerful tool in enabling women contribute to sustainable development at all levels a pivot in entrepreneurship."</i>	Perceptions on the role of ICT in women entrepreneurship	Role of stakeholders in supporting women entrepreneurship, enterprise growth and empowerment through ICT. <i>Properties:</i> Strategies, challenges, perception on role and relevance of ICT and Women enterprise. Recognising the challenges faced by SMEs, implementing strategies and support ICT initiatives for SMEs.	With support from different stakeholders (i.e. government, local NGOs and banks), increases the intention of Use, usefulness, and ease of use leading to leads to actual use ICTs by SMEs.
<i>"I have learnt to post my products on my WhatsApp online status, I have seen growth in my clients and my business is surviving, I have now created a WhatsApp group of my customers, and I put all what I must sell on the group, when I get orders, I then send them out using BodaBoda."</i>	Access to ICT resources	Extent and Impact of ICT use on SMEs. <i>Properties:</i> Urban women entrepreneurs are realising the importance of ICT for business and harnessing different ICTs to growth their businesses.	(Perceived Usefulness (PU) of ICT for job relevance, ICT skills(PEoU), Social Influence leads to ITU and AU of ICT).
<i>"As a micro business owner. taking advantage of the benefits of social media advertising."</i>	ICT Usage	Factors on the Usage and Acceptance of ICT Improved ICT, energy, telecommunication Infrastructure	Access to resources such as available infrastructure women SMEs are connecting to the Internet (Perceived usefulness, Attitude to Use and Actual usage).

		and education system enables access and digital inclusion	
<p><i>“As governments, we have a role to play to transform this digital divide into digital opportunities for national development and engagement of regional integration.”</i></p>	<p>Bridge the digital divides</p> <ul style="list-style-type: none"> • Empower women through ICT training digitally literate, • Improve employment opportunities and entrepreneurship, • Gender sensitive policies. 	<p>ICT standards and its relevance for enterprise growth and empowerment.</p> <p><i>Properties:</i> Universal Services and access on how to enhance ICT adoption through digital literacy, gender sensitive ICT policies.</p>	<p>Role of government providing an enabling environment for SMEs- (perceived Usefulness (PU Intention to Use (ITU) and Actual Use-AU).</p>
<p><i>“The old generation lacks ICT skills as we did not have a chance to get training, and we are not aware of how to use ICT to manage our businesses.”</i></p> <p><i>“I must attend ICT training to be competent in using these ICT devices”</i></p> <p><i>“Though I own both a mobile phone and a laptop, I do not have the necessary skills to use them to my advantage, especially where my business is concerned.”</i></p>	<p>Inadequate ICT skills</p> <ul style="list-style-type: none"> • lack of ICT skills and ICT training facilities, • individual needs in terms of ICT usage for enterprise growth. 	<p>Computer literacy and women entrepreneurship</p> <p><i>Properties:</i> Uganda has one of the lowest computer literacies in the world. The participants did not have basic ICT training business skills.</p> <p>Urban women entrepreneurs were developing their skills- empowering self in ICT training and attending ICT training workshops and course.</p>	<p>Examining the level of ICT literacy in Uganda in particular women entrepreneurs’ (Perceived Usefulness (PU), Perceived Ease of Use (PEoU), Intention to Use and Actual Usage).</p>
<p><i>“Due to limited connectivity, Internet services do not work” which impacts our business. What is the point of having an ICT based business if there is limited connectivity “makes use of ICT impossible.”</i></p>	<p>Individual needs in term of ICT Usage.</p>	<p>Challenges in access, usage, and ownership of ICTs. (ICT exclusion)</p> <p><i>Properties:</i> The ICT available to and accessed by urban women entrepreneurs are not being used to fully used for business purposes Women entrepreneurs concerns about data sharing. Trust in</p>	<p>Examining the challenges of ICT in women entrepreneurship (i.e. women entrepreneurs concern about data sharing, costs of services and devices, ease of use of a technology and its usefulness determines the Intention to Use (ITU) and actual usage.</p>

		Technological application, excessive costs impacting ICT use, skills gap, connectivity, and access factors hindering ICT use.	
<i>I use mobile money for all my financial tasks, I pay my suppliers through mobile banking and received payment for goods from some of my customers.”</i>	ICT Inclusion Financial, Social and economic Inclusion (Increased Self Esteem) .	Opportunities of ICT for enterprise growth and empowerment. <i>Properties:</i> Examining the opportunities in Using ICT for enterprise growth and empowerment. The benefits provided by using and accessing ICT for business purposes, access to markets, financial inclusion, gaining basic ICT skills.	Access to ICT (Inclusion) such as connection to Internet, ownership of ICT tools and ICT knowledge dependent on PEoU, PU, ITU and Actual Usage of a technology.
<i>“I prefer voice calls over messaging because it feels more personal and efficient. However, I do appreciate the convenience of messaging when a call is not possible.”</i>	Types of ICT owned, used to access the internet: <ul style="list-style-type: none"> • Mobile Phone • Computer • Fixed telephones • Printers/photocopier Fax • Internet • Wireless USB dongles (i.e. MI- FI) • Radio, • Television • Newspapers. 	Preference For Mode of ICT, women Entrepreneurship and Empowerment <i>Properties:</i> How women entrepreneurs are using these ICT to create value. Mobile phone most used ICT for communication. Available ICTs are not fully utilised due to excessive costs, affordability and weak ICT infrastructure.	Due to ease of use and usefulness, the mobile phone is the most used ICT tool by women MSMEs.

<p><i>"I think it has changed overtime given that now more women are educated and therefore exposed."</i></p>	<p>ICT vital for business growth and women empowerment.</p> <ul style="list-style-type: none"> • Adopt ICT to narrow the digital gap • Institutional ICT support to strengthen women entrepreneurship. 	<p>Views about the link between ICT and enterprise growth and empowerment of urban Women by policy makers Views</p> <p><i>Properties:</i> Participants acknowledged the benefits of ICT for enterprise growth and empowerment.</p>	<p>Find ICT easy to use, intention to use and usefulness and a positive attitude to ICT use in business. However, the findings revealed there is low confidence in women's ability to adopt ICTs for business tasks.</p>
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<p><i>“Through years of experience dealing with women entrepreneurs. Emphasising that the most educated women with ICT skills and knowledge are more competent and knowledgeable, in using ICT to gain competitive advantage, better decision making, access information and markets.”</i></p>	<p>Type of ICTs used for business activities:</p> <ul style="list-style-type: none"> • Communication(Mobile Phone, computer, email, Internet, Fixed telephones, WhatsApp, social media, printers’ photocopier, fax). • Training e-learning (Television, computer, mobile phones mobile applications You Tube) • Information search (Radio, Newspapers) • Access markets, business and social networking, advertising and online presence (Internet) • Financial activities (Mobile money) • Data storage and inventory (Computer) • Internet connection(Broadband, wireless modem hub, Routers) 	<p>Experience of ICT uses within the urban women SMEs.</p> <p><i>Properties:</i> Most women entrepreneurs are using various forms of ICTs and each women entrepreneur’s choice of ICT depends on experience and how it is going to benefit the enterprise</p>	<p>Perception on the usefulness, Ease of Use and Actual Use of ICT for enterprise growth</p>
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Source: Authour

Participants quotations were first coded based on initial findings, when quotations continually reappear, they were coded with the same code using focused coding (see Table 3.8). When new quotations emerged, they were again coded initially until found elsewhere. (Strauss and Corbin, 1990). Not only was the interview or questionnaire data analysed but also conducted a methodical literature review to become adaptable to ICT, which was not done previously during the coding process. (Charmaz, 2006). Based on the empirical data and through my analytical process, I aggregated the findings into different themes composed of eleven categories.

I derived the first order concepts representing the responses looking for similarities and differences across the diverse stakeholder groups, a directly connecting to the overarching dimensions of the TAM2 framework. I then combined similar first order concepts across the participants into a set of second order themes (Gioia et al., 2013). I finally triangulated the second order themes and first order concepts with supplementary interviews to strengthen the contextuality of the study process model. Table 3.9 illustrates this study's final data structure. The data structure not only helps to configure the data into a sensible visual aid, but it also represents a graphic illustration of this study's analysis from raw data to concepts and themes (Gioia et al., 2013). The final data structure in Table 3.9, of this study summarises the interrelations of first-order concepts, second order themes and aggregate dimension on which I propose a process model. The first order concepts incorporated the language of the participants and describe the key activities for ICT use on SMEs.

Finally, I developed the aggregate dimension from the second order themes that represents the perception of ICT, along with contextual factors that related to the opportunities, challenges and other factors of ICT use on SMEs and portraying ICT as a support tool for enterprise growth and empowerment. As listed in Table 3.9, Grounded Theory employs data to generate theories and develop hypotheses that account for observed behaviour, facilitating further research and examination (Stern and Porr, 2011). The data analysis process involved identifying repetitive themes by meticulously reviewing the data, coding emerging themes with keywords and phrases, grouping the codes into hierarchical concepts, and subsequently categorizing the concepts through relationships.

Throughout the research process, the researcher implemented the focused coding stage, carefully correlating data to identify linkages and variations, pursuant to Strauss and Corbin (1998). This method was achieved by exhaustively comparing statements and incidents from direct interviews and within the same questionnaire.

Furthermore, constant comparative analysis serves as an analytical process used in Grounded Theory for coding and category development, commencing with the initial data and persisting throughout the research process, as illustrated in Figure 3.6 (Birks and Mills, 2015). Incidents are discerned within the data and duly coded. Through this comparative analysis, this study examined the initial codes and identified dominant preference codes while establishing their relationships with other codes. This pivotal stage, explicated by Charmaz (2006), plays a crucial role in uncovering meaningful insights from the data. Subsequently, new data is compared with data obtained earlier during the analysis phases, such that this iterative process entails inductive and deductive thinking (Charmaz, 2006). By virtue of the inductive process, constant comparative analysis generates increasingly abstract concepts and theories (Charmaz, 2006). Further, abduction is delineated as a form of reasoning that commences with a data examination and entails the formulation of multiple hypotheses, subsequently subjected to validation or invalidation during the analysis process (Birks and Mills, 2015).

Table 3.9 Overview of Data Structure

First Order Concepts	Second -Order Theme	Aggregates- Connection of the first order concept to theory (TAM2).
<p><i>“ICT use is instrumental in fostering better business management and advancement in women owned MSMEs.”</i></p> <p><i>“The government has launched several programs and initiatives promoting ICT adoption among women entrepreneurs.”</i></p> <p><i>“ICT is one of the channels being used by the bank to empower urban women in business”</i></p>	<p>Views about the link between ICT and enterprise growth and empowerment of local women by Policy Makers</p>	<p>Government support is very in driving the intent to use of ICT by women entrepreneurs since women entrepreneurs cannot stand alone in managing a business. Uganda has recognised the crucial role that easy access to relevant information and efficient communications plays in supporting human development Perceived Ease of Use (PEoU); Perceived Usefulness (PU); Actual Usage (AU).</p>
<p><i>“The free public WIFI” (MYUG WI-FI), we used to connect on the, but the box was removed as these days we cannot not get any connection.”</i></p> <p><i>“We need affordable and stable internet connections, as intermittent occurrence interrupts our businesses and end up losing income.”</i></p>	<p>Connectivity, Access, and relevance of ICTs for women entrepreneurship and empowerment.</p>	<p>Urban women entrepreneurs’ technological choices for use in enterprise management such as internet enabled mobile phones, wireless; MIFI, dongles as opposed to fibre optic cables for telephone, which are less costly alternatives that could result in lower tariffs for women users. Perceived Usefulness (PU); Perceived Ease of Use (PEoU); intention to Use (ITU)</p>

<p><i>“The young generation is more knowledgeable to use ICTs but instead use it for mainly gossiping.”</i></p> <p><i>“Lack of proper training, across board is a major challenge when it comes to ICT based businesses.”</i></p> <p><i>“Lack knowledge and capacity to afford the tools this has impacted on the progress”</i></p>	<p>Computer Literacy and Women Entrepreneurship in Uganda</p>	<p>Women must acquire literacy and basic education to be able to fully utilise new technology- (Actual Usage-AU).</p> <p>It is not a matter of lack of access to these software’s or ICT tools is lack of ICT literacy that is why they are marginalised and unable to use these tools, Perceived Ease of Use (PEoU); Intention to Use (ITU);(Actual Usage (AU)</p>
<p><i>“The cost of the tools, maintenance, buy data bundles, high service costs, taxes on Internet use and fees on mobile money transactions.”</i></p> <p><i>“Lack of awareness and information on ICT”</i></p> <p><i>“Outreach and use of ICT is still limited to urban areas”</i></p>	<p>Challenges of ICT for enterprise growth and empowerment.</p>	<p>There is lack of online security and financial transactions. Intention to Use (ITU); Actual Usage (AU)For many urban poor, it is a matter of affordability, digital literacy, and skills, access, lack of policy etc. In Uganda, this gender gap in accessing internet or ICT ((Perceived Usefulness (PU) Perceived Usefulness (PU); Perceived Ease of Use (PEoU); Intention to Use (ITU).</p>
<p><i>“My mobile phone is extremely useful for business, and I can use it in any location to conduct my business.”</i></p>	<p>Opportunities of ICT for enterprise growth and empowerment.</p>	<p>Intention to Use (ITU).</p> <p>all women participants owned a mobile phone, this growth in mobile phone access, is one of the transformative mobile based services being</p>

<p><i>“I do not need to hire people to market my goods as everything for my business is marketed using WhatsApp.”</i></p> <p><i>“One no longer needs to go to the Bank to make Utility payments. All the utilities of Electricity / Power, Water, TV subscription, etc are all now accessed online using Bill Pay under Internet Banking.”</i></p>		<p>offered is mobile banking (Perceived Usefulness (PU).</p> <p>This ease of use of mobile phone for digital financial services by women entrepreneurs has made the mobile phone as an incentive financial tool for business tasks (Actual Usage (AU)).</p>
<p><i>“As governments, we have a role to play to transform this digital divide into digital opportunities for national development.”</i></p> <p><i>“The Uganda Financial services industry is going through a digital revolution now. The industry is adhering to the ICT standards and policies set by the government for best practice.”</i></p> <p><i>“The policy environment strongly affects implementation or various strides in enabling women use ICTs in entrepreneurship, so it is important to do advocacy for gender sensitive ICT policies and programs”</i></p>	<p>ICT Standards and its relevance for enterprise growth and empowerment on local women entrepreneurs</p>	<p>Through national e-government programs, the government of Uganda like many other developing countries are connecting business and citizens using ICTs. This access of information has enabled women entrepreneurs access to policy forums and opportunities to participate in government initiatives (Actual Usage (AU); Attitude to Use (ATU); Perceived Usefulness (PU).</p>

<p><i>“Failures were noticed in lack of fulfilling our orders in time and misinformation.”</i></p> <p><i>“As women entrepreneurs we are trying to equip ourselves with at least basic ICT skills to be able to navigate the emerging digital markets and economy”</i></p>	<p>Investments in ICT: Lessons Learnt</p>	<p>Encourage production of local content in local languages over the Internet’s)</p> <p>Mobilize and sensitize communities about the importance of usage of ICT in their day-to-day economic activities; Actual Usage (AU); Attitude to Use (ATU); Intention to Use (ITU); Perceived Usefulness (PU); Perceived Ease of Use (PEoU)</p>
<p><i>“My mobile phone is very useful for business.”</i></p> <p><i>“I find the mobile phone easy to use when it comes to making voice calls, sending text or voice text.”</i></p> <p><i>“I rely on the internet to run my business through virtual meetings.</i></p> <p><i>“Watching television enables me to implement the practices”.</i></p>	<p>Preference for mode of ICT use and women entrepreneurship.</p>	<p>The mobile phone was the most used ICT by the urban women participants to access and use for financial transactions (Actual Usage (AU); (Perceived Ease of Use (PEoU), cut costs and improved efficiency and performance of their enterprises. (Perceived Usefulness (PU)</p> <p>Many intended to incorporate ICT marketing strategy to their business in future (Intention to Use (ITU)</p>
<p><i>“After attending a workshop, I learnt how to use social media, to advertise my products.”</i></p>	<p>Experience of ICT use within the urban women enterprises in Kampala.</p>	<p>urban women entrepreneurs’ belief that ICT usefulness and ease of use in particular the mobile phone has motivated them in using.</p>

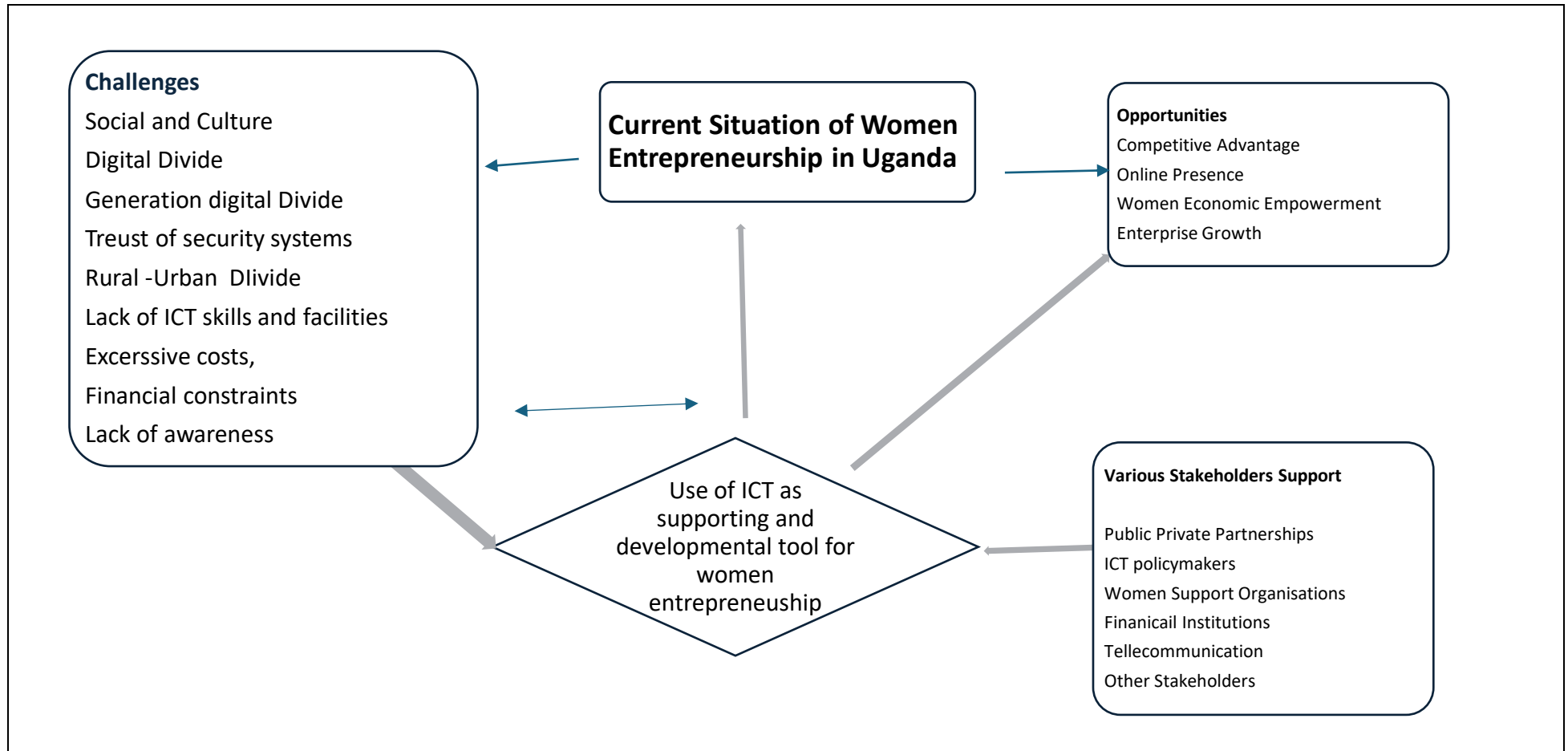
<p><i>“The most educated women with ICT skills and knowledge are more in using ICT to gain competitive advantage.”</i></p> <p><i>“One can open a Transactional account online, and one can apply for a Loan facility online.”</i></p>		<p>ICT (Actual Usage (AU); Attitude to Use (ATU),;Perceived Usefulness (PU); Intention to Use (ITU)</p>
<p><i>“The size of my business influenced my decision to adopt ICT.”</i></p> <p><i>“I own a mobile phone that meets my needs. I only use it for communication.”</i></p> <p><i>“After seeing how successful my friend’s business became after using ICT, I knew I had to try it.”</i></p> <p><i>“The business environment has seen a change. I try to equip myself with at least basic ICT skills to be able to navigate the emerging digital markets and economy.”</i></p>	<p>Factors on the Usage and Acceptance of ICT for Enterprise Growth in Women Enterprises.</p>	<p>Perceived Usefulness (PU); Perceived Ease of Use (PEoU); Intention to Use (ITU); Actual Usage (AU)</p>

Source: Authour

I identified the dimensions underlying these categories to understand how different ones fit together into a coherent picture (see Table 3.6). I analysed how these categories related to each other and established conceptual framework (Chapter 2, Section 2.9, Figure 2.3) capturing these links. Table 3.9 above is an overview of the Data structure based on first order concepts, second – order themes and Aggregate dimensions. The first order codes were categorised into second order themes, building the foundation of the data structure. In GT process, this iterative process used constant comparison (Glaser and Strauss, 1967;) to continually evaluate and iterate findings.

As listed in Table 3.9, the second order themes, the overarching aggregates (dimensions) describing the findings were distinguished. The data structure is listed in Table 3.9. From analysing the participants' data, I was able to show core classifications that resonated with the data. These classifications were then used in theoretical coding to develop a possible descriptive model, which eventually led to the emergence of an early version of the predicted substantive theory as shown in Figure 3.7.

Figure 3.7 Early plans of the substantive theory

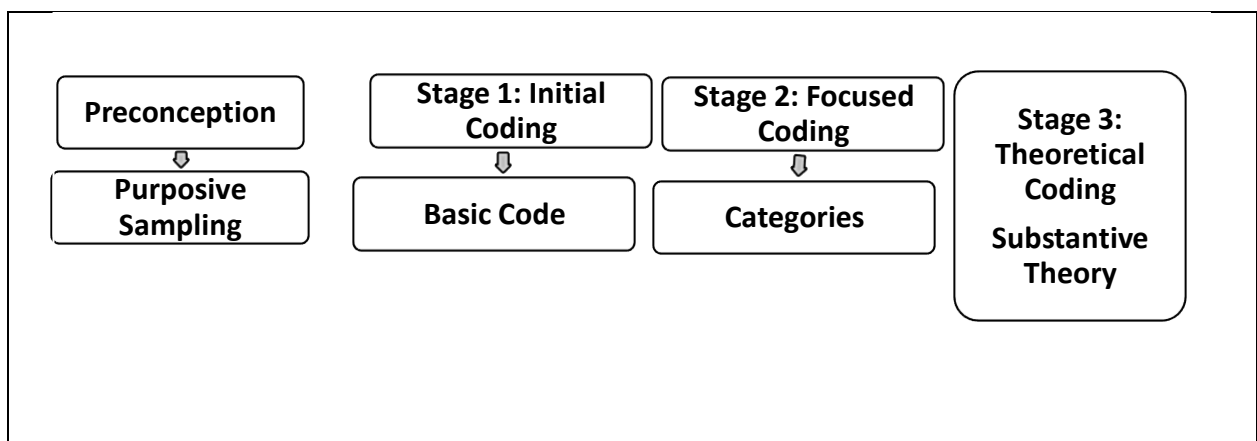


Source: Author

The reflection on the research process journey (see figure 3.8) shows the steps taken in the grounded theory journey, of this study and research process discussed in Chapter 3. According to (Creswell, 2014) it is an interactive data processing sequence that parallels survey questionnaire responses, contributing to theoretical sufficiency. This offers the most logical reason for forming relations between groups related to the data. It is interesting to note that integrating what was observed and how it was experienced can lead to the nature of the experience.

This discovery highlights the need for more research on this topic, as it could lead to significant growth in enterprise and empower women to take on leadership roles in their communities. Governments in developing countries must invest in ICT to promote economic development and growth.

Figure 3.8 The research analysis process



Source adapted from Charmaz, (2006)

This segment explained the analysing of data gathering, and analysis is summarised.

Write-up: The initial step in grounded theory analysis techniques is to record the principle corresponding to the theoretical overview. This phase results from the preceding phases' processing and theoretical coding, as indicated by (Charmaz and Belgrave, 2019).

3.4.6.2 A Stage Analysis of ICT Usage at Women-owned Enterprises in Kampala, Uganda

Questionnaire data analysis: In this section, the participants' data are relevant to study purpose of this study e.g., exploring the extent and impact of ICT use in SMEs in developing countries. Primary data was gathered from fifty-seven respondents from different SMEs. Subsequently, research was conducted using GT methodology. To clarify the respondents' demographic specifications, the categorical variables were exposed to descriptive analysis, as illustrated in the table below, to help visualise the analysis. The demographic analysis covered 1) Age; 2) Education; 3) Enterprise characteristics; 4) Employment Sector; 5) Economic Activity; 6) Use of ICT in Enterprises (See Table 3.10).

Age composition: Age is essential in projecting the future in policy decisions. This research study findings revealed that most women entrepreneurs in this study were between the ages of 35–54-year-olds (n=31,54%), followed by 25-34-year-olds(n=12,21.1%), then 55-64-year-old(n=7,12.3%), 65+(n=4,7%) and finally, 18-24-year-olds(n=3,5.3%) with lowest participation. This data suggested that women in the middle age were likely to set up their enterprises.

Education: This research study suggests that the literacy rate for this research was higher in all groups, except for one participant in the age group of sixty-five and over who had dropped out of school, Postgraduates (n=34:59.6%), Undergraduates, (n=15:26.3%, Secondary school (n=3:5.3%, Secondary school dropout, 1:3.5%, Academic college, (n= 1:3.5% and technical college, n=1:1.8% (See Table 3.10). This can suggest that women in urban areas of the country who are micro-enterprises are highly educated (OlaREWaju and Fernando, (2020). The findings are consistent with Hala (2013) claim that higher education attainment will motivate users to use ICTs.

Enterprise size and legal status: The average women enterprise size from the findings was at the micro-enterprise level with 1-4 (n=51, 89.5%) employees. These small-scale businesses were often run from home, and small enterprises with 5-49 employees (n=5, 8.8%). However, one participant owned a medium-sized enterprise with seventy employees (n=1, 1.8%).

This was a clear sign that there was still a long way to go in promoting the growth of women-owned businesses from micro to medium-sized in urban areas. The findings are consistent with the Uganda Ministry of Finance and Economic Development (MoFED, 2011).

Data analysis on the legal status of SMEs revealed that (n=35,61.4 per cent) of urban women micro-enterprises are registered and unregistered (n=22, 38.6 per cent). The findings are consistent with the Uganda Ministry of Finance and Economic Development (MoFED, 2011). Furthermore, the data analysis revealed that there is still a significant disparity in business bank account ownership in women's enterprises. Based on the research, it is evident that women-owned businesses have a lower usage of bank accounts. Only (n=19) businesses had an account. This is a crucial factor in financial inclusion, and it is essential to address this issue further by providing more resources and support to women entrepreneurs, so they have equal access to financial resources and opportunities for growth.

Enterprise Sectors: Data analysis revealed diverse business sectors where urban women entrepreneurs are actively working. the service sector is a popular choice, with most women-owned micro-enterprises in areas such as Retail Trade, Wholesale, Hotel and Restaurant, Telecommunications, Transport and Communications and Tourism sub-sectors (n=47:82.5 per cent), Agriculture n=9;15.8 per cent), Industries (n=1;1.8 per cent).

Furthermore, this research study showed that retail Trade, Wholesale, Hotel and Restaurant, Telecommunications, Transport and Communications and Tourism sub-sectors, and Agriculture participants were more likely to consider using ICTs such as mobile phone services to operate their micro-enterprises in Uganda. (International Trade Administration, 2022). The findings are consistent with the Uganda Ministry of Finance and Economic Development (MoFED, 2011).

ICT adoption, skills, and knowledge in Urban women enterprise: The findings on the responses to whether the participants had ICT training. Findings revealed that Among the participants (n=20, 35.1 percent) had ICT training and were postgraduates and undergraduates. Moreover, the remaining participants (n=37, 64.9 per cent) across all age groups had no training, and no ICT skills to use a computer (See Table 3.10).

Furthermore, data analysis revealed that (n=2) participants had applied for a loan online. It is a significant finding that women entrepreneurs are trying to use ICT for online applications. However, the majority (n=31) of the participants in stakeholder group 1(urban women entrepreneurs) obtained finance by relying on personal savings followed by borrowing from family and friends (n=22), borrowing from a financial institution(n=4). (Kuriloff et al., 1999) states that getting loans affected most women entrepreneurs who faced challenges impeding business growth.

Data analysis revealed that only two businesses (n=2) had an online presence with a website, which is an effective way of having an online presence and attracting more customers, leading to business growth. Significantly, women are starting to harness ICT for competitive advantage. Furthermore, the findings showed that (n=11) of the enterprises with legal status had working Internet during working hours and used wireless broadband (MI-FI). (See Table 3.10). The findings showed (n=10) of the participants had business email for communication purposes, which was promising that women entrepreneurs are utilising ICT. However, the majority (n=47) saw no relevance of a business email in micro-enterprises. On the other hand, it shows that SMEs still lag in ICT use.

Economic Activity: Data analysis revealed that (n=26) were running a business and another economic activity, whereas n=31 concentrated on one business activity. These findings from the summary of employment demographics showed that urban women entrepreneurs were not solely focused on running a single business. Instead, women entrepreneurs were diversifying their income streams and mitigating risks by having a second job. This indicated that since most participants were highly educated and used their knowledge to earn a living.

Table: 3.10 Summary of the participants -urban women entrepreneur's demographic profile

		Participants (n= 57)
Age	18-24	1
	25-34	3
	35-54	31
	55-64	7
	65+	2
Educational level	Academic College	2
	Secondary school	3
	Secondary school dropouts	2
	Degree	15
	Postgraduate	34
Enterprise Characteristics: Enterprise Sector Enterprise type Enterprise Legal Status Use of ICT in Enterprise Enterprise Website Enterprise with Internet Enterprise bank Account Enterprise E-mail	Agriculture	8
	Industrial	2
	Service	46
	Micro	52
	Small	4
	Medium	1
	Registered (Small and Medium)	20
	Unregistered (micro)	32
		1
		12
	6	
	5	
Economic Activity	Do you have another Job? Yes	26
	No	31

Source: Authour

3.4.7 Phase 6 Closure

In this final stage, the goal is to compare the themes and relationships of the concepts with the current literature. I thoroughly reviewed various literature ranges, including prior reviews from Chapters 2 and 3 and new relevant sources. The literature section of this study aims to identify both similarities and contradictions between the emerging themes and other studies on the same phenomenon.

This process helped develop a theory with more substantial validity, broader generalisation, and higher concentration levels, as noted by Eisenhardt (1989; 2007). According to Yin (1994), I must determine if the theory development process is complete. Once the ideas and concepts are established and further contributions are unlikely, the process of recapitulation between theory and data is complete.

3.5 Appraising Constructivist Grounded Methodology and the Research Design

The Grounded Theory (GT) approach was adopted for this study and involved immersing in This research study and data collection process. Using the CGT approach, the researcher followed a symbolic interactionist theoretical perspective(Charmaz, 1990; 2005). According to Clarke et al., (2023), in appraising constructivist grounded methodology and the research design, it is essential to consider several factors. By constructing grounded theories based on their past and present interactions with people and perspectives, researchers can gain a deeper understanding of the world they are studying (Charmaz, 2006. pg. 10). The CGT approach complements other qualitative data analysis methods (Glaser and Strauss, 1967). It recognises that any theoretical rendering is an interpretive portrayal of reality rather than an exact picture. The goal is to produce grounded theories that accurately reflect the experiences and perspectives of research participants and can be used to inform real-world applications. (Charmaz, 2006, pg. 10).

Triangulation: The triangulation approach was adopted for this research study to ensure the accuracy and reliability of the research findings Lincoln and Guba (1990). This involved cross-checking the questionnaire results with data from other sources, such as site visit is and interviews with individuals who interact with the information systems daily. By triangulating the data this way, the researcher could identify common themes and patterns and validate the research results. The triangulation approach is essential in ensuring that these research study findings are robust and can be used to inform policy and decision-making processes. By using different data collection methods, this study was able to triangulate data, methods, and sources, providing a holistic perspective to the research study. The concept of triangulation is adopted in research to ensure the reliability of it is findings. Triangulation involves using multiple research methods, sources, and theories to consider the accuracy of the results (Creswell, 2013; McKinstry, et al., 2009).

Data Triangulation: By cross-referencing the survey questionnaire results with data collected from interviews with different stakeholder groups, the researcher could identify common themes and patterns and validate the research results. The selection criteria for identifying the stakeholder participants were clearly explained in the identifying stakeholder participants section, making them beneficiaries or losers (Fusch and Ness, 2015). This approach is critical in ensuring that the findings can be used to inform policy and decision-making processes (Artinian et al., 2009). Using theoretical sampling and constant comparative data procedures, the researcher ensured that the data collected was unbiased and rigorously analysed. This approach is essential in ensuring that the research findings are dependable and can be used to inform policy and decision-making processes. Charmaz (2006) states that it is crucial to address research and participant bias to obtain accurate results.

Investigator Triangulation: When conducting research, it is essential to ensure that the data collected is unbiased and rigorously analysed. One way to achieve this is through investigator triangulation, which involves using different people to assess the data. According to Glaser and Strauss, 1967; Strauss and Corbin, 1994), when using the grounded theory approach, the researcher is not required to use a third party to Authorise the excellence of the analytical procedures and findings.

Theoretical sampling: Continuous comparison, and memo procedures create an ongoing verification method for concepts, categories, and properties during the theory's generations. This approach helps ensure that the research findings are dependable and can be used to inform policy and decision-making processes. After discussing and reviewing the findings of this study with the academic supervision team and the policymaker who secured the data access, it was determined by the researcher that the feedback provided was like this research findings. This supports the reliability of the grounded theory approach and the ongoing verification methods used during the research process. The findings can be used to inform policy and decision-making processes with confidence.

Theory Triangulation: Theory triangulation is a valuable method for examining a situation or role of ICT from different perspectives. Using multiple theories or hypotheses, researchers can resolve data contradictions and gain a deeper understanding of the conclusion from multiple perspectives. The grounded theory approach used in this study allowed for a logical account of the phenomenon, strengthening its internal legitimacy and theoretical level. This study's reliability was established through a systematic process of theoretical sampling and constant comparison, supporting its use in informing policy and decision-making processes.

Researchers need to be aware of their preconceptions and how they may affect the internal consistency of their studies. According to Glaser (2007), preconceptions can undermine the reliability of research. The researcher used constant comparative process to address preconceptions and establish reflexivity in this study. Internal consistency should be achieved if the grounded theory approach is completed appropriately. One key aspect to evaluate is the credibility of the data and analysis and the relevance and usefulness of the theory. Additionally, (Morse et al., 2002) found that assessing the overall coherence of the research is crucial to ensuring its validity. Transparency throughout the process, as well as seeking out alternative explanations for findings, is also essential. By considering the above criteria, the researcher can effectively evaluate constructivist Grounded Methodology and research designs to produce valuable insights and contribute to advancing knowledge in the field (Burns et al., 2022).

3.6 Evaluation Criteria for Grounded Theory Research

Qualitative studies using grounded theories give a different picture of the description of the studied world. Bryant et al., (2012) stated that they are interpretive descriptions instead. In addition, Glaser, and Strauss (1967) also recognised that grounded theory required criteria to define the unique research design and more importantly, evaluate the resulting theory. Therefore, this study assessed the useability theory (Glaser and Strauss, 1967; Glaser, 1978). The proposed criteria are detailed below.

Fit: The theory must closely fit the data and the substantive areas. It should match the researcher's perspectives and stakeholder groups not engaged in the theory building because it fits the data and substantive areas.

Understandability: The theory should be understandable and relevant to professionals and laypersons concerned with the area (Glaser, 1978; Glaser and Strauss, 1967). This implies that participants should evaluate the significance of the theory (Glaser, 1978). When the theory is understandable and relevant, it often has a grab meaning that is memorable to those within the substantive area.

In addition, the theory must also be general enough to apply to most diverse daily situations within the substantive area (Glaser and Strauss, 1967; Glaser, 1978) in the substantive areas for flexibility in each situation.

Finally, the researcher should be able to modify the theory based on the new data, and the substantive area changes over time (Glaser, 1978).

In this way, the criteria above will be revisited at the end of this thesis to demonstrate how well the generated theory was evaluated against them in Chapter 6, Section 6.2 - Evaluation for the Substantive Theory.

3.6 Reflection of the researcher

The field work took place over the course of six months. The initial plan was for a period of three months, from March to May 2022, after the pilot study. However, the researcher extended this period until the end of September 2022. The reasons for the extension were that the covid restrictions were no longer enforced and relaxed in Uganda and the United Kingdom. Therefore, I decided to conduct at least one or two interviews in person to ensure data saturation and triangulation. This also allowed my research to have more meaning by experiencing the actual setting rather than relying solely on virtual interviews. Being in the field on the ground provides a better understanding of the phenomenon in its natural setting and context, giving it more meaning.

The women I spoke to stress the importance of education and training for their success as entrepreneurs. Women entrepreneurs of them were unfamiliar with the term "ICT" and needed explanations about various ICT terminologies. Despite facing challenges, these women showed a powerful desire to understand and use ICT to improve their businesses. My perceptions of the ICT environment and technology use by women entrepreneurs in Uganda have evolved over time, especially as the business landscape has changed significantly. I personally assessed various ICT technologies and encountered challenges such as connectivity issues and high data costs. This study revealed that most urban women entrepreneurs use multiple devices and SIM cards from different service provider.

My research journey in Uganda has shed light on the difficulties of moving from a cash-based economy to a cashless society. Despite the increasing significance of mobile wallets such as MTN Momo and Airtel Money, practical obstacles hinder their widespread adoption. While mobile wallets offer benefits for women entrepreneurs and individuals without bank accounts, issues such as unreliable mobile app access, acceptance problems at retail stores and market stalls, and limited accessibility for non-smartphone users and those with low literacy skills need to be resolved. Moreover, the frequent lack of electricity presents a major barrier to the use of mobile money.

These challenges emphasise the complexities of transitioning to a cashless economy and emphasize the need for comprehensive solutions. Throughout my research study, I encountered various challenges in collecting data. Conducting remote semi-structured interviews proved to be particularly difficult. Time constraints and connectivity issues, such as interruptions due to Uganda's unreliable internet infrastructure and power outages, posed major obstacles. For example, participants occasionally forgot to charge their mobile phones, leading to the necessity of rescheduling interviews.

Reflection on using qualitative questionnaire data in theoretical sampling: The participant recruitment approach had both strengths and weaknesses. Using a questionnaire instead of physically seeking out participants, as not described by Glaser (1967) and not common in grounded theory, may be considered a departure from traditional grounded theory methods (Cutcliffe, 2005). However, it proved to be a practical and effective aid to theoretical sampling. The advantage of obtaining responses from fifty-seven participants demonstrated that the questionnaire was a useful tool for theoretical sampling of interview participants. I would recommend considering this approach for future grounded theory research.

I observed that in Uganda, people are generally wary of being questioned, especially those running unregistered small businesses. Women entrepreneurs refused to be interviewed, fearing that I was working for the tax Authorities and trying to catch tax evaders. The women entrepreneurs also seemed to distrust technology, worrying about their data stored and shared on social media. To address these concerns, I adjusted my approach to be more flexible and create a comfortable environment for open discussions while ensuring confidentiality and anonymity. Before starting this research, I did not realise how valuable information and communication technology (ICT) is for small and medium-sized enterprises (SMEs) in developing countries. Studying the impact of ICT in a place like Uganda has shown me that it is widespread. I have also come to understand the challenges faced by local people, especially women in a male-dominated society, where access to technology is limited for women expected to stay at home and care for children. This made me see it as a human rights issue.

Moreover, it is not just a matter of human rights but also an economic necessity. Society can benefit from utilizing the potential of women. Through this research study, I aim to break through this barrier because it addresses a human rights issue. Women are equally competent and intelligent, and their full potential is not being used. Therefore, creating equal opportunities, such as in accessing ICT, could reduce the gender gap and realize the potential of women. My research has revealed that all genders are equal. Lastly, witnessing the determination and perseverance of urban women micro-entrepreneurs in using ICT, despite the lack of proper tools, left me feeling inspired and humbled. Collaboration and ICT support can assist women entrepreneurs, enabling them to thrive and have a positive impact on their families and communities for years to come with the right tools and resources.

I believe that with the right tools and resources, especially Information and Communication Technologies (ICTs), Micro, Small, and Medium Enterprises (MSMEs) will continue to thrive, positively impacting their families and communities for years to come. The ongoing discussion about the use of ICT in women's entrepreneurship is a crucial step towards closing the gender digital gap, empowering women, and ensuring that women entrepreneurs can effectively use these technologies. This progress aligns with the goals of MDG3 on gender equality and empowering women and MDG8 on global partnership for development, (UNCTAD, 2014). Notably, ICT has significantly contributed to women's economic empowerment, employment, and online job creation, especially among marginalized groups such as women entrepreneurs. The integration of ICT by women-owned SMEs can drive economic growth and expand the national economy.

3.7 Limitations of the methodology

There are certain limitations to using constructivism-grounded methodology when studying the relationship between ICT use and women's entrepreneurship because such an approach primarily focuses on the subjective experiences of individuals and may offer a partial understanding of the broader social, economic, and political factors impacting women's ability to become successful entrepreneurs in the ICT field.

In addition, such methodology may not effectively capture the power dynamics in this industry, which is influenced by numerous factors such as gender and race. Therefore, researchers must consider these limitations when developing studies on ICT and women entrepreneurship and incorporate other research methods to understand this complex issue comprehensively.

Grounded theory as a research methodology has several advantages, but some limitations must be considered. One of the most significant challenges is collecting sufficient data to produce a comprehensive and diverse analysis.

This study has addressed the challenge using various data collection techniques, such as questionnaires and snowball sampling. Questionnaires may only sometimes be the most reliable source of information. Participants were carefully selected, and the distribution methods of the questionnaire were to ensure that the data collected was of high quality.

The data collection overcame the potential limitations of grounded theory and generated detailed and informative insights through multiple data collection methods (Charmaz & Belgrave, 2019).

3.8 Summary Chapter 3

This chapter covered the research methods used for theoretical sampling, data collection, and analysis directed by the CGT methodology. The primary data source purposive and snowball sampling methods, an online qualitative questionnaire, and semi-structured interviews with a small-scale interview with senior management and ICT experts to gain insight into the current entrepreneurial climate and perceptions of the role of ICT use in SMEs from the perspective of policymakers and ICT support. The section explained the three stages of data analysis: initial process, focused process, and theoretical coding.

This research study adopted an interpretivism research paradigm, and the modelling approach used was abductive. This research study is classified as cross-sectional since data was gathered at a specific time.

After considering various data gathering and interpretation approaches, it was determined that CGT's methodology was the most appropriate for this research. Additionally, this research study suggested that GT studies could be a flexible alternative to address this study's scope and enhance its problem-solving abilities (Charmaz, 2006). The research quality was examined through qualitative triangulation to ensure real-world benefit is and achieve an acceptable level of research quality that supports the objective of contributing to ICT and women entrepreneurship.

This section explains how the participant criteria were selected through stakeholder analysis, which aided in creating a conceptual research framework for This study.

The chapter outlines how the empirical data is analysed using CGT guidelines to identify the primary concern.

The next Chapter 4, outlines the research findings of this study's CGT data analysis, exploring the role and impact of ICT on SMEs in developing countries.

Chapter 4 Empirical Findings: The view of The Stakeholders

4.1 Introduction

This chapter explores into the main study that provided the primary contribution to this research on the extent and impact of ICT use on SMES in developing countries focusing on urban women enterprises in Kampala, the capital city of Uganda.

According to Saldana (2021), qualitative research findings can be presented in only one way, which is by narrating the story of the comprehensive data collected from study participants. This chapter presents the various perspectives of different stakeholder groups involved in ICT and women entrepreneurship in Uganda. It reflects their views on the research objectives and questions of this study (Chapter 1; Section 1.1.2 and Section 1.1.1). However, since many participants spoke English as a second language, the research questions were presented in English, which is evident in their responses.

This chapter portrays the views of:

1) Stakeholder group 1 –Urban women micro entrepreneurs

This stakeholder group is composed of fifty-seven urban women enterprises. These women have basic skills and use ICTs in their businesses. Quotations from this group are coded as (UWE 01)

2) Stakeholder group 2 – Local women support organisations.

This group consists of four Non-Governmental Organisations (NGOs) in Uganda that implement ICT training and development programs catering specifically to women entrepreneurs at grassroot level. These organisation in this study are coded as Women Support Organisations (WSO A, WSO B, WSO C, WSO D).

3) Stakeholder group 3--ICT Policymaker

This stakeholder group represents one policymaker responsible for planning, advising on ICT policies, and funding ICT, gender, and enterprise, community development initiatives, will be addressed as ICT Policymaker.

4) Stakeholder group 4 - Financial Institution –Bank Executive

Bank Executive This group comprises one key member of the financial sector from local commercial banks who potentially work with WMSMEs related financial initiatives, will be addressed as Bank Executive.

This study, used the GT methodology, explained in Chapter 1: Section 1.1.2, to address the research questions. As a result, this chapter organises the findings to present the relevant categories that constitute the theory based on the developing substantive theory.

As a result, this chapter organizes the findings to present the relevant categories that form the theory based on the developing substantive theory.

Furthermore, the study employed excerpts to illustrate the data's diversity and uniqueness, conveying the story's complete meaning as narrated.

Although minor changes were made to the transcriptions, took great care to ensure that the interpreted data expressed the original context and concepts while retaining the verbatim text as much as possible.

The structure of the findings was based on themes from the data analysis.

Section 4.2 ICT Role in Entrepreneurship in Uganda

Section 4.3 Impact of ICT on Enterprise Growth and Empowerment

Section 4.4 Lessons Learnt: ICT investments in Uganda.

Section 4.5 Views on Link between ICT and Enterprise Growth and Empowerment

4.2 ICT and Women Entrepreneurship

In Chapter 2 of the literature review, several studies were mentioned that indicated a shift in daily life, work, and communication within the current business landscape due to advances in ICT.

The consensus among the various stakeholders approached for this research was that women's entrepreneurship has evolved in the capital city of Kampala, Uganda. It was evident from the responses of the participants that traditional norms have been altered due to technological advances, consequently affecting society, women, and visible impact on SMEs. A sizeable portion of these changes is attributed to the rapid advancement in communication technologies. As a result, my research aimed to explore the challenges and opportunities ICT brings to SMEs in developing countries.

All the responses from the participants emphasised how ICT use has improved the performance of their businesses. The participants also indicated that most women-owned SMEs are leveraging ICTs such as mobile phones, social media, and the internet to create value. This finding emphasises the role of ICT in job creation, with activities such as airtime retailing and mobile money services leading to the creation of more jobs for women.

An urban woman entrepreneur, *stated that:*

“I am already employed, and my salary is not enough, so I must top up to make ends meet. Even though I am married, the two incomes are not enough. I started a second hustle on the sides, and that second income has helped me a lot, though it is tough being a wife, employed and self-employed at the same time. I realised that my mobile could work as my shop. I do not have to have a physical place. I use my phone to advertise what I have and send it to all my contacts and put my products on my WhatsApp status so everyone can see what I have available.” (Urban Woman Entrepreneur, Participant, UWE 22)

Similarly, participants (UWE 31, UWE, 01and UWE 42), stated that

“Having studied abroad, I decided to return to Uganda, thinking that I would get employment in the ICT sector. Years went by without a job, and my sister decided to give me a loan to start a business. I had collected a lot of second-hand ICT equipment and desktop computers, as I had identified a gap in the market in the suburbs. Therefore, I decided to set up an Internet café. I encountered many problems as a woman while setting up my business, and almost gave up due to bureaucracy, corruption, and the excessive cost of installing computer equipment, routers. Eventually, I managed to set up my business.” (Urban Woman Entrepreneur, Participant, UWE 31)

These finds can imply a gender stereotyping, and the motivation of women last resort is to become self-employed through entrepreneurship.

This study findings suggested that that efforts are made to unlock the potential of women entrepreneurs in Uganda through ICT. Local business support organisations are providing ICT based programmes and training to women at grassroots level, by enhancing digital skills and creating business networks and coordinating greater access to the latest information and market opportunities for SMEs.

Interviewee WSO A, highlighted the role of ICT use in women SMEs and asserted that:

“At Organisation A, ICT is our most powerful tool in enabling women to contribute to sustainable development at all levels. We therefore view it as a pivot in entrepreneurship.” (Programme Officer for ICT and Gender, WSO A)

Similarly, interview. WSO C, Director further argued:

“As women ICT support organisation, we understand the role and impact of ICT on women in business, and we aim to show our value as ICT support organisation to stakeholders, such as governments, telecom, and financial institutions. We must show how our work impacts women entrepreneurs on using ICT to create value and improvement in digital skills for business.” (Director, Women Support Organisation WSO C)

On the other hand, WSO D, Acting Executive Director raised their concerns about the limiting factors women entrepreneurs face when accessing ICT.

“One of the challenges women in Uganda face is mobility; therefore, to solve this problem, the use of ICT is significant. ICT is a solution that reduces mobility, especially for women, therefore cutting costs and exposing women to opportunities because of the information on the various platforms.” (Acting Executive Director, WSO D)

Similarly, Interviewee WSO A, Program Officer Gender, and ICT, further argued:

“Most women need first to unlearn some of the biases they have with tech to effectively benefit.” (Program Officer Gender, and ICT, WSO A)

The above quotes outline limiting factors, which I will investigate in the next part. First, though, there is a need to address drivers for ICT use in women SMEs.

4.3 Factors on the Usage and Acceptance of ICT in Women Entrepreneurship

The section below, further illustrates the extent and impact of ICT use on women SMEs. When asked about the motivation factors for using ICTs in their enterprises, the following factors were identified.

Urban woman entrepreneurs, Participants (UWE 56, UWE 01), cited business size and sector as factors that influenced their decision to adopt different ICTs as technology is essential to their business.

“My business is in the education sector. The size of my business influenced my decision to adopt ICT. I have a website which gives my business an online presence and helps me to get more clients. I use e-mail to connect with the parents and other business contacts, all my staff use mobile phones, and some are trained to use the computer, and of course, I have landlines which are still very effective for businesses like mine.”
(Urban Woman Entrepreneur, Participant, UWE 56)

According to, an urban woman entrepreneur :

“I ran a micro-enterprise selling perishable goods. I buy my produce from the farmers in the morning and make sure that I sell everything at the end of the day. I do not have to invest a lot in ICT device. I own a mobile phone that meets my needs. I only use it for communication. I do not need complicated technology. My mobile phone is enough. All I need is to communicate with my supplier and determine what I need depending on my finances.” (Urban Woman Entrepreneur, Participant UWE 01)

The quotes above can imply that enterprise-size influenced the acceptance ICT among women enterprises. Furthermore, this study revealed that only a few of the enterprises in Kampala can operate with ICT, especially those with an online presence, such as an enterprise website or social media platforms.

Two participants (i.e. UWE 34, UWE 31), urban woman entrepreneurs, perceived ICT usefulness as a factor in aiding better performance on tasks while offering cost-benefit (i.e., the cost can be in the form of time management) is expected to have a higher rate of adoption (Venkatesh et al., 2003, p. 447; Davis (1989)

“Participant UWE 31 further stated.

“Ever since I started using ICT, I have been able to have access to a wider market and audience. I used to sell urban, but now I can sell my goods on a national level, not only in Kampala.” (Urban Woman Entrepreneur, Participant, UWE 31)

A standard view among the participants was that urban women entrepreneurs (UWE 07, UWE 23, UWE10, UWE 04) preferred to use what women entrepreneurs saw as less complex and valuable in their daily business operations. The mobile phone was the primary means of business communication.

“On my mobile phone, I download useful mobile application social media apps such as Instagram as I use it to market my business. WhatsApp, I use for voice calls and messages. Everyone who has a phone has WhatsApp, which is extremely useful for business today. Using my mobile phone is very convenient as I conduct most of my business work without needing to go anywhere. It fulfils my business requirement.” (Urban Woman Entrepreneur, Participant, UWE 04)

The above quotes reflect the complexity with which some types of ICT adoption perceived in women SMEs and their owners to help them strategize and achieve a competitive advantage.

From a management perspective according to the ICT policymaker highlighted that government policies are crucial in the usage and acceptance of ICT in SMEs and states that:

“As decision-makers, we have a considerable role to play in supporting acceptance and use of ICT in entrepreneurship, not only for women entrepreneurs but the country at large. Institutional policies play a great part in attitude and intention to the usage of ICT policies and play a key role in promoting women entrepreneurship.” (ICT Policymaker).

On the other hand, participant UWE 20 suggested that:

“Strong policies are needed to support women entrepreneurs. The current policies are not relevant to the ICT needs of women in business. I think it will be best for women entrepreneurs as part of the decision-making process.” (Urban Woman Entrepreneur, Participant, UWE 20)

The above evidence highlights and exposes the potential for the government to offer support and strengthen women’s entrepreneurship in Uganda.

However, on the other hand, participants (UWE 03, UWE 17) urban woman entrepreneurs highlighted the factors affecting usage and acceptance by most participants as lack of awareness of available ICT options, which affects the acceptance ICT by micro-enterprises finding, consistent with Rogers (2003).

“I have been operating in Kampala for some time, but I have not even heard of ICT skills training offered to women in business who need ICT training. There should be ICT skills workshops for women-owned enterprises on how to access e-services. This workshop should either be free or at a reduced rate.” (Urban Woman Entrepreneur, Participant, UWE 03)

In addition, participant UWE 17, an urban woman entrepreneur, stated:

“I discovered these amazing women’s ICT programs and decided to attend their training. The training was eye-opening and taught me how to use my mobile phone to earn money without expensive investments. Now, I use my phone as my shop, advertising my products on my WhatsApp status. It has been a notable change for me.” (Urban Woman Entrepreneur, Participant, UWE 17)

According to Participant UWE 08, *an urban woman entrepreneur revealed that social influence plays a crucial role in ICT use in women micro-enterprises.*

“After seeing how successful my friend’s business became after using ICT, I knew I had to try it. She spoke highly of how using ICT proved profitable for her business, and the results were undeniable. So, I took the leap and incorporated ICT into my business strategy. I can already see the positive impact it is having, and I am grateful for my friend’s recommendation.” (Urban Woman Entrepreneur, Participant, UWE 08)

Similarly, participant UWE 04, *an urban woman entrepreneur stated that commented that:*

“I heard of women’s ICT programmes, and I attended the training; the training programme opened my eyes to how I can use my mobile phone to earn money without incurring a lot of cost. I now use my mobile phone as my shop as I advertise my products on my WhatsApp status.” (Urban Woman Entrepreneur, Participant, UWE 04).

The above quotes imply that women entrepreneurs are complying in response to social pressure. Venkatesh and Davis (2000); Fishbein and Ajzen (1975) argue that social influence constructs are significant when use is mandatory, as in this study. Finally, participant UWE 11, *an urban woman entrepreneur, highlighted that trust in using ICT was a major factor.*

“At first, I was scared and did not trust to put my personal information online, but after hearing successful stories, I became confident and started with just a put limited information when sharing my business on social media.” (Urban Woman Entrepreneur, Participant, UWE 11)

The quote above can indicates that, as a woman entrepreneur in Kampala, trust in using ICT determines whether business owners and customers will decide to use the application and make a purchase.

Furthermore, it reflects the importance of ICT transparency, indicating that if the user (business owner) is aware of what security measures are in place or what information is relevant, they will feel more comfortable and confident in using that technology.

4.4 ICT standards and its relevance for Enterprise Growth and Empowerment

The empirical evidence has shown that it is essential for micro-enterprises, especially those run by women, to access and understand ICT standards. However, the Ugandan government needs to put more effort into developing national standards and regulations for the ICT sector. According to the informant, an ICT policymaker responsible for advising on ICT Policy stated that:

“As stakeholders, we are responsible for turning the digital divide into opportunities for national development, regional integration, and engagement.” (ICT Policymaker)

Furthermore, according to, the bank executive stated that:

“The Uganda Financial services industry is going through a digital revolution now. The industry is adhering to the ICT standards and policies set by the government for best practice. ICT is one of the channels being used by the bank to empower urban women in business.” (Bank Executive)

The findings of this research study have shown that ICT standards can enhance the quality and efficiency of existing enterprises by reducing costs and improving communication.

This research study findings suggest that ICT standards are enabling the creation of new markets and business opportunities, mobility, time management, work-life balance, cost saving, and communication for entrepreneurs, especially women, who can use ICT to access information, finance, and customers.

Interviewee WSO A, Programme Officer for ICT and Gender, further argue:

“In addition, the government has launched several programs and initiatives to promote ICT adoption among women entrepreneurs. For example, the Uganda Women Entrepreneurship Program (UWEP) supplies financial and technical support to women entrepreneurs, including support for ICT adoption. However, because of various priorities and challenges like the level of illiteracy of women and issues of accessibility and use of these technologies, different stakeholders perceive ICT on women entrepreneurs in Uganda in most ways.” (Program Officer for Gender, and ICT, Women Support Organisation, WSO A)

The statements suggest that it is imperative to create appropriate standards, regulations, and guidelines to support the execution of gender policies within the ICT industry. The statements above suggest that it is imperative to create appropriate standards, regulations, and guidelines to support the execution of gender policies within the ICT industry.

4.5 ICT Literacy and Women Entrepreneurship in Uganda

It was clear from the findings of this study that ICT literacy is playing an increasingly crucial role in women's entrepreneurship in Uganda. Participant urban women entrepreneur UWE 27 shows that despite challenges such as weak infrastructure and limited access to ICT training facilities, women entrepreneurs have started adopting ICT using various tools.

Participant UWE 27, an urban woman entrepreneur, explains that:

“At my age, I am so happy that I can manage my business at home. I do not have to go into the shop if I do not want to. These days, I can go to the shop at any time I want. I do not have to go every day as I have someone managing the shop, and I can deal with any queries over the phone. If necessary, I make the trip to town.” (Urban Woman Entrepreneur, Participant, UWE 27)

Similarly, participant UWE 21, an urban woman entrepreneur, stated that:

"My mobile phone has helped me reach a wider customer base, and I use it daily for communication and sending messages to my customers. Most customers do not want to come to the shop. They always ask me to send a picture of what I have, and I respond quickly by sending a picture of what I have in stock and prices of each product." (Urban Woman Entrepreneur, Participant, UWE 21)

The above quote implies that this is especially beneficial for women who may face balancing family responsibilities and business, as well as easing mobility challenges and save on cost on renting a physical shop. ICT use has improved the work-life balance for women entrepreneurs, saving on cost, easing mobility issues, improving on communication, and marketing their products.

Furthermore, the findings suggested that ICT is offering many unbanked women the option of having to make decision on their money. The use of mobile money to received, send or purchasing, have proved a significant to many SMEs in removing the barriers of opening a traditional bank account. Everyone should have access to the resources women entrepreneurs need to thrive in both their professional and personal lives.

According to the interviewee, the Bank executive, asserted that:

"We also have Intelligent cash machines where one can make both a deposit and a withdrawal. Banks like Absa and Standard Chartered have digital branches where one can do banking digitally." (Bank Executive)

The Bank Executive restated that:

"Lack of financial literacy from women entrepreneurs who make it difficult in rolling out credit incentives using financial digital services, there is need for urban women entrepreneurs to be highly trained in ICT business skills and basic computer skills." (Bank Executive)

According to participant urban woman entrepreneur, UWE10 experience in using ICTs expressed that:

"I love using my mobile phone for voice calls and messaging. It is so easy to make a quick call to a friend or family member, and I can also send text messages in either text or voice format. I really appreciate the convenience of using voice text because it saves me time and effort. All I must do is press the voice icon, record my message, and hit send. This feature is essential because sometimes, typing errors can lead to misunderstandings. I am so glad that smartphones have made communication so much easier." (Urban Woman Entrepreneur, Participant, UWE 10]

Participant urban woman entrepreneur, UWE 23 stated that:

"I use WhatsApp daily for both personal and business purposes. Currently, how can you not have WhatsApp? You need it for many things. For instance, for my business, I have created a customer group where I interact with my clients and show them what services I am offering. Being in a beauty business, you need to network and create a customer base; otherwise, in this cutthroat business, you need to survive and be ahead of your competitors." (Urban Woman Entrepreneur, Participant, (UWE 23)

Participant urban woman entrepreneur, experience in using digital platforms was to promote her business and for social networking stated that:

"I have created an Instagram page and use my WhatsApp status to market, advertise and have an online presence so that I can draw in a lot of customers and retain my customers. This helps me understand their buying habits and preferences." (Urban Woman Entrepreneur, Participant, UWE 04)

The above excerpts can imply that women entrepreneurs have basic ICT skill and are utilising ICT to have an online presence and expand their business.

An informant from WSO A reported that Uganda has been making notable progress in promoting ICT literacy and women's entrepreneurship.

The government has implemented initiatives and programs that enable more women to access technology and training, which in turn has led to improvements in their enterprises and livelihoods.

"Several civil society organisations are teaching women entrepreneurship skills and ICT but also looking into the home when it comes to the distribution of roles in a way that supports the entire family. Different private entities have started programs that support women and trained them on different modules done online. Through UWEP, the government has given financial support to women groups to grow their enterprises." (Programme Officer ICT and Gender, Women Support Organisation, WSO A)

However, this research study suggested that there are age related barriers to ICT adoption in Uganda. Although the younger age groups are more knowledgeable about ICT, women entrepreneurs need to be using them more effectively. According to Director WSO, B asserted that:

"The young generation is more knowledgeable about using ICT but instead uses it for gossiping. There is more need to empower women." (Executive Director, Women Support Organisation, WSO B)

According to participant urban woman entrepreneur, UWE 21 stated:

"The old generation lacks ICT skills as we did not have a chance to get training, and we are not aware of how to use ICT to manage our businesses. I think the government should consider the age of women entrepreneurs and should build facilities for the elderly to learn ICT skills for business." (Urban Woman Entrepreneur, Participant, UWE 21)

On the other hand, an Informant from WSO D, suggested that:

"Support organisations should embark on training more women in the use of ICTs ,especially private and CSOs. It is evident in Uganda that there is a lack of ICT training centres to equip women with ICT needs. It is crucial that CSOs, in partnership with the private sector, establish ICT centres in some communities to increase ICT literacy. There is a need to understand women's needs and design functional programs in the vernacular for grassroots women entrepreneurs who are illiterate. In addition, the government designs marketing and trade platforms within Uganda and Developing countries region and trains women entrepreneurs to access the platforms, i.e. 50 million Women Speak Project in East Developing countries." (Acting Executive Director Women Support Organisation, WSO D)

According to interviewee WSO A, Programme Officer for ICT and Gender from stated:

"Through this program, women can learn essential business skills and receive support to start or grow their businesses. For example, the Uganda Women Entrepreneurship Program (UWEP) provides financial and technical support to women entrepreneurs, including support for ICT adoption." (Programme Officer ICT and Gender Women Support Organisation, WSO A)

According to the interviewee, WSO B, Executive explained that:

"Our organisation is unique because we offer theory and practical skills, and we also follow up to ensure knowledge is use through close monitoring and communication." (Executive Director, Women Support Organisation, WSO B)

The above quotes can imply that the use of ICTs like mobile phone is perceived useful and easy to use technology by women enterprises. While there are challenges to ICT adoption in Uganda, ICT literacy is increasingly playing a pivotal role in women's entrepreneurship in the country.

4.6 Experience of ICT use within the urban women enterprises in Kampala.

The valuable insights gained from past experiences and attitudes must be carefully evaluated when making future ICT and SMEs policies and decisions , in particular women SMEs. When questioned about experiences with ICT participants,

Participant UWE 22, an urban women entrepreneur, stated that:

"I used to connect to the free public WI-FI. These days, I cannot get any connection to free Wi-Fi in our building. I am now only relying on my service provider, but still, my service provider has connection issues, which is very frustrating to conduct business if one is to rely on the Internet in Kampala." (Urban Woman Entrepreneur, Participant, UWE 22).

The findings suggested that participants (i.e. UWE 55, UWE 45, UWE 46) are highly educated, and invested in ICT training to run their businesses with this knowledge.

Similarly, UWE 46 acknowledged:

"The business environment has seen a change. I try to equip myself with at least basic ICT skills to be able to navigate the emerging digital markets and economy. I have attended some of the ICT initiatives offered by different support organisations helping women." (Urban Woman Entrepreneur, Participant, UWE 46)

The quotes can imply that ICT can provide access to skills and knowledge on business management and finance management, which can help women entrepreneurs enhance their capabilities and performance.

However, the Executive Director views on how the government is applying ICT policies and initiatives for women entrepreneurs and enterprise growth in not achieving the desired outcomes. The informant explained that:

"women entrepreneurs are at a different stage. Therefore, their ICT needs are different in deciding whether to adopt ICT. Women entrepreneurs, at the micro level, are under pressure in accessing and using ICT. Most are not even aware of the existing ICT policies and how they affect their businesses." (Executive, Women Support Organisation, WSO C)

However, the informant, WSO A) enlightened:

"Through years of experience dealing with women entrepreneurs. Emphasising that the most educated women with ICT skills and knowledge are more competent and knowledgeable in using ICT to gain competitive advantage, better decision making, access information and markets." (Program Officer ICT and Gender, Women business Support Organisation, WSO A)

In support to the above quotes, UWE 20, stated that:

“ In today’s business environment, more business activities require advanced ICT skills and access to devices.” (Urban Woman Entrepreneur, Participant, UWE 46)

Additionally, the Bank Executive added that as financial institutions are learning about their rights and obligations as borrowers, as well as how banks and credit programs work, can increase women entrepreneurs' financial literacy.

“As a financial institution, we do offer a whole suite of solutions to women entrepreneurs in our Business Banking and SME segments, which women entrepreneurs can tap into. For ICT use, one can open a Transactional account online, and one can apply for a Loan facility online.” (Bank Executive)

Other participants shared their experiences with using ICT in their businesses, highlighting the importance of subjective norms in driving their acceptance technology. They reported feeling motivated by their peers in the entrepreneurship community to incorporate mobile technology into their enterprises and found that it helped them increase their income and revenue.

This section aimed to reflect on ICT's main challenges raised by urban women. I, therefore, raised a question about ICT in the context of an urban Ugandan setting.

4.7 Challenges and Benefits of ICT for Enterprise Growth and Empowerment.

4.7.1 Identifying ICT Challenges to ICT adoption in Women SMEs

Several participants, urban women entrepreneurs (i.e. UWE 44, UWE 31, UWE 57), explained their views that one of the greatest challenges to wider ICT usage was given as excessive costs of ICT devices and tax on services, which can be a barrier to ICT access and usage.

Participant urban woman entrepreneur acknowledged that:

“Due to high service costs, I cannot be topping up my data, which runs out quickly; I have a small income, so I cannot waste my money on data. On top of that, we pay fees and taxes. I wish they remove the expensive traffic on the Internet for micro-enterprises so that I can advertise my products.” (Urban Woman Entrepreneur, Participant, UWE 44).

While participant UWE, thirty-one had a similar view:

“The voice bundles are extremely costly and do not serve a purpose. As soon as you top up your voice minutes, they are finished. On top of that, if I must send text messages, I must purchase another bundle, which does not make sense to me as a business owner.” (Urban Woman Entrepreneur, Participant, UWE 31)

Also, urban woman entrepreneur participant UWE 57 commented on the affordability of appropriate ICT tools for business tasks and stated that:

“I cannot afford a computer which can be easier to use and conduct more tasks. My mobile phone screen is too small. It is extremely expensive to run an ICT-based business in Uganda. I do not have the financial means to buy the relevant equipment besides installation costs plus application fees. On top of that, I must attend ICT training to be competent in using these ICT devices.” (Urban Woman Entrepreneur, Participant, UWE 57).

In support of urban woman entrepreneurs’ UWE 57 and UWE 31) views on affordability, interviewee WSO B Executive Director stressed and elaborated on the earlier quotations and stated that:

“Women entrepreneurs lag and lack knowledge and capacity to afford the tool. This has impacted the progress.” (Executive Director, Women Support Organisation, WSO B).

Similar views were expressed by interviewee WSO D Acting Executive Director, who said:

“I still think it’s the affordability of acquiring tools that is still a big challenge and Internet being too high that remain a hindrance to women to effectively utilise the opportunity.” (Acting Executive Director Women Support Organisation, WSO D)

The quotations above indicate that high expenses, are affecting the ability of urban women entrepreneurs to promote their products and services. Consequently, this obstructs their online business presence and reduces their capacity to reach millions of potential customers.

In addition to the previous obstacle, the second highest constraint to ICT adoption in SMEs, three urban women entrepreneurs’ participants (i.e. UWE 38, UWE 46,) highlighted a weak and unreliable ICT, energy, telecommunications, legal and financial infrastructure.

Participant UWE 38 highlighted an inadequate energy infrastructure, with frequent power outages or rationing, which is a significant factor in the lack of motivation and critical determinants for intent to use and actual use of technology and online content or pursuing an ICT-based enterprise.

“In the location where I operate my business, intermittent electricity interrupts my work of business, sometimes when I am busy attending to clients the electricity is cut off. This is very frustrating; I own a small hair salon, and I must save up to have a generator as backup. But again, this leads to costs, it is extremely expensive as these additional costs are draining and I end up not making any profit. But I do not want to lose my clients.” (Urban Woman Entrepreneur, Participant, UWE 38)

Participant UWE 38 elaborates further:

“I am also thinking to invest in ICTs such as smart phone and other ICT equipment for my business. I would like to promote my business on social medial in that case I can be able to do mobile services whereby if I have no electricity I can go to my client. To be able to achieve all these and to benefit from ICT Uganda needs affordable and stable electricity and internet. Connection for my business to thrive.” (Urban Woman Entrepreneur, Participant, UWE 38).

The above quotes implies that if a female entrepreneur cannot charge their mobile devices or any other ICT used for business, ICT becomes irrelevant. Furthermore, access to electricity is crucial for effective use of the opportunities offered by information technologies.

Apart from the electricity, three participants (i.e. urban women entrepreneurs, UWE 41, UWE 43, UWE 22) considered that the state of telecommunications infrastructure has a direct impact on their ability to access and use ICT in my business successfully.

Participant UWE 41, an urban woman entrepreneur explained:

“As an entrepreneur in Uganda, it is clear that s however much I want to invest in ICT am faced with the fact that I will not have reliable electricity or clear network as my phone calls keeps dropping due to network problems.” (Urban Woman Entrepreneur, Participant, UWE 41)

Participant UWE 43 an urban woman entrepreneur, enlightened the quote above:

“Here in Kampala city, we are still struggling with Internet access daily/ The kind of work we do, it is difficult without consistent stable Internet connectivity. You reach a point whereby you must use Internet Cafe from time to time it is very frustrating as it is time consuming and that does not guarantee that at the café the connection is much better. Also, it is not cheap as buying data bundles from the service provider involves a lot of money.” (Urban Woman Entrepreneur, Participant, UWE 43)

According to participant UWE 52, an urban woman entrepreneur explained that her lack of ICT skills and ICT literacy prevents her from using her devices:

“Though I own both a mobile phone and a laptop, I do not have the necessary skills to use them to my advantage, especially where my business is concerned. I have Microsoft office software on my computer, but I do not know how to use it. Sometimes I have to the computer needs upgrade but am scared that I might spoil it, and it stops working. I always ask a friend to help me and sometimes I end up paying someone to enter information on the computer, but that is another added cost. I end up using my mobile for basic tasks one, which is for communication making voice calls and messaging, but I would like to be able to use my smart phone and laptop in ways that can benefit my business.” (Urban Woman Entrepreneur, Participant, UWE 52)

Participant UWE 52, an urban woman entrepreneur elaborates further:

“When it comes to use my laptop on my own, I find it difficult to navigate around it even typing. I know I can use it for most things that can improve my business, but I do not have the knowledge on how to use software such excel which I know is useful for accounting and keeping track of my inventory, I need ICT skills on data storage using computer software so that I can be able to use my computer. This will be extremely useful to help me make decisions and keep my business records in one place and on whether my business is profiting or loss.” (Urban Woman Entrepreneur, Participant, UWE 52)

Another participant , UWE 56 an urban woman entrepreneur with similar views elaborated on the previous quotations:

“In Uganda, most women in business like me, we are unfamiliar with the devices we own, and we cannot use them fully. I lack ICT Skills and know little on how to use type using my computer, and how to download mobile application on my phone even on how to connect to the Internet and that it. When it comes to advanced information search or doing accounting of financial task, I must ask someone to do it for me. I have realised that I need proper training on ICT skills for business and that there is lack of proper training, across board and this is affecting most of us and it is a major challenge when it comes to ICT based business.” (Urban Woman Entrepreneur, Participant UWE 56)

Participant UWE 31 an urban woman entrepreneur referred to the need for governments and supporting organisations to change their attitudes by considering individual needs of women entrepreneurs and provide ICT training facilities.

“Women are always forgotten about. In the marketplace where I work almost ninety percent are women market stalls. We need more women centred initiatives that will help and educate more women in using ICT for business. I want to be able to have knowledge and skills on how to market my products online as this will give my business exposure and will get more customers especially as I deal with perishable goods, I would like to know how I can use ICT to market all my products and do not incur a loss.” (Urban Woman Entrepreneur, Participant UWE 31)

While participant UWE 11, an urban woman entrepreneur suggested that:

“We need free ICT workshops and institutions for the elderly, we are always forgotten, and we are running business where our customers are demanding for online presence and using our mobile phones for financial transactions.” (Urban Woman Entrepreneur, Participant, UWE 11).

Interviewee WSO B Executive Director suggested that:

“Customising the training to fit audience with low education and literacy skills. in addition, conducting a training in vernacular is not always easy. Furthermore, imparting knowledge and skills to an audience with no knowledge and skills of a smart phone nor basic computer literacy requires more and hence more expensive.” (Executive Director, NGOs Women Business Support Organisation, WSO B)

When asked to elaborate on the above quotations, interviewee WSO D Acting Executive Director explained:

“Government and non-state actors should embark on a deliberate effort to provide multi-purpose Empowerment centres with ICT facilities within communities to motivate the women, to access and use ICT for career advancement, skill enhancement and business development.” (Acting Executive Director, Women Business Support Organisation, WSO D)

Also, interviewee WSO C Director emphasised that ICT training facilities are significant and should be priority:

“ICT facilities must be provided to enhance access and use of ICT and motivate women to shift from the small businesses and become visionary.” (Director Women Support Organisation, WSO C).

The previous excerpts reflected lack of skills, lack of accessible training facilities and ICT programs designed help women entrepreneurs acquire technical ability making it a major barrier to successful ICT implementation in women enterprises. This concern raised about lack of ICT facilities and programmes for the elderly might imply that when it comes to ICT training only the youth are benefitting.

When asked about awareness of any ICT resources, or any ICT programmes aimed at women in business, participants (i.e. UWE 11, UWE13 and UWE30) stated that:

“There is wide lack of awareness on available ICT incentives for small business country wide it is not us in Kampala., I do not know what is out there that I can tap in to increase my profit is and growth my business, I would have loved to attend any training on how to use ICT to increase income. Maybe for those who have people they know in higher places may be getting all the information on how to access ICT resource, but ICT awareness campaigns are rare or if they happen most of us cannot afford to leave our business and travel to such places, even if it is on TV or Radio I would not know what channel to tune into.” (Urban Woman Entrepreneur, Participant, UWE 11)

Similarly, participant UWE 13 an urban women entrepreneur recognised the following:

“There is lack of awareness on how to be secure online, I do not know where to search for information on safety online. There has been a lot of hacking and stealing people money from the mobile account and people being exposed when someone has got hold of their social media account. It would be good in at least have some education or training on how to run a business safely when using technology. I would like to feel safe every time I access the Internet and how to keep my data safe.” (Urban Woman Entrepreneur, Participant, UWE 12)

Participant UWE 30, an urban women entrepreneur, expressed her struggle in discovering ways to use online financial services or conduct an online loan application due to various limitations.

“There is lack of awareness of credit loans for investing in ICT for women enterprises. I want to get a loan to expand my business, I know if I start using ICT for example if I can have a website or create an account on Instagram or Facebook, I know I will get customers as everyone these days is on social media a lot of information is on social media.” (Urban Woman Entrepreneur, Participant, UWE 30).

Also, interviewee WSO B, Executive Director stressed that:

“Promotion of ICTs should be key if we are to advance locally and globally.” (Executive Director, Women Support Organisation, WSO B).

Women who run small businesses may need more knowledge of using technology effectively in their work. Women entrepreneurs living in urban areas (UWE 01, UWE 15, and UWE 22) expressed concerns about *trust and confidence around security issues*. Women entrepreneurs highlighted the need for legal policies for financial payments and security issues as another challenge.

Additionally, women entrepreneurs pointed out that more trust in using technology was needed to ensure the acceptance ICT in women-owned enterprises.

“I have business and I have registered on the URA portal, but every time I log on to appoint an agent for customs clearance I am logged out of the system, this always happens when I am about to clear the container from Mombasa to Nakawa, Kampala, I always get notifications from in my e-mail that the password to this account has appeared in compromised password.” (Urban Woman Entrepreneur, Participant, UWE 01).

Participant UWE 15 *an urban woman entrepreneur* expressed that the primary challenge faced while using financial digital services, such as mobile money, was the need for more trust.

“Every time I transact using the mobile money service, I am always worried that the money reaches the recipient, sometimes the transactions fail to complete, or money paid in the wrong account. I once paid money through my bank but instead of choosing money to send to my mobile wallet, I choose airtime option. I tried contacting the service provider and the money was not refunded only to be told to use it as airtime. This was very frustrating as it was a considerable sum of money. I lost trust in mobile money when sending substantial amounts of money. Sometimes fraudulent people keep requesting money using unknown numbers.” (Urban Woman Entrepreneur, Participant, UWE 15).

On another hand participant, an urban women entrepreneur UWE 22 suggested that:

“The government should protect us from cyber-attacks. I have lost a lot of money using mobile banking. I do not trust the system as you get scammers all the time and cannot track them as you do not know what to do or ask to get your money back.” (Urban Woman Entrepreneur, Participant, UWE 22)

Four participants (identified as UWE 09, UWE 18, UWE 19, UWE 53) *an urban woman entrepreneurs* needed help getting their money. One participant, UWE 53, said that having enough money, not knowing about money, and needing more ways to buy technology made it hard to use and buy technology.

Participant UWE 53, *an urban woman entrepreneur* stated that:

“I decided to start my own business as jobs prospects in Uganda are non-existent. When I approached a bank for a loan to start my business, I could not meet the requirements to obtain a loan, in the end I had to use my savings to fund my business.” (Urban Woman Entrepreneur, Participant, UWE,53).

In support of the above quote, participant, UWE 18 an urban woman entrepreneur, acknowledged and suggested that:

“The government should intervene by supplying financial assistance to women micro entrepreneurs. due to limited access to credit for micro enterprise, in particular women micro enterprises, I cannot even think of going to the bank to borrow money, first my business is small with few employees, and business is not that great. I do not even think I will get a loan due to the requirements. We also need more government intervention that are geared to financially support women, we need more capital plus government incentives.” (Urban Woman Entrepreneur, Participant, UWE 18).

These findings may suggest that for women SMEs to be successful financial support and access to finance is a crucial factor as these enterprises eventually face the issue of growth. Growth that means moving from informal to formal or gain a market share or call for new strategies to gain competitive advantage.

4.7.2 Opportunities of ICT for Enterprise Growth and Empowerment

The previous section highlighted the obstacles hindering the acceptance ICT in small and medium-sized enterprises (SMEs) at the urban level. Now, I will explore the advantages of ICT for SME growth and empowerment. During my research, I asked urban women entrepreneurs (identified as UWE 46, UWE 06, and UWE 45) if women entrepreneurs recognised the current and future benefits of ICT for enterprise expansion. Women entrepreneurs acknowledged that ICT is a valuable resource that saves time and money and is highly effective.

Participant UWE 55, an urban woman entrepreneur, explained that:

“If you look at the value chain, it has made it easier. Costs are meagre, so effectiveness, effective communication, marketing selling, efficiency, making the process easy for analysis to know whether by business is profitable or not, accounting as I do my financial accounts using the Internet, it has made it easy for paying taxes, and it has made it easy to look for raw materials online as you go on the Internet to find out where to get them.” (Urban Woman Entrepreneur, Participant, UWE 46)

Accordingly, participant UWE 06, an urban woman entrepreneur, asserted that:

“I do not have to call to get a taxi to transport customer goods. All I do is click on my Boda app and request transportation. I sometimes call the Boda guy; I have their contacts; this has helped me otherwise. I used to pay a lot of money for transportation. The good thing is that boda-bodas are a swift and quick way of delivering stuff in time.” Additionally buy goods from my supplier and do not have to go and pick them up physically; I call my Boda guy to pick up the goods and deliver them to my shop.” (Urban Woman Entrepreneur, Participant, UWE 06)

Participant UWE45, an urban woman entrepreneur, highlighted:

“I work from home for my business, and the benefits of using ICT are very many. First, it is effective. I am based at home. I do not move, so when I use my mobile at home, I call people; no moving from one place to another; the cost of the office is saved as I use my home as an office and base, and at the end of it I end up with fifty percent reduction in costs.” (Urban Woman Entrepreneur, Participant, UWE 45).

Participant UWE45, an urban woman entrepreneur, elaborates further:

“The benefit is that so many have made my work and business very attractive to many; I can reach out to more people than if I was using my office. You reach out to most people, you make a lot of sales, most clients, doing returns gets very busy, and knowing whether the business is profitable.” (Urban Woman Entrepreneur, Participant, UWE 45).

According to the quotes, women entrepreneurs operate in the micro and small business sectors, especially in informal service industries (Table 3.10). This can limit their ability to establish a physical store on a large scale. However, the use of information and communication technology (ICT), such as social media platforms like WhatsApp, has allowed women micro-enterprises to connect with potential customers, engage in two-way communication, and expand their reach to a broader market, both locally and globally, all while generating profit is cost-effective. This has proven to be a significant business advantage, empowering enterprises to strengthen relationships and expand their market presence by establishing an online presence.

The widespread acceptance digital financial services, such as mobile money, has benefitted ICT significantly. It eliminates the requirement for a traditional bank account or collateral, which has been a challenge for most unbanked women who have had to navigate the complexities of the banking system. Three participants, UWE 45, UWE 11, and UWE 15 expressed this sentiment.

Participant UWE 45, an urban woman entrepreneur, restated that:

“Oh, another benefit I had forgotten in running a cashless business: you do not have to use cash because what you do you sell money is sent by mobile money to your mobile wallet; if you want to buy raw material, I pay using money from my mobile wallet, at the end of the day ICT had made by business profitable.” (Urban Woman Entrepreneur, Participant, UWE 45).

The findings of this research study from a financial perspective, the bank executive asserted that:

“ICT has offered opportunities to urban women entrepreneurs. The digital revolution has brought about most developments in the country on the ICT front – we see fewer people coming to the physical branches to transact and more people using digital channels to access banking services.” (Bank Executive)

The advantages of utilising social media or digital platforms have been emphasised as the benefit of utilising ICT in endorsing SMEs with an Internet presence. Using social media or digital platforms is highlighted as the benefit of ICT in promoting SMEs’ online presence.

Participant UWE 34, an urban woman entrepreneur, explained:

“As a micro business owner, I have noticed that most women’s micro and small businesses are taking advantage of the benefit of social media advertising. Additionally use my laptop to market my business. It is cost-effective because I do not have to advertise; I use the Internet and WhatsApp for marketing my goods; I use my WhatsApp status for advertising and marketing my things, and within minutes, people start calling in, no marketing charges” Recently, I have started using Instagram to be promoting my products on social media platforms, It is impressive to see how this type of advertising has opened new opportunities for my enterprise to grow and expand my reach.” (Urban Woman Entrepreneur, Participant, UWE 34).

Also, participant UWE 21, an urban woman entrepreneur, explained:

“I deal with many farmers before I set out to buy; I look around and compare the current prices, and they decide on how and which produce I will profit on. Before I started using ICT, you just buy without knowing the market rate, but with my mobile phone, I can access information, and I can communicate and negotiate the prices with the farmers.” (Urban Woman Entrepreneur, Participant UWE 21)

The results of this research study indicate that several female micro-entrepreneurs operating in urban areas (specifically, UWE 02, UWE 42, UWE 41, and UWE 45) reported that ICT has enabled them to make more informed decisions concerning their business operations.

“Using ICT in my business has given me confidence, and I can go online without asking for help. I can decide on how much I would like to spend and make choices on the available products and choose ones which will be profitable.” (Urban Woman Entrepreneur, Participant, UWE 45).

This finding implies that urban women with basic ICT literacy are more independent and make better ICT decisions. This is a positive development that highlights the empowerment of women in business using ICT.

Three participants, urban women entrepreneurs identified as UWE18, UWE18, and UWE 07, stated that ICT has eased mobility and time management Issues. Participant UWE 18 stated that:

“ICT has really helped me a lot in my business; I do work from home since my business is not registered. So, I use my mobile phone to conduct my business, which is on a small scale.” (Urban Woman Entrepreneur, Participant, UWE 18)

Similarly, participant UWE 07 stated:

“ICT saves me money. Sometimes, I do not have to go to the shop; I stay home and run my business. I can talk to the customers and take their orders using my mobile phone. I sometimes leave a voice message, and I am not worried that my message will not get across. This saves me both transport money and time.” (Urban Woman Entrepreneur, Participant, UWE 07).

According to this study, urban women entrepreneurs increasingly incorporate various ICTs into their businesses, providing multiple advantages for SMEs to leverage. The findings also indicate that these entrepreneurs are conscious of the benefits and obstacles of ICT access.

4.8 ICT Investments in Uganda: Lessons Learnt

For this study, the lessons learnt mean the lessons from prior experiences and attitudes is considered in future decisions and behaviours. When asked what lessons have been learned from the past decades regarding ICT and women's entrepreneurship, most of the partings agreed that over the past decades, we have learned several important lessons regarding Information and Communication Technology (ICT) and women's entrepreneurship in Uganda: According to women entrepreneurs, they have gained significantly in mainstream operations like marketing and sales. Interviewee WSO C director, explains that:

"In Uganda, social media is primarily used by anyone of all ages who has access to a smartphone. It has become the easiest way of communication. We see and hear other organisations using soon, WhatsApp, Facebook, and other applications to make work easy." (Director Women Support Organisation, WSO C).

According to the interviewee, a director identified as WSO B stated:

"With regards to experiences, lessons learned, and failures in supporting ICT for women entrepreneurs in Uganda: The use of smartphones has been instrumental in boosting trade within and across the borders without incurring heavy transport costs. E-marketing has become popular for medium-sized businesses. Access to global products and design through the Internet has triggered innovation. However, outreach and use of ICT is still limited to urban areas." (Director Women Support Organisation, WSO B).

Interviewee Bank Executive stated that:

“As financial institutions are learning about their rights and obligations as borrowers, as well as how banks and credit programs work, can increase women entrepreneurs’ financial literacy. As a financial institution, we offer a whole suite of solutions to women entrepreneurs in our business banking and SME segments, which women entrepreneurs can tap into. For ICT use, one can open a Transactional account online, and one can apply for a Loan facility online.” (Bank Executive).

According to interviewee WSO A, Programme Officer for ICT and Gender:

“The lessons we have learned through our experiences in providing ICT support to women entrepreneurs and women in general show the impact of efforts as women who have attended our ICT training workshops now have basic ICT skills which have improved the way they manage their enterprises.” (Programme Officer for ICT and Gender, Women Support Organisation, WSO A).

Interviewee WSOA Programme Officer for ICT and Gender explain that:

“Empowering women would mean equipping them to be economically independent, self-reliant, and have positive esteem to enable them to face any default situation, and they should be able to take part in development activities. The empowered women should be able to take part in the process of decision making.” (Programme Officer for ICT and Gender Women Support Organisation, WSO A)

As information technology becomes more complexly linked to the development of knowledge economies, education for women, especially women entrepreneurs, becomes more important.

This study's findings have shown that the participants (i.e. UWE 55, UWE 45, UWE 46) are highly educated, and a few have invested in ICT training to run their businesses. Participant UWE 55, an urban women entrepreneur, explained:

"I am a teacher by profession, and I started an online business. I realised that ICT is now vital in business sustainability and success. I invested in ICT such as mobile phones and computer/laptops to have easy access to my students in remote areas and to access information so that I can grow my business and keep up to current trends."
(Urban Woman Entrepreneur, Participant, UWE 55).

With this knowledge, participant UWE 55 could make informed decisions about her business. UWE.55 invested in ICT, which made sense, but she also had a backup plan in case things did not go as planned. Moreover, she stayed true to her values, using technology to support her vision rather than vice versa. This study has revealed the obstacles to ICT investments. From a managerial perspective, there needs to be more coordination and consistency among ICT policies, standards, and practices, leading to duplication, fragmentation, and inefficiency.

(WSO C Director). Acknowledged that:

"Success was recorded in the continuation of the production of our crafts, marketing of our products, and receiving payments through mobile money." (Director, Women Support Organisation, WSO C).

The empirical evidence has shown that affordability remains a significant barrier to ICT accessibility in urban women's enterprises in Uganda.

Interviewee (WSO C Director) on lessons learnt and failures in supporting ICT for women entrepreneurs in Uganda states that:

"The gadgets we got cheaply could not download the required apps . Women take long to adapt to changes. Failures were noticed in the lack of fulfilment of our orders in time and misinformation." (Director, Women Support Organisation, WSO C).

Interviewee WSO A, a Program Officer in ICT and Gender enlightened:

According to the interviewee, the WSO Can Executive Director, through experiences in offering ICT support to women entrepreneurs, had a negative view of how the government is applying ICT policies and initiatives for women entrepreneurs and enterprise growth.

According to the interviewee, the WSO C Executive Director expresses the view that through experiences in offering ICT support to women entrepreneurs had a negative view of how the government is applying ICT policies and initiatives for women entrepreneurs and enterprise growth.

4.9 Preference Mode of ICT of Women Entrepreneurship

The findings of this research study's previous discussions indicated that urban women entrepreneurs have access to different ICTs and owe numerous limitations and benefits in interpreting ICT.

This study's findings have shown that urban women entrepreneurs in Uganda access financial services using different ICT tools. These services are often facilitated through mobile money and agent banking, making transactions more efficient and accessible.

Participant UWE 10, an urban women entrepreneur, stated that:

"Nowadays I do not have to go to the bank to deposit money to pay someone, buy goods or receive money; all I have to do is use my mobile phone carry out my financial transactions for the business." (Urban Woman Entrepreneur, Participant, UWE10)

According to the bank executive:

"It is inspiring to see how technology is making a positive impact on these women's lives. As an example, one no longer needs to go to the Bank to make Utility payments All the utilities of Electricity, Water, TV subscription, etc, are all now accessed online using Bill Pay under the Internet. The Internet Banking can be accessed on a Mobile phone through an App or any Internet-enabled gadget." (Bank Executive)

Participant UWE 22, urban women entrepreneurs explained that SMEs benefit from embracing innovative e-commerce strategies. According to UWE 22, urban woman entrepreneurs a devoted customer of Kikubo Online explained that:

"I have no worries about leaving my business premises to go and shop for the best prices for products if my inventory is low. I stay in my shop and use the KikuboOnline mobile app, which I downloaded on my mobile phone. I look at prices online, check online offers with extremely competitive prices, and choose from various stocks, saving me time. This has saved me time worrying about delayed goods, leading to added transportation costs. Using this app has helped grow my business." (Urban Woman Entrepreneur, Participant, UWE 22).

Participant UWE 22 elaborates further:

"After I had ordered my products online, I used my SafeBoda App and notified my Boda guy to deliver my products to my shop. The SafeBoda App is trusted as it was promoted for safety, and I am confident when I use it as I know my goods will be delivered on time." (Urban Woman Entrepreneur, Participant, UWE 22).

Similarly, participant UWE 25 explained that:

“I use WhatsApp for both personal and business. Without this app, you are lost and do not know what is happening around you. I used to use the app to chat with my friends and family, but I later realised that the app could do more than chatting and gossiping. I heard from my friends that people use the app to market their goods. I took the initiative and learnt how to use the status for my products. I have saved a lot of money doing this. Now, I do not have to promote my products as I have built up my client base, which has grown through word of mouth. I keep adding people to my contacts; this way, I can get requests or provide information about my available stock. However, sometimes it is risky as you get nuisance texts, but overall, the app is good in sustaining my income and growing my business.” (Urban Woman Entrepreneur, Participant UWE 25).

In support of the above quotes, according to Informant from WSO, A:

“Social media especially for digital marketing, online banking for business. Excel applications for proper bookkeeping and YouTube for learning different business skills.” (Programme Officer for ICT and Gender Women Support Organization, WSO A)

Most of the participants in This research study indicated having had to adjust communication modes used by their providers in support of Rogers (2003). Acquiring the necessary skills through organised training in the use of technologies instils confidence in their use.

“I use WhatsApp daily, learned to post my products on my WhatsApp online status using my mobile phone, and as a result, saw growth in my client base and overall business survival. I have. even created a WhatsApp group for my customers where I advertise all my products up for sale.” (Urban Woman Entrepreneur, Participant, UWE24}

Participant UWE 25 explains:

“I use WhatsApp in my business. It has allowed me to reach customers that I never would have been able to before, and I can sell my products online without having to worry about having a physical store.” (Urban Woman Entrepreneur, Participant, UWE25)

This quote implies that women entrepreneurs can reach broader markets, improve sales, and enhance their business performance. The findings of this study have shown that those participants who had acquired basic ICT capabilities used Internet-based ICTs such as the computer/laptop. Participant UWE 01 is an urban woman entrepreneur who runs an ICT-based enterprise stated that:

“I rely on the Internet to run my business and use my smart phone. I invested in Apple products such as iPhone and Mac as they offer quality. I had to save a lot. As they are expensive, they do not come cheap, but I have been able to make up the cost; I am earning a lot as very few women are in the technology sector, and most do not know how to use their phones or gadgets for income.” (Urban Woman Entrepreneur, Participant, UWE 01)

Participants (i.e. UWE 05, UWE 10, UWE 30, UWE 21, UWE 44) perceived basic communication, economical and convenient, affordable, cost-effective, and needed basic ICT, useful to the type enterprises and low-value sectors where Internet access and normal banking are limited and costly.

“The mobile phone is God-sent. Can you imagine I can be cooking in my kitchen, and I can get a phone call regarding my business either from a supplier or a customer? I can quickly decide whether to buy the product, and I can negotiate on the price. Secondly, I can reply to a customer request and inform them whether I have the product in stock and how much it costs.” (Urban Woman Entrepreneur, Participant, UWE 05).

In addition, participant UWE 10,

“I find the mobile phone easy to use when it comes to making voice calls, sending messaging through text messaging, either as text or voice text, which is very convenient as you spend less time typing; all you must do is press the voice icon on your smartphone, record the message and send. This is an especially important feature on these SMART phones as the receiver lets us say you are making an order with the supplier. Unlike sending a text, you are understood, which might be interpreted differently as mistakes like typing errors can occur. You end up with a wrong order.”
(Urban Woman Entrepreneur, Participant, UWE 10).

According to participant, UWE 30 responded that:

“My mobile phone is extremely useful for business, and I can use it in any location to conduct my business. It affords me easy connectivity to the world of potential clients.”(Urban Woman Entrepreneur, Participant, UWE 30)

Participant UWE 30 elaborated further that:

On other occasions, I use the video feature on my phone, making Video calls and business meetings over the Internet. I rely on the Internet to run my business through virtual meetings. The mobile phone is the only device I have. I use it to take pictures of my inventory and post online or on my phone status, and it has helped me earn a living and cut costs.” (Urban Woman Entrepreneur, Participant, UWE 30).

Another significant finding was that (Urban women entrepreneurs in Kampala) (n=28) owned more than one mobile phone, and (n=18) participants owned a mobile phone with dual SIM capacity. Participant UWE 55) stated that.

“I have two mobile phones due to connectivity, MTN network is not clear, and Airtel network is clear.” (Urban Woman Entrepreneur, Participant, UWE 55)

Participant UWE 55 elaborates further:

“Also, try lower prices. If you have MTN and you are calling Airtel, they charge you a lot, but if you have both numbers on the same network, it is cheaper than calling another network’...the charges are different. Sometimes, you find that Airtel has promotions. On data charges and MTN does not, so you make sure that when there are any promotions, you take to advance the available promotions from both networks in the week.” (Urban Woman Entrepreneur, Participant, UWE 55).

The excerpts above imply that mobile phones are the go-to technology devices for core business activities in urban women’s micro-enterprises in Uganda. Having multiple SIM cards can be a practical solution to some common mobile phone problems experienced by women micro-entrepreneurs.

Participants UWE 55 and UWE 56 used television as a learning tool to acquire information and knowledge tailored to and beneficial to managing their business. This has saved them time and costs. Women entrepreneurs can watch a programme while taking care of their business.

“I Watch videos on how to carry out some the tasks for her business and as a learning tool to help in managing the business” The reason for having a television in the salon main purpose is for entertainment purposes and exposure to documentaries about hair, different businesses for making hair and other business stuff like cosmetic beauty and learn about the other world but mainly entertainment.” (Urban Woman Entrepreneur, Participant, UWE 55).

Similarly, urban woman entrepreneurs (UWE 56)

“I can watch a business TV programme in pictures tailored for that specific sector. Watching television enables me to implement the practices since it is being proven exactly how you should do it on TV. This is beneficial as I have basic English. I can at least watch and see what is done, and sometimes the programmes are in an urban language. “I use a TV app on my mobile phone, and I re-watch the program at any time, and understand how I can implement the knowledge to my business.” (Urban Woman Entrepreneur, Participant, UWE 56)

The main benefit of the TV was the technological tool’s ability to supply educational information through pictures showing practices that enhanced the women entrepreneurs’ knowledge. Listening to a radio did not require reading or typing. The finding suggests that this benefits women entrepreneurs, especially those who are less educated and juggling work and family responsibilities.

4.10 Views about the link between ICT by policy makers and support organisations

This section will discuss how ICT impacts women-owned SMEs and women’s empowerment. I will address concerns raised by participants from a senior managerial perspective and provide insights for future research and recommendations. To gather information, I interviewed three stakeholder groups: a Bank Executive who heads the Credit Department, an ICT policymaker, who advises on ICT policies and strategies, and four Women Support Organisations (WSOs). These Women Support Organisations (WSOs) aim to help women entrepreneurs who own small and micro businesses to increase their income generation potential using ICT tools such as computers, email, Internet services, telephones, fax, scanners, printers, photocopiers, radio, television, and information tailored to the needs of urban women.

The WSOs are divided into four categories: WSO A, WSO B, WSO C, and WSO D, which target grassroots women and provide them access to ICT tools. Women support organisations play an essential role in helping women entrepreneurs adopt ICT.

This was explained by the Programme Officer for ICT and Gender while discussing the work of Organisation A. The aim is to help women entrepreneurs strengthen their skills and knowledge in using technology.

Interviewee WSO A elaborates further that:

“Our target audience is women and girls. Envisions an inclusive and just society where women can use ICTs for Sustainable Development. So, in entrepreneurship, we encourage and enable women to use different tech tools and take advantage of them in learning, starting, and growing their businesses.” (Programme Officer for ICT and Gender, WSO A)

Interviewee WSO B Executive Director explained that:

“Our target audiences are the grassroots women. Empowering her economically and socially through education. Our organisation is unique because we offer theory and practical skills, we also follow up to ensure knowledge is put in use through close monitoring and communication.” (Executive Director, Women Support Organisation, WSO B)

Similarly, the WSO D Acting Executive Director said:

“Our program exposed micro- and small-scale businesspeople to knowledge, skills, and e-marketing practices. We introduced software modelling programs to women and youth undertaking courses using computer-aided design software. We use a basic computerised program to enter their transactions, analyse their performance, loss, or profit, and undertake self-tutorials using training videos in the vernacular.” (Acting Executive Director, Women Support Organisation, WSO D)

While the informant from organisation C restated that:

“We endeavour to train a few, but we really cannot achieve the goal.” (Executive Director, Women Support Organisation WSO, C)

It was clear from the above excerpts that the stakeholders were enthusiastic about supporting women entrepreneurs in Uganda and recognised ICT’s key role in enterprise growth. Their input provided valuable qualitative findings that will inform the development of training and e-learning resources to empower women in business further.

The next section is the summary section of chapter 4.

4.11 Summary Chapter 4

Stakeholder Group 1- Urban women Entrepreneurship: This study suggested that urban women entrepreneurs in Kampala have unique preferences when it comes to ICT that depend on factors such as individual needs, usefulness and ease of use of the technology, beliefs about technology, ICT literacy, financial resources, target market, and the benefit to their enterprise growth and income generation.

It also emphasises the crucial role of ICT in business activities for small and medium-sized enterprises (SMEs) and the opportunities it offers for competitiveness, survival, and empowerment of women entrepreneurs. The findings suggest that urban women entrepreneurs can leverage ICT to cut costs, improve internal processes, and communicate faster with customers.

This study findings suggested that SMEs are considered engines that promote economic growth and in developing countries like Uganda, they account for a considerable proportion of the workforce. ICT plays a crucial role in business activities, especially for SMEs, by creating opportunities, ensuring competitiveness and survival, and empowering women entrepreneurs.

Additionally, access to quick finance options like mobile banking and mobile internet can significantly benefit women-owned businesses.

This study suggested the challenges faced by women entrepreneurs in accessing and using ICT due to excessive costs, limited purchasing power, and structural barriers. Despite these challenges, women entrepreneurs are using the Internet to gain business knowledge and improve their competitive advantage and income. This study also reveals that women micro-entrepreneurs use traditional and modern ICTs to create value, access markets and prices, and improve communication with customers and suppliers.

Stakeholder Group 1- Urban women Entrepreneurship: This study emphasises the unique preferences of women entrepreneurs in Kampala and how those preferences depend on factors such as cost, individual needs, beliefs about technology, ICT literacy, and financial resources. This study findings also suggested that urban women entrepreneurs in Kampala can leverage ICT to cut costs, improve internal processes, promote, and distribute products and services, and communicate faster with customers.

It also emphasises the crucial role of ICT in business activities for small and medium-sized enterprises (SMEs) and the opportunities it offers for competitiveness, survival, and empowerment of women entrepreneurs. The findings suggest that urban women entrepreneurs can leverage ICT to cut costs, improve internal processes, and communicate faster with customers.

Additionally, access to quick finance options like mobile banking and mobile internet can significantly benefit women-owned businesses. This study also highlights the challenges faced by women entrepreneurs in accessing and using ICT due to excessive costs, limited purchasing power, and structural barriers.

Despite these challenges, women entrepreneurs are using the Internet to gain business knowledge and improve their competitive advantage and income. This study also reveals that women micro-entrepreneurs use traditional and modern ICTs to create value, access markets and prices, and improve communication with customers and suppliers. . Mobile phones are the most widely used tool due to their ease of use and usefulness, even for those with basic ICT skills.

Stakeholder group 2: The Women Support organisations which are non-government organisations supporting women SMEs promoting the use of ICTs by women at grassroots level for gender equality and sustainable development The discussions around challenges and opportunities related to ICT for women entrepreneurship highlighted the connection between ICT, business growth, and women's empowerment.

The local women support organisations emphasized the role of ICT, when coupled with training programs targeting grassroots women, can support women entrepreneurs in urban areas of Uganda. Both private and public entities have launched initiatives to support women and address the barriers to women's empowerment, including government-driven programs.

The use of technology, particularly ICT, can significantly impact women entrepreneurs' economic and social empowerment. In Kampala, women entrepreneurs have opportunities to receive help from ICT support organisations who offer training to women at grassroots level.

Stakeholder group 3: Governments play a vital role in fostering economic growth in both urban and rural areas by establishing policies that promote job creation and enterprise development. Uganda women entrepreneurship programme(UWEP) set up equips women with skills for enterprise growth value creation and add value and market their products and services aim at improving access to financial services, access to ICT (MYUG WIFI). These policies could include tax incentives and investment opportunities. Policymakers: Collaboration with women's organizations, government bodies, and civil society is crucial to ensure the fair inclusion of women in ICT policies. Providing equal access to economic resources for women entrepreneurs in Uganda has the potential to contribute to the country's economic growth.

Stakeholder Group 4- Local commercial banks: Findings suggested that financial institutions are vital in strengthening entrepreneurship as it is one of the driving forces for women entrepreneurship. This study suggested that the biggest obstacle faced by SMEs is access to finance particular in developing countries. Where banks avoid lending to women WSMEs due to lack of collateral(Beck and Dmirguc-Kunt,2006). SMEs financial access is of interest for various economies due to its significant role in employment generation, economic growth, and enterprise performance.

This study suggested that ICT is one of the channels being used by the bank to empower urban women in business. If women have access to finance, it will be a significant move as finance is one of the major hurdles for SMEs for women.

Lack of financial literacy from women entrepreneurs who make it difficult in rolling out credit incentives using financial digital services, there is need for urban women entrepreneurs to be highly trained in ICT business skills and basic computer skills.

ICT enable access to quick finance options like mobile banking and mobile internet, the banks are now offering new solution which women SMEs can tap into such as applying for a loan online. Transforming supply chain management, customer integration, and cost reduction. By increasing revenue opportunities in women-owned businesses, these technologies empower them, making it easier to work from home, connect with customers and suppliers, and reduce costs.

All Stakeholder Groups, 1,2 3, & 4: Acknowledged that it is essential for ICT companies to modify their products and services to cater to the needs of women and for SMEs. This involves considering the local cultural context and understanding the specific needs and experiences of women in business and communities.

The next Chapter 5 will analyse and discuss the research findings, answering each research question to develop a substantive theory for ICT and women entrepreneurship in developing countries.

Chapter 5 Discussion

In this qualitative study, I aimed to explore the extent and impact of ICT use on SMEs in developing countries, using Urban women SMEs in Uganda as an example. The primary emphasis was placed on understanding the challenges and opportunities ICT use on SMEs. Furthermore, the aim was to develop a substantive theory, by making sense of the extent and impact of ICT use on SMEs in Uganda drawing from the lived experience of local urban women entrepreneurs. This study findings have significant important implications for ICT policy for women SMEs. This new theory of this study can be expanded and be applicable to other developing countries.

This section discusses findings of this study (Chapter 4 and implications, considering the research results.

The study also aimed to explain how ideas are connected to address the gaps identified in (Chapter 2) of the literature and findings(Chapter 4) which presents the qualitative findings and themes that emerged from analytical methods, such as the role of ICT in women's entrepreneurship, the impact of ICT on enterprise and empowerment, lessons learned from ICT investments in Uganda, and policymakers' views on the link between ICT and enterprise growth and empowerment of local women.

Additionally, this section compares the new substantive theory with existing literature to highlight its contribution to the current knowledge body.

5.1 ICT and Women Entrepreneurship

In this study, participants highlighted the crucial role of ICT in empowering women entrepreneurs and enhancing SME growth. The literature demonstrates that entrepreneurship is now linked with ICT and technology (Alderete, 2017). Notably the internet and social media, which have become the primary marketing platforms for SMEs in developing countries. The term ICT encompasses a wide range of technologies beyond just Information and Communication Technology. According to (Selwyn, 2002; UN, 2005; Sarmiento, 2009). ICT is a group of technologies that are key to enabling information gathering and dissemination, communication, and the processing and transmission of information by electronic means. This study findings have shown that women SMEs use different forms of ICTs both traditional such as television, radio, newspapers, and landline telephones, to more advances ICTs such as internet enabled phones, tablets, computers laptops, email, e-commerce , and information processing technologies(UNDP-APDIP, 2023).

Furthermore, ICTs are interdependent. In developing countries, factors such as digital illiteracy and costly infrastructure are connected to access and usage of ICTs, such as the Internet and internet-enabled mobile phones, which do not apply to older technologies (i.e. radio and landline telephones) to the same extent. These problems a related to different government policies and approaches may stem from the way each ICT is envisioned by policymakers in each country. This study findings suggested that not all WMSMEs need to use ICT to the same degree of compacity. The most embraced ICT tool by WSMEs was the mobile phone which most perceived more economical and most convenient for their enterprise.

Previous studies (Duncombe, 2007; Kenny, 2002; Moyi, 2003) emphasised the necessity of modern ICTs for women entrepreneurs, including internet-enabled mobile phones, laptops, and internet access. Public telephone services, roadside phone kiosks, and shared ICT facilities, such as internet cafes, as fundamental in assisting micro-entrepreneurs in developing countries i.e. to secure better prices when engaging with traders, customers, and suppliers (Duncombe, 2007; Kenny, 2002; Moyi, 2003).

However, (Duncombe, 2007; Kenny, 2002; Moyi, 2003) stated that few SMEs still use traditional media, such as landline telephones, TV, and radio, as these traditional media outlets are adapting to remain relevant in the face of the internet.

This study suggested an increasing accessibility of the Internet and mobile technology in developing countries holds the potential for initiating new businesses information and communication technology have advanced and enabled the shift of societies toward entrepreneurship (GSMA, 2023; Ukpere, Slabbert, and Ukpere, 2014; May et al., 2011). This finding can indicate that women are initiating ventures with minimal initial investment through the Internet, thereby creating fresh economic value for both the entrepreneur and the community. Extensive literature emphasises the fundamental role of entrepreneurship in empowering individuals, boosting household income, combating poverty, fostering job creation, and driving economic expansion. (Cesaroni, Demartini, and Paoloni, 2017) examine the implications of female entrepreneurship in developing nations, particularly in Uganda, Kenya, Nigeria, and South Africa highlighting the positive impact of women establishing new businesses in these regions.

The findings of this study align with previous research, underscoring the significant role of ICT in mitigating unemployment by generating opportunities for marginalized sectors. Previous studies have shown that In Africa, it has been estimated that the mobile phone ecosystem employed nearly 5.8 million people directly or indirectly in 2010, accounting for 1.4 percent of the total African workforce (GSMA, 2013). For instance, in Uganda, the ICT sector in Kampala plays a pivotal role in employment and job creation, particularly in airtime retailing and mobile money services (mobile money agents) (Gillwald et al., 2019; The Republic of Uganda Ministry of Information and Communications Technology [MoITC], 2014; Esselaar et al., 2006), as well as in enhancing the quality and efficiency of other service deliveries (UIA, 2016), predominantly in low-paid jobs (Kaboor, 2008; Salway et. Al, 2005).

Furthermore, (Cesaroni, Demartini, Paoloni, 2017; Gillwald, Mothobi and Rademan, 2018) argue that women entrepreneurs and business owners in these countries are leveraging social media for networking and flexibility. However, the study also stresses that women in these areas often lack fundamental digital skills crucial for entrepreneurial success and encounter socio-cultural barriers linked to gender, including difficulties in maintaining a work-life balance. The Ministry of Information and Communications Technology (2014) stated the substantial role of ICT across social, cultural, economic, and political spheres.

The evidence presented in chapter 4 substantiates the new theory that ICT can be an effective tool when combined with other factors (see Figure 6.1). Most stakeholder groups expressed their views that ICT, along with other measures such as subsidizing ICT skills training for women, could support WSMEs in Uganda by cutting costs such as face to face communication with suppliers or customers by investing in ICTs such as a basic mobile phone and using mobile apps such as Market Garden App and WhatsApp for business. ICT can help SMEs, create business opportunities by having an easier link to a wider market and supply chains, by having an online presence where they can better promote and distribute their goods and services and faster communications with their suppliers and supplier to improve their products.

However, despite the given benefits ICT can bring to SMEs in most developing countries, this study findings suggested that in Uganda there has been a slow adoption rate. For instance, a few participants used computer or Internet for business, but most used basic ICTs such as mobile phone, this can imply that similar WMSMEs in developed countries are using advanced ICTs. Different stakeholders in this study, stressed that for governments to encourage ICT use in SMEs, efforts must be made in tailoring content to the user (Gurumurthy et al., 2014; Singh et al.,2019) create mindset change by creating ICT awareness among women entrepreneurs that ICT adoption can improve their enterprises.

Furthermore, this study suggested that before policy implementation to review the current policies to meet needs of SMEs. Governments need to understand where women SMEs are in their decision making and increase awareness, decrease the barriers to ICT adoption, because even though women entrepreneurs are aware of the benefits of ICT as suggested by this study, WSMEs will only adopt ICT if they are reaping benefits, therefore, governments should invest in a robust ICT and energy infrastructure to overcome the obstacle of affordable and easy access of ICT infrastructure, whether its basic ICTs or advanced. Thus, increase the level of ICT literacy as users must understand how to use ICT and how it will change the way they operate. Therefore, more subsidised ICT training for SMEs, where training programmes should be flexible and tailored to the specific needs of women, and allow the participants to try the ICTs firsthand. For example, WSO C organisation launched programs for grassroots women on ICT courses, using Microsoft packages increase the computer literacy in running their enterprises.

In addition, the findings suggested a need for increase in affordability of ICT through tax incentives, leasing options where by one participant suggested that telecommunication companies work with women in the informal sector and offer lease options for mobile phones. This will allow SMEs in the informal sector to register and rent mobile phones or software monthly. Furthermore, the private sector through collaboration on partnerships with the government can led to WSMEs on payment options due to lack of collateral. For example, local commercial banks can have a pay as you go model that is better suitable for SMEs on an individual basis than a one-time payment.

In addition, the findings suggested that there is need for an enabling legal framework for SMEs in particular women owned enterprises. Most participants were wary of conducting financial transactions using ICT based financial applications. Therefore, a secure e-payment service should be provided to bring confidence and encouraging SMEs to adopt ICT. These finding of this study aligns with the suggestion by the Ministry of Information and Communications Technology (2014) that ICT plays a significant role in all aspects of life, including social, cultural, economic, and political dimensions.

According to efficiency (Ukpere, Slabbert, and Ukpere, 2014; May et al., 2011), suggested that ICT offers benefits to marginalized groups, such as women, by changing their financial status. Women SMEs are getting knowledge through ICT training programmes to the benefit of ICT. The findings of this study found that women entrepreneurs, are starting to use mobile phones, an empowering tool for women in most developing countries, which has allowed women to access information (i.e. social media and the internet) and other resources more than before (GSMA, 2023) as the basis for starting their businesses, improving performance and efficiency, alleviating poverty and enhancing women's social status(Sachs, 2004)

Marketing Tool: The research literature strongly supports the idea that ICT is essential for women's entrepreneurship (Huyer and Mitter, 2003); Matamanda and Nel, 2020). This was highlighted in (Chapter 4) demonstrating how the Internet and social media have become key platforms for marketing products. This can imply that ICT is instrumental in unleashing women's entrepreneurial potential and facilitating business transactions in urban areas like Kampala.

Previous studies have examined how women entrepreneurs use internet-enabled mobile phones as a marketing tool to promote their products on social media platforms such as Instagram, Facebook, and Twitter (Durkin et al., 2013; Orser et al., 2007:2019). Moreover, (Ukpere et al., 2014; Orser et al., 2019) explored how this trend has empowered women entrepreneurs to strategically use ICT for starting and growth of women-owned enterprises.

Additionally, Burke, 2009) suggested the usefulness of websites for (SMEs) in reaching new customers and increasing sales. For example, social media is beneficial for SMEs in enhancing brand reputation, maintaining customer trust, and reducing the cost of digital advertising and promotion. Findings of this study have suggested that urban women entrepreneurs in Uganda use e-commerce platforms (i.e. SafeBoda) to connect market vendors with customers. This motorcycle taxi-hailing app has evolved into an e-commerce platform, boosting micro-business sales, and benefiting thousands of customers, marking a positive development for SMEs in Uganda (Chandler, 2020).

Additionally, this study suggests that due to inadequate ICT literacy few WMSMEs) are using email as a communication tool to facilitate networks between suppliers and customers when purchasing or selling goods (e.g., sending product details and invoices, and providing information about products and services). This study findings align with previous research (Duncombe, 2007; Good and Qureshi, 2009) that digital ICTs such as email and the Internet facilitate communication networks between community support organizations and individuals worldwide. However, it is important to note that participants in this research study who heavily relied on email were educated, and in the formal sector, owning multiple ICT devices, (i.e. laptops, smart phones, computer) which only represents a smaller number of women SMEs in Uganda.

Improving Business Management and Growth for Women-Owned SMEs:

(Wakunuma, Siwale, and Beck, 2019), stated that ICT plays a key role in empowering women's entrepreneurship representing a potential source of competitive advantage and income generation. ICT has the potential to significantly improve livelihoods and bridge the employment gap for women in developing countries. This study findings clearly demonstrate that ICTs, including internet-enabled mobile phones and other devices(see Table 5), provided an incredible opportunity for women entrepreneurs to communicate through social platforms such as WhatsApp, WhatsApp for Business, and Instagram, leading to new avenues for marketing their goods and products.

However, it is becoming increasingly evident that there is a growing need to provide greater support for women's engagement in entrepreneurial activities, especially considering the increased technological advancements and applications. Koster and Anderson (2018) strongly suggest that gaining industry-specific experience before pursuing self-employment is essential for entrepreneurial success. In the face of challenges such as elevated levels of unemployment, low labour force participation, and literacy gaps, particularly among those operating MSMEs in the informal service sector. It is clear from this study findings(Chapter 4) that ICT can offer substantial benefits to women entrepreneurs, considering their education, employment histories, and the challenges they face.

The Technology Acceptance Model (TAM2) (Venkatesh and Davis, 2000) resourcefully used in this study to interpret how ICT can enhance the development of women micro-entrepreneurs and enterprise growth if used effectively with other supporting factors. The analysis comprehensively covered personal characteristics, business characteristics, and perception of ICT, including ease of use, usefulness, attitude, and intention to use. This study findings have suggested that the mobile phone has truly revolutionised the SMEs landscape, in particular the informal sector due to its ease of use, and perceived usefulness offering new opportunities for women entrepreneurs to thrive.

The literature review has shown that the Ugandan government recognizes the fundamental role of ICT in economic growth and aims to realise its national vision through the new ICT Policy (The Ministry of Information and Communications Technology [MoITC] (2014). However, concerns raised about slow network connections and power cuts, hindering the acceptance of ICT by micro-enterprises in Uganda and raising questions about its relevance in an urban context. It is crucial to ensure that new ICTs do not create further disparities in society. Hence, this study strongly recommends enhanced efforts to support interventions that assist women entrepreneurs and encourages these organisations to design support programs tailored to the interests and needs of women entrepreneurs.

Overall, despite differing views, the perceptions of women entrepreneurs and key senior management informants in this study, unequivocally suggest that ICT plays a crucial role in empowering women entrepreneurs and enhancing SME growth in urban and rural areas of Uganda (Huyer and Mitter, 2003; Matamanda and Nel, 2020). Efforts, such as ICT training programs for grassroots women, are highly encouraged, with an acknowledgment that multiple approaches are needed to address the challenges faced by women entrepreneurs (Ministry of Information and Communications Technology [MoITC](2014).

5.2 ICT Policy: Importance for Entrepreneurial Growth and Empowerment

In this study, objective 3 (Chapter, Section 1.1.1) was to explore government ICT policies that strengthen and support the position of women micro-entrepreneurs in Kampala, Uganda. The literature indicates that the Ugandan government has been actively seeking ways to overcome poverty for years by launching various programs to transform Uganda into a knowledge-based society by 2025, with a strong focus on ICT in all aspects of life. Literature has indicated that Ugandan government has implemented policies to promote ICT for business and enhance access to digital services. i.e. e-Government Framework Policy 2010 (draft), National Electronic Government (e-Government) Framework, MoICT and NG, 2010, and the Telecom Policy 2011 (draft) (Kabagambe, 2018; Turyasingura, 2020) and the Digital Vision 2040 and the National ICT Policy 2014 (Kabagambe, 2018). These policies are notable, aiming to connect the entire country to broadband and improve its utilisation (Gillwald et al., 2019; Ministry of Information and Communications Technology [MoITC](2014) and serves as a solid foundation for the government's efforts to empower women entrepreneurs and promote economic growth in the region.

National ICT Policy Framework 2003 aims to foster innovation and create a positive socio-economic impact by empowering people through ICT-based services. It also supports Uganda's vision of transforming society from a peasant to a modern and prosperous country within 30 years (Nation Planning, 2020). This study suggested that the participants have used the opportunities presented by ICT to pursue self-employment. According to (Nikulin, 2017) ICT positively impacted female labour force participation in developing countries, increasing their productivity, income, and bargaining power. This study findings are consistent with Gillwald et al., 2019; Ministry of Information and Communications Technology [MoITC](2014); Esselaar et al., 2006; Melhem et al., 2009; Nikulin, 2017) which stated that ICT use on SMEs in urban areas such as Kampala have provided employment opportunities through airtime retailing, phone repair, and mobile money services. The digital vision policy aims to deliver various government and private services electronically, such as banking and communication. However, this study findings suggested that the introduction of social media tax (Gillwald et al., 2019; MoITC, 2014).

According to a report by the Uganda Communications Commission [UCC], 2018, the social media tax policy known as (over the top tax (OTT) led to a reduction of five million Internet users within three months of its introduction in July 2018, posing a significant challenge for SMEs, unable to afford the excessive costs of data and mobile taxes. However, previous studies have shown that the Ugandan government has also enacted policies such as the e-Government Framework Policy 2010 and the National Broadband Policy to reduce costs to improve access. Further reports Creative (2018) suggested the effects of the social media tax policy introduced in June 2018, particularly its extension to data services and mobile money transactions continues to impact small businesses in Uganda, even after the policy undergoing revisions (Hafkin and Taggart, 2001; Gillard et al., 2019).

This study suggested that ICT standards can support e-learning and e-government service delivery. This study participants accessed e-government services using mobile applications to register their businesses and pay tax and utility bills through UMEME and National Water. These results are consistent with previous studies (Gillwald et al., 2019; Ministry of Information and Communications Technology [MoICT] (2014); Esselaar et al., 2006; Melhem et al., 2009; Gillwald et al., 2019). This study suggested that participants SMEs recognised the advantages of government policies that support ICT and female entrepreneurship, as well as the transformation of enterprises. Women SMEs benefited particularly in core operations such as marketing, receiving information, improving business processes, and increasing profits, leading to improved productivity and enterprise information.

Despite the advantages, the research results indicate that a digital gender gap exists in Uganda. Gillwald et al., (2019); Ministry of Information and Communications Technology [MoICT] (2014); Esselaar et al., (2006), reports that the number of women who own and can use a phone at any time is less compared to men and very few women have utilised a computer or the internet.

This study findings showed a lack of awareness of Uganda's laws governing electronic communications and transactions among the majority of WMSMEs. Very few of the participants were aware of the Electronic Signature, Computer Misuse Act, 2011, National Standards governing ICT, and Electronic Transactions Act, 2011 (MoICT and NG, 2024).

The few participants who were aware of cyber law learned about it through TV, radio, and word of mouth. This study suggested that policymakers revise ICT policies and laws and create advocacy and awareness surrounding the need for more participation of women in ICT discussions, policies, and decision-making processes (Chapter 4; section 4.3). Recognizing the needs and perspectives of women in ICT policy can help ensure the active participation of women in policy discussions and lead to the increased contribution of ICT to socioeconomic development.

“The current position that one mainstream policy for ICTs fits all is not sufficient to engage women and men in the knowledge society. The consequence of failing to disaggregate the data by gender, to have mainstream policy makers understand gender issues fully, and to create policy and implementation strategies that acknowledge and assuredly engage women’s and men’s unique needs and contributions is to design a plan for failure. One with which we are all too familiar”
(Director, Women Support Organisation, WSO C)

The findings further showed a need for more awareness about ICT use in most women-owned SMEs nationwide. The study findings offer valuable insights and recommendations for policymakers, government agencies, and CSOs to consider when developing policies to enhance ICT access and promote gender equality in entrepreneurship. Considering the evidence that women in Uganda face a range of sociocultural, legal, familial, and economic impediments to the growth of their enterprises, it is recommended that now is the appropriate time to ensure the inclusion of gender concerns in national ICT policy, as most developing countries are either in the process or about to start elaborating these policies. This study emphasises the importance of partnerships with women's support organizations to promote and raise awareness of ICT in strengthening women's entrepreneurship (Delmar and Holmquist, 2003).

These policies and regulations provide guidelines and frameworks to help enterprises meet industry best practices, adhere to regulations, and protect their customers' data.

According to Wein Zimmer (1997), creating leadership platforms and well-functioning, heterogeneous top management teams is vital for small-firm growth. Furthermore, there is a need for robust data privacy policies and security measures, as well as partnerships with women's support organizations to promote and raise awareness of ICT in strengthening women's entrepreneurship (Esselaar et al., 2006; Gillwald et al., 2019). Policymakers in Uganda need to ensure that women can take full advantage of the opportunities offered by information technology, and the gender aspect.

"Governments and non-state actors should embark on a deliberate effort to provide multi-purpose Empowerment Centres with ICT facilities within communities to motivate the women, men and youth to access and use ICT for career advancement, skill enhancement and business development."

(Acting Executive Director, Women Support Organisation, WSO D).

The significant concern among participants in this study was lack of for robust data privacy policies and security measures on data. According to Jokinen (2019) the four licensed telecom giants in the country (MTN Uganda, Airtel Uganda Limited, Uganda Telecom, and Tangerine/LYCA) retain personal data for millions of citizens but lack enforceable internal privacy policies and admit to sharing personal data with various government agencies. These policies and regulations provide guidelines and frameworks that assist enterprises in meeting industry best practices, adhering to regulations, and safeguarding their customers data. (Hafkin and Taggart, 2001).

This study suggested the importance of including women entrepreneurs in policymaking decisions to ensure that current ICT policies meet their needs. The findings align with previous research (Marlow and McAdam, 2013), which suggest that stand-alone solutions and inadequate focus on the correct issues have limited the impact of policymaking on improving the marginalised position of most women entrepreneurs.

The data analysis emphasises the importance of integrating social aspects into communication and information technology policy. Additionally, this study highlights the significance of considering gender implications in technical policy areas such as network architecture, deployment, pricing, and tariff issues. Policymakers in Uganda must ensure that women can fully benefit from information technology opportunities and take gender into account when addressing ICT issues. These findings align with previous (ITU, 2021; Marlow and McAdam, 2013), which suggests that insufficient focus on the right issues limits the impact of policymaking on improving the marginalized position of most women entrepreneurs.

Policy makers and support organizations find themselves confronting the challenge of entering a development arena with complex unintended effects and the potential for more different ones. (Rathgeber, 2000) states that current ICT policies in various developing countries such as Uganda are implemented without clear knowledge of how gender and ICT are impacting each other. For example, according to (Rathgeber, 2000) gender attitudes, use, needs, and perspectives on ICTs are likely to differ. ICT is crucial for general development and poverty eradication in marginalized sectors such as women. Therefore, more focus and attention to the gender dimension in ICT developments at an early stage of the information revolution is necessary to prevent greater undesirable effects in the future, particularly on women who risk being left behind in ICT (Desta, 2010; Rathgeber, 2000).

5.3 Connectivity, Access and Relevance of ICTs for Women

In this study, the terms ICT and ICTs considered from the perspective of women entrepreneurs as users. While various ICTs (i.e. mobile phones, computers, Internet, Radio, Television, and fixed telephone) serve similar purposes, their actual use results in different realities and experiences in terms of access, control, use, and maintenance. The concept of ICT may not make sense to women entrepreneurs in Uganda, so the researcher aims to bridge the gap between policy makers and the users, in this case women entrepreneurs.

This study explored the challenges and opportunities of ICT use on SMEs from the viewpoint of urban women entrepreneurs in Kampala, Uganda, enabling an in-depth exploration of the interaction between women and ICT use on SMEs. It was evident from the findings of this research that in Kampala, Uganda, the connectivity, access, and relevance of information and communication technologies has emerged as an increasingly valuable business tool for urban women entrepreneurs have become crucial for enterprise growth. What emerged from this research study was the compelling evidence that Ugandan urban women entrepreneurs are increasingly getting connected to the world of digital information via ICTs such as mobile phones, social media and networks, radio, television, and the internet services, because of the potential of strengthening their enterprises, become more effective and enhance social transformation. This research study findings can support the substantive theory that ICT could be effective supporting tool to overcome challenges and constraints faced by both urban women entrepreneurs and support organisation as identified in this study.

Connectivity: The literature review and this study's findings suggest that women entrepreneurs face connectivity issues due to high service costs, low coverage, and limited infrastructure that hinder ICT adoption (Gillwald et al., 2019; ITU, 2013). Uganda has one of the lowest Internet connections in developing countries at 16.2 percent (ITU, 2013). This research study findings showed that one of the significant barriers to connectivity in Uganda among urban women entrepreneurs are excessive costs, low coverage, and limited infrastructure (Gillwald et al., 2019; Nanfuka, 2022). According to (UCC, 2018) the impact OTT reduced Internet users by five million in three months after introduction in July 2018, Internet penetration rate stood at 47.4 percent before the introduction of the tax. In other African countries, such as Tanzania, mobile tax in led to protests (GSMA, 2021).

The literature also indicates that although the Ugandan government has a budget for mindset change and internet connectivity in the city or the country at large, the findings of this study suggest that it is not being appropriately used to support WSMEs. For example, government initiatives such as free public Wi-Fi (MYUG) services are only available in selected areas of Kampala, but the service is not favourable for women as it is available starting at 6:00am - 6:00pm, a time when women are occupied by domestic chores (UWONET, 2020).

It is critical that the problem of gender in ICT understood and overcome at local level. The issue with the free access service is that it is not gender-sensitive, implying a lack of understanding of the needs of women at a local setting.

This study suggests that establishment of licenses and other public access points to ICT should take into consideration time and location constraints that women face. Therefore, when it comes to these initiatives (i.e. ICT access) a question that arises is whether the government initiatives speak for digital transformation, inclusion, or digital equity for women and what they could do better? this could be a direction for future study. This finding remains a substantial concern for policymakers and requires a lot of intervention from the government. Policymakers should take into consideration sex-disaggregated statistics on access and use, income, impact of cost and technology choice, and entrepreneurship for effective engendering ICT policy. As the findings in chapter 4 revealed, the statistics are rarely available, and if any, they are general, which makes it hard for the researcher to get a clear picture of how women entrepreneurs are using ICT.

This study findings highlights the factor of gender which must be considered in discussions of universal access schemes. Moreover, the literature confirms ICT's relevance of gender-sensitive policies and priorities. The researcher recommends public access facilities and networks and reducing taxes on ICT devices and services. Based on the comments and needs of the participants, suggested that resources such as free Wi-Fi and training on how to use ICT to improve their businesses should be made available to women entrepreneurs. Previous studies (Oser et al., 2019) established that small firms with prominent levels of connectivity experience revenue growth faster than firms with no web connectivity.

The literature review further shows interest in the use of ICT by WSMEs has grown over time along with the benefits to women's enterprises. WSMEs accessing the internet is beneficial for these enterprises to have an online presence. Therefore, facilitating access to ICT networks, including universal obligation, is very crucial for SMEs.

The findings of this study have shown that if women entrepreneurs in developing countries like Uganda harness ICT, it will help marginalized groups, such as women in business, to keep up with the current trend of doing business.

One of most significant advantages of using ICT to deliver services can be cost effective for micro enterprises. The participants highlighted that connectivity enables financial services, such as mobile money which are accessible to all where sending money is easy and affordable and no need to go to the bank, others suggested that, sending a text message and making voice calls using a mobile phone a commercial device been cost effective and eased communication barriers and mobility issues. Therefore, the use of ICT can ease connectivity issues among entrepreneurs and to improve connectivity, this research recommendation in public access facilities, networks, and reducing taxes on ICT devices and services.

ICT Access: This research study has clearly revealed that access to meaningful connectivity, along with sample data, is crucial for fostering social inclusion and driving economic prosperity. As SMEs increasingly rely on ICT, it is crucial to ensure that many SMEs in developing nations can fully participate in these fundamental interactions. In today's world, ICTs have evolved into essential tools. The number of individuals using the internet for essential activities such as business operations, job hunting, market research, price comparisons, educational pursuits, and maintaining social connections through various online platforms is steadily growing. Internet access has become an integral part of our daily lives, and the thought of being without it is simply inconceivable.

This research study has clearly revealed that access to meaningful connectivity, along with ample data, is crucial for fostering social inclusion and driving economic prosperity. The Ugandan government recognizes the pivotal role of ICTs in realising its national Vision 2040, which aims to empower citizens and foster universal inclusion and economic progress through digital innovation. For instance, the Ministry of ICT has formulated a national broadband policy to enhance efficiency and expand high-speed internet access across Uganda to transform the economy (Correa, Pavez and Contreras, 2017).

As (SMEs) increasingly rely on information and communication technologies, it is crucial to ensure that many SMEs in developing nations can fully participate in these fundamental interactions. In today's world, ICTs have evolved into essential tools. The number of individuals using the internet for essential activities such as business operations, job hunting, market research, price comparisons, educational pursuits, and maintaining social connections through various online platforms is steadily growing. Internet access has become an integral part of our daily lives, and the thought of being without it is simply inconceivable. In developing countries like Uganda, specific demographic groups, notably women, possess the potential to overcome the barriers impeding their full participation in the digital society and economy. Unfortunately, most women in developing nations encounter gender-related discrimination that hinders their access to the full benefits of ICT (Melham, Morrell, Tandon, 2009). This study has revealed that while data services are readily available in limited urban areas, only a small fraction of women can afford them. Telecommunication providers in Uganda, such as MTN and Airtel, offer data services that are more widely accessible but remain unaffordable for all but medium and larger enterprises. Inequality is a significant challenge in these markets, and the findings are consistent with (GSMA, 2024)

Furthermore, women whose occupations do not involve regular interaction with technology in their daily lives are less likely to enhance their digital skills. Since their primary focus is on improving their livelihoods, purchasing, or owning expensive ICT devices is not a priority, as they believe they can manage without them. However, if women are granted access to ICT opportunities, it will empower them to actively engage in productive pursuits and position themselves advantageously to benefit from economic growth (Shamim et al., 2019).

Type of ICTS used: The following section outlines the significance of perceived ease of use and usefulness in determining people's intentions to use technology (Davis, Bagozzi, and Warshaw, 1989). Previous literature suggests that individuals are more inclined to use new ICT if they find their interaction with the technology clear and understandable. Usefulness pertains to the extent to which an individual perceives that using ICT enhances job performance (Davis (1989)).

This study findings (Chapter 4), imply that ease of use and overall usefulness play a role in an individual's decision to use ICT. Participants in this study noted that using mobile phones for work is convenient and supports their job functions, meeting their expectations and requirements. However, despite the affordability of basic mobile phones, urban women micro-entrepreneurs lack the necessary skills and knowledge to use more advanced ICTs effectively to gain competitive advantage (Durkin et al., 2013). The study findings have also revealed various information and communication technologies owned by urban women entrepreneurs (see Table 5.1). including mobile phones, computers, fixed telephones, photocopiers, fax machines, printers, typewriters, radios, and televisions (Mokaya, 2012).

Table 5.1 Type of ICT Devices and mobile applications used by women entrepreneurs in Kampala, Uganda to support their enterprises.

ICT Systems	Actual ICT adoption	Example of uses of adopted ICTs
Telecommunications Technology	MTN Kigale fixed, Landline phone, public phone Kiosks, Mobile Phones (MTN Uganda, Airtel Uganda, UTC), Fax machine.	Communications
Information Technology	Computer hardware, Laptops, Printers, Photocopiers.	Typing, Recording, Printing, Photocopying, Data storage and Inventory.
Networking Technology	Internet and websites: Facebook, Instagram, Twitter, KikuboOnline, Jumia, Internet cafes. Wireless Hotspots: MYUG Wi-Fi, MTN WIFI SIMU works both as fixed telephone and Internet Router. Wireless access equipment: Modems USB dongles, MI-FI Routers, ISP ADSL line connection.	Information sharing and search, online transactions, Internet, Business Website, Business Email, Business social media account, Advertising, Purchasing, Communication, Internet access Dial up Internet Connection
Others		
Credit card system	Contactless bank cards- Visa and Master card	Billing Purchasing, Access to money card
Audio Visual	Television/Video/DVD equipment	Workshops, Seminars Conferencing, E-learning, Training.
Mobile Applications	MoMo(MTN), WhatsApp Business, WhatsApp Messenger, MyMTN, My Airtel, Instagram, You Tube, Facebook, Instagram, Twitter.	Enables customers to pay with MoMo pay code, Marketing and advertising, Communication, Financial transactions, Purchasing and selling.

Source: Authour From interviews and online questionnaire responses and document analysis.

ICTs ownership, Access, and Usage

Access to Mobile phone: The landscape of ICT in Uganda has transitioned from voice-oriented to data-oriented services, driven by a growing interest in innovative mobile services and value models (Donner and Escobari, 2010; Fisseha, 2008, cited by Komunte, 2015). This shift reflected in the extensive use of mobile phones for multimedia messaging (MMS), short messaging services (SMS), internet, e-mail, financial transactions via mobile banking, and e-learning. The Ugandan Government recognizes the pivotal role of ICTs in realizing its national Vision 2040, which aims to empower citizens and foster universal inclusion and economic progress through digital innovation. For instance, the Ministry of ICT has formulated a national broadband policy to enhance efficiency and expand high-speed internet access across Uganda (Correa, Pavez and Contreras, 2017).

The effective utilisation of ICTs, coupled with the removal of barriers such as unfair taxes and onerous government regulations (Esselaar et al., 2007) can lead to amplified profits for micro-entrepreneurs. Particularly, the use of mobile phones by women micro-entrepreneurs and women in general has resulted in time savings, reduced travel, expanded outreach, and facilitated receiving and making orders. ICTs have significantly improved time management for women, especially those in the informal sector, facilitating the transition to formally registered businesses (De Soto, 1989). However, it is crucial to acknowledge that these benefits are not automatic, as women encounter various constraints. ICTs can play a vital role in overcoming these barriers and bolstering the growth of women micro-entrepreneurs. Additionally, other studies have indicated that micro-enterprises remain small and unproductive to evade government detection (Farrell, 2004).

Supported by existing literature on ICT and women entrepreneurship, this study found that most participants owned mobile phones, signifying a shift from landline telephones as the primary means of communication (Hooper et al., 2010) that noted a significant increase in mobile phone use in developing countries, where mobile phones outnumber landline phones indicating a high demand for phones in those regions.

The research study revealed that all urban women participants owned and utilised mobile phones, which emerged as the most used piece of technology among women entrepreneurs in various business sectors. This indicates that urban women entrepreneurs have embraced ICT and rapidly adopted mobile technology. The study emphasised that mobile phone ownership and usage led to better utilization of ICT by urban women. Previous studies (Komunte, 2015; Komunte et al., 2012) demonstrated that mobile phone ownership is strongly associated with business growth and empowerment. Additionally, Gillwald et al., (2019) suggested that mobile adoption in urban areas is influenced by education and income rather than gender.

Access to Computer: The research findings suggest that small businesses with more than five employees typically have onsite computers. Among the women entrepreneurs sampled, only one employed more than seventy employees and had onsite computers for their business. This aligns with Duncombe and Heeks (2005), who proposed that microenterprises would use more computers as the complexity and volume of work increased. The question of whether this phenomenon is specific to female microenterprises, as indicated by this research data, is intriguing, given that most literature on ICT and gender highlights the general challenges women face in gaining technological skills and accessing computer technologies (Moyi, 2003; Donner and Escobari, 2010). However, the current study presents compelling evidence. In a survey of urban women entrepreneurs, 61.8 percent stated they had not received any ICT training for business skills, while only 38.2 percent said they had. Another question raised in the literature pertains to the lack of computer skills as one of the primary factors hindering women from owning and using computers (Gillwald, 2010). This issue is reflected in the gender disparity in education, as women often lack the necessary e-skills to use various technologies (Moyi, 2003; Donner and Escobari, 2010).

Access to Internet: Previous studies have suggested that urban women entrepreneurs primarily use the Internet and social media platforms such as Facebook and Instagram for accessing business information, interacting socially and for boosting self-esteem. This finding implies that the Internet has become a valuable resource for promoting SMEs and catering to the needs of business users.

The literature indicates that these online platforms allow businesses to share information about their products and services, as well as provide links to their websites and payment methods (Maier and Nair-Reichert, 2008).

This study findings also suggest that social media platforms play a significant role in facilitating seamless experiences for both new and existing users of urban women-owned enterprises. The impact of the internet also extends into the sustainability of SMEs, showing a positive relationship between Internet use and women-owned SMEs in developing countries. This study findings highlights the cultural implications of the Internet as significant. It found that internet-enabled ICTs such as mobile phones and computers are more likely to connect with a diverse community, giving businesses the ability to have a global connection, access new markets, information, business connections, ease of mobility, and communication barriers, thereby promoting social unity and public engagement. However, previous studies have found that the use of internet is also limited, reflecting the low levels of broadband penetration in some communities (Moyi, 2003; Donner and Escobari, 2010). In this context, shared access models like telecentres, libraries, and internet cafés play a crucial role in providing communal access to computers and the internet (Sey and Fellows, 2009; Wolcott, Kamal, and Qureshi, 2008).

Access to other ICTs: This study findings suggest that SMEs in Uganda, particularly those in the education sector, still rely on traditional communication technologies, such as landline telephones. However, access to and use of fixed landline phones in Uganda are limited, leading a sizeable portion of the population to use public telephones due to the lack of residential access to fixed telephones (Kenny, 2002; Duncombe, 2007; Duncombe and Heeks, 2005; Wolcott et al., 2008). Studies have indicated that very few micro-entrepreneurs in developing countries have direct access to modern digital ICTs (Duncombe, 2007; Sey and Fellows, 2009). The business environment is rapidly changing, with traditional technologies like landline phones becoming less common.

Through field observations and interviews with urban women entrepreneurs, the prevailing belief is that landlines are used in government offices or by individuals who can afford them. Moreover, the perceived high installation costs, combined with the widespread use of mobile phones, have led many entrepreneurs to question the need for maintaining a landline for business communication. Historical data shows a decline in the acquisition of landlines, corresponding with the increase in mobile phone usage driven by lower tariffs and intensified competition among mobile service providers (Kenny, 2002; Duncombe, 2007; Duncombe and Heeks, 2005; Wolcott et al., 2008).

It is expected that microenterprises currently relying on landlines for business purposes may eventually phase them out due to cost inefficiencies or transition to cordless landlines. This transition supported by the introduction of cordless landline options by mobile service providers in response to theft and the lack of support for traditional landline infrastructure (Duncombe and Heeks, 2005; Wolcott, Kamal, and Qureshi, 2008). It is important to note that this study did not extensively investigate the reasons behind the declining use of landlines, or the specific types of landlines owned or used by respondents.

This research study lacked comprehensive data on landline telephone usage in microenterprises for business purposes due to its limited scope. However, the collected data indicates that micro-entrepreneurs in developing countries have limited access to modern digital ICTs and mostly rely on traditional ICTs such as radios, with restricted access to personal landline telephones and televisions due to excessive costs (Kenny, 2002; Duncombe, 2007). Access to landline telephones and televisions depends on the remoteness of the micro-enterprise and the local telecommunications and physical infrastructure, including roads and electricity (Duncombe and Heeks, 2005; Wolcott, Kamal, and Qureshi, 2008).

The other benefits of the radio to urban women entrepreneurs were that the information was easy obtain and in local languages, depending on which station program they listened too. The women who do not have a physical radio, but own a mobile phone, have downloaded Radio Apps of different stations on the mobile phone and can listen to them without interrupting their on-going business activities.

On the other hand, women entrepreneurs were using television offering training and e-learning, and education and entertaining without the women entrepreneur ever leaving their premises, they can watch a TV programme while taking care of the business,

“I have TV app on my mobile phone, and I re-watch the program at any time and understand how I can implement the knowledge to my business.”(Uganda Women Entrepreneur, Participant, UWE 02)

This finding implies that this is beneficial to women entrepreneurs especially for those who are less educated. The main benefit of the TV was the technological tool's ability to provide educational information, through pictures, showing kinds of practices which enhanced the women entrepreneur's knowledge. Both technologies TV and Radio, benefitted women entrepreneurs as both offered programs in local languages, which made them easy to understand, did not require reading or typing. and option of re-watching and listening to a saved program which was accessible on the mobile phone Apps.

Usage in Women SMEs in Kampala, Uganda: The data analysis of this study, also highlighted the efficiency of ICT in communication, as discussed in Chapter 4. This research study revealed that mobile phones are the most used devices for business activities, with mobile phone features and applications like WhatsApp, Facebook, and Instagram, which urban women entrepreneurs find easy to use. Additionally, an interesting finding of this study and a major contribution to the literature, found that some urban women entrepreneurs own two mobile phones and SIM cards, leading to issues with network connection and access in certain areas. Previous studies have indicated that in developing countries personal ownership of ICTs by women, and daily access are ways of meaning full connectivity which is more difficult to achieve given the limited data capacity of mobile networks, cost and cultural norms (ITU, 2019).

Previous studies have *suggested that* that mobile phones in developing countries, such as Uganda, have changed how business is done and benefitted women the most (GSMA, 2019). According to (Canh et al., 2022; Mokaya, 2012) these mobile technologies have the potential for women empowerment alleviating social disparities and can significantly contribute to reducing income inequality, a phenomenon observed in developing countries. This study findings suggested that urban women entrepreneurs use mobile phones to exploit social media as a vital advertising and marketing tool to find customers and have an online presence. However, most urban women micro-entrepreneurs need more ICT skills and knowledge to effectively take advantage of the opportunities.

Additionally, the literature reviews Ongori and Migiro's 2011; Komunte (2005); Komunte et al. (2012); Bouquet and Brossard (2007) suggested that any SMEs that accepts ICT especially use of mobile phones will see improvement in growth, reduction in costs and increased sales plus efficiency, as noted by one of the participants as the motivation for ICT use. The data also suggests specific benefits of ICT in terms of usefulness and ease of use, particularly noting that mobile phones and computers have made access and connections easier and faster. Notably, urban cities like Kampala in Uganda have a promising technology infrastructure that has demonstrated the relevance, extent, and impact of ICT in unlocking women's potential.

In today's competitive business environment, SMEs are realizing that having abundant resources is necessary but not sufficient for success and survival. However, this study's findings have shown that despite an increase in access to ownership of ICT devices, Internet and ICT across the board, affordability and access of ICT is still a major constraint to women entrepreneurs in Uganda.

Another critical component of ICT benefits to SMEs is ease of communication barriers and mobility issues. It has been suggested that women entrepreneurs are using mobile phones for text messages and voice calls to customers, suppliers and business contacts which has been cost-effective. Using mobile phones to ease communications and mobility is a common theme through the literature. Furthermore, by drawing on the concept of communication the (UCC, 2015; Komunte, 2015) emphasises that smartphones provide Internet access and computing capabilities through wireless communication networks.

This has allowed women entrepreneurs to conduct business from various locations, reducing costs, managing family responsibilities, and efficiently reaching out to customers, markets, and business partners. This study has shown that WSMEs could build a sustainability and this study finding emphasises that ICT transformations are cost effective means in improving SMEs. Previous studies have found that the Internet have computing capabilities via a wireless communication network operating through a radio wave or satellite transmission (Donner and Escobari, 2010; Esselaar et al., 2007; Ilavarasan and Levy, 2012).

Women entrepreneurs are free to conduct their businesses in any location, cutting cost, mobility, manage family responsibilities, reach out to customers, markets, business partners, suppliers and become more efficient and building their business in ways they were not possible before. This can indicate that the perceived usefulness of the mobile phone led to the intention to use and actual use of the technology. Furthermore, this study has suggested that mobile phones have driven an unprecedented increase in digital inclusion in developing countries, as ICT tools have become accessible to people with low incomes and help women, especially business owners. For example, in Uganda, 65 percent of residents own a smartphone or a mobile phone, a far lower ownership rate than in South Africa, Nigeria, or Kenya (Correa, et al., 2020) however, the gender gap in mobile ownership and use persists.

Despite the available ICT initiatives for women in business, to enable women entrepreneurs to upskill and train in ICT skills to grow their enterprises. This study revealed that most urban women entrepreneurs lacked awareness of the available initiatives or awareness of the free MYUG WIFI, and most have never attended an ICT training programme using their mobile phones or computers. The participants felt they would prefer the government to be more involved in supporting and strengthening ICT for women entrepreneurs. They called for more ICT training incentives and including women in decision-making. There is a need for women entrepreneurs to gain digital skills and knowledge, and ICT is a tool to achieve this goal by using the available resources.

According to (Venkatesh and Davis, 2000) output quality is defined as an individual's perception of how well the system performs a specific task. This view is evident in the current study on the frequency of mobile phone features and mobile applications such as WhatsApp, Facebook, and Instagram by urban women entrepreneurs because they find it easy to use. ICT is providing efficiency in terms of communication, as illustrated in Chapter 4. This study findings on women entrepreneurs' vast ownership of mobile phones could indicate the usefulness of the technological device in supporting enterprise growth and empowerment. The participants suggested that it is easy to use the mobile phone for the relevance of the job because the ICT device can support job function, meeting the users' expectations and requirements. However, in Uganda, the large disparities, such as ownership of ICT devices between males and females, are related to historical inequalities, such as education and income (Orser et al., 2019). The most educated are financially stable and are at the early adoption stage and use the Internet more than poor individuals but lack the ICT knowledge and skills to further their progress in this technological era (Gillwald et al., 2019).

In summary of this (section 5.3), meaningful connectivity internally enables SMEs to benefit, promote enterprise growth, and empowerment. This study emphasizes the critical role of connectivity, access, and relevance of ICTs for women's entrepreneurship and empowerment in Uganda. While participants have utilised ICT to develop innovative solutions for business growth and empowerment, others have been hesitant to adopt ICT despite recognizing its potential benefits. However, it is in the best interest of SMEs and beneficial for Uganda's policymakers, financial institutions, and women support organizations to encourage mobile transactions, despite the challenges. Additionally, the study identifies several factors that have contributed to the success of these women, including networking, passion, resilience, training, and mentorship.

This trend has persisted for a long time in developing countries like Uganda. Therefore, simply accessing ICT may not lead to immediate change in SMEs. This study has suggested that women entrepreneurs may have access to ICT but struggle to derive value. It is essential for women entrepreneurs to use ICT to drive change and enterprise development (Mbuyisa and Leonard., 2017).

Urban women entrepreneurs should leverage ICT for value creation, such as establishing an online presence for their enterprises through advertising products and services on a business website and not simply rely on mobile applications such as WhatsApp. However, in the early stages of ICT adoption women use available ICTs like mobile phones and technological applications such as WhatsApp which is popular among women entrepreneurs to market their products and services. Governments in developing countries should implement policies aimed at building digital skills among women and increasing their participation in the digital sector to bridge the digital divide (UNCTAD, 2021).

Therefore, the following sub section discusses those challenges and opportunities.

5.4 Challenges and Opportunities of ICT for Enterprise Growth and Empowerment

In answering research question 3 and addressing the research objective (Chapter 1), the findings of this study suggest that despite the benefits of ICT can bring to SMEs, in most developing countries, such Uganda, still have been slow on the uptake of ICT. For example, Most women SMEs still rely on basic ICTs such as radio, basic mobile phone, fax, and fixed telephones.

This section will explore into the various challenges that have limited SMEs, access, usage, ownership, and preferences in adopting ICTs in their enterprises.

The literature suggests that women entrepreneur's access to ICT is not simply a matter of whether having a mobile phone connected to the internet, but several other factors, such as cost, financial resources, education, language, culture, skills, and support, as well as infrastructure, play significant roles in determining whether women-owned small and medium enterprises can access ICT.

This section will explore the key findings of this study on how these factors impact ICT use on SMEs.

Excessive cost of services: Uganda still have poor communications infrastructure. The lack of competition among telecommunication providers and MTN having monopoly and the outdated communications equipment has resulted in expensive charges and limited coverage in parts of urban areas. The lack of infrastructure and access to ICT-based resources have discouraged MSMEs from adopting even basic ICTs (Larson, 2000). Cost, difficulty of implementing and maintaining ICTs present a significant challenge for most WMSMEs. While urban women entrepreneurs recognize the importance of ICT, this study findings have shown that many MSMEs lack the resources and expertise to invest in ICTs and struggle to keep up with the rapid changes in technology.

Access to meaningful connectivity, including affordable mobile data, is crucial for SMEs, economic opportunities, and social inclusion. However, developing countries, such as Uganda, struggle to afford access to the levels of mobile data necessary for meaningful connectivity. Previous studies (Maier and Nair-Reichert, 2008; Mugoshi, 2013; National (NITA-U, 2018) found that the excessive costs affect ICT adoption by WMSMEs. This study found that the excessive cost of data services, ICT devices as the main reason for limited internet usage and ownership. This was a major concern influencing the attitude towards actual use of specific ICTs in SMEs. This finding is consistent with (GSMA, 2018; Hilbert, 2011) which also found that excessive ICT costs affect the adoption by SMEs managed by women entrepreneurs.

Moreover, Hafkin and Taggart (2001) state that most women in developing countries cannot afford to use public access sites due to high user fees for internet access. Weingarten (2012); Bahiti (2008) state that affordability and availability are critical factors influencing the intent to use or the actual usage of ICT. According to UCC (2018), the introduction of the Over-The-Top (OTT) tax led to a reduction of five million Internet users within three months and subscribers in Uganda (Nanfuka, 2019). The National Information Technology Authority Uganda [NITA-U] (2022) states that seventy-six-point-six percent of respondents cited cost as a constraint on ICT in business. This new tax in Uganda does not align with the broader national visions of digital transformation, including the National Broadband Policy (2018-2023) and Digital Vision 2040 (UCC, 2020).

Previous studies (Jjuuko and Njuguna,2019) have shown that such policies are becoming increasingly common in developing countries like Nigeria, Kenya and Zambia. Unfortunately, these policies have had adverse effects, making accessing the Internet more challenging, especially for those with lower incomes (Tusubira and Mulira., 2004), widening the digital divide, and negatively impacting micro, small, and medium businesses, as well as women who have found new opportunities for conducting business online.

This study provides evidence to support the notion ICT can serve as a valuable tool for assisting urban women entrepreneurs in overcoming obstacles. The excessive costs associated with broadband, services, devices, and related expenses may be inhibiting women from utilizing ICT for business purposes, such as establishing an online presence, promoting products and services, conducting market research, expanding their customer base, and networking with other business partners.

Consequently, women entrepreneurs may struggle to keep pace with the technological advancements necessary for success in today's world. Regrettably, these challenges have had a disproportionate impact on individuals with lower incomes (Tusubira and Mulira, 2004), indicating a deficiency in infrastructure and government support. In countries like Uganda, women, who are already financially marginalized and often lack bank accounts, are particularly affected by this digital divide. It is imperative for the government to empower women entrepreneurs by revising existing policies and guidelines to foster the growth of small and medium-sized enterprises (SMEs). Prioritizing infrastructure development and affordable internet services can help bridge the digital divide, which disproportionately affects women in developing countries like Uganda (UN Women, 2014).

Affordability of ICT devices: In the literature review, it was discovered that the effectiveness of any technological tool for business activities hinges on its usefulness. According to Davies (1989), the decision to invest in technological tools is based on their perceived usefulness, ease of use, and potential for productivity. When a tool is deemed "useful," it means it contributes to enterprise growth.

This study found that enterprise growth can materialize in several ways, such as enhanced communication with suppliers or customers, establishing an online presence, marketing goods or services, and driving profitability.

The primary factor influencing attitudes toward adopting specific ICTs in women-led enterprises is the excessive cost of devices. For instance, women entrepreneurs in Kampala, Uganda, consider the costs of investing in smartphones, equipment, access, and transaction fees as pivotal factors in determining whether to upgrade technology for business management.

Moreover, the cost of ICT can pose a threat to future investments in the technology by SMEs. Aghboh (2015) emphasises that the cost of ICT can imperil future investments in the technology by SMEs.

“It is challenging to women because the ICT tools are unaffordable, and cost of Internet alone is quite high. Therefore, besides normal phones, a certain percentage rarely use other advanced ICT tools such as computers.” (Executive Director, Women Support Organisation, WSO B).

According Ndiwalana et al., (2019) Uganda has the second-lowest smartphone usage in Africa. Moreover, if the technology is too expensive for women micro-enterprises, the financial costs of purchasing or implementing it into the business could have a negative impact on business performance. However, Teo and Pian, (2003) argues that adopting technology can benefit businesses by increasing revenue and competitiveness. This aligns with a previous study that found high equipment and connection costs are significant barriers to the usefulness and ease of use of ICT, especially in developing countries. Some participants may require assistance to afford ICT devices and services. Therefore, this study suggests that affordability significantly impacts women entrepreneurs' willingness to adopt specific ICTs in their businesses.

Despite the excessive costs of data and service charges, women still use mobile phones for communication with customers and suppliers, as well as for internet searches. Most developing countries have lower rates of computer and Internet penetration than rated for developing countries.

This study finding is consistent with (Hafkin and Taggart, 2001), that equipment and connection costs are high for all developing countries, and cost also plays a significant role concerning ICT's usefulness and ease of use. Despite other gender-specific barriers more frequently reported constraint, is cost of access. costs of ICT devices. For example, investment in ICTs such smartphones and computer are and using ICT devices, like computers, and attending ICT training courses, is not affordable by most MSMEs therefore is not relevant. Furthermore, due to the size of their enterprises, low income, and profits and owners' attitudes towards ICT use significantly influence the extent of ICT implementations.

Additionally, technical skills in operating some ICT equipment, such as downloading computer software or fixing the device, also involve costs. The data suggested that few participants had a business bank account or personal bank account, and reasons given were due to high bank charges and their enterprises being too small for a bank account and not knowing how to use available digital financial services. This finding is like (Tagoe et al., 2005) that affordability and availability are critical factors that can determine the intent to use or actual usage of ICT in SMEs. Furthermore, the findings of this study suggested that the excessive cost of hardware and software is one of the constraints preventing women entrepreneurs from having an ICT-based enterprise. The cost of the tools as well as maintenance, for instance, the need to buy data bundles. The concerns of women entrepreneurs revolved around the excessive cost of devices, services, and data. The major finding of this study is that cost has a negative direct effect on behavioral intention to use. Which is a major contribution to TAM theory as previous research indicated that TAM2 (Venkatesh and Davis, 2000) needed integration with additional variables such as cost to improve its prediction of system use.

Lastly, the price of technology parts and new devices pushes the price of these products up, making affordability difficult for women-owned enterprises, due to nature of their enterprises being in the informal sector that yield low income. These barriers to adoption raise questions about the relevance of ICTs to micro-enterprises in Uganda. Duncombe (2007); Dugdale (2014) found that twenty five percent of women in Uganda, lacked internet access, a figure higher than forty five percent in developing countries. This report emphasised the gap in women's access to the internet in Africa, as well as other developing parts of the world where women and girls are marginalized.

One of the problems that is preventing women from accessing the internet, according to Elizabeth Weingarten (2012) affordability and availability, these two critical factors can determine whether women can access the internet. This study suggests that due to a weak ICT infrastructure has resulted in limited access and higher costs for SMEs. Therefore, this research emphasizes the need to enhance support efforts for agencies that cater to women entrepreneurs and design support programs that align with their interests and needs.

Poor Networks and Connectivity: The significance of entrepreneurship within a well-established ICT infrastructure is crucial. This study indicates that access to ICT is impacted by economic conditions as well as the absence of technical infrastructure in resource-poor urban communities. This encompasses issues such as inadequate signal coverage due to insufficient telecommunication infrastructure, as well as energy and financial infrastructure deficiencies. These findings are consistent with previous studies (Cavalcanti, 2006; Malhotra et al., 2012).

The literature review indicates that Uganda faces challenges such as inadequate network coverage, inadequate quality, and relatively unaffordable prices in the telecommunications sector. Due to these issues, businesses may not find it beneficial to invest in or use ICT devices. Current survey data suggests that the state of the country's telecommunications infrastructure directly affects entrepreneurs' ability to incorporate and use ICTs in their businesses. Participants in the study expressed frustration with limited bandwidth capacity, and for those urban women entrepreneurs who rely on online work face significant business implications due to poor network connection and low Internet connectivity levels.

This study also found that urban women entrepreneurs in Uganda often struggle to access the Internet due to connection issues and poor network services. The lack of proper network infrastructure poses challenges for microenterprises, leading to ineffective business operations, slow and unstable wireless access, and insufficient bandwidth to support internet activities. This is evident in this study that some urban women entrepreneurs' resort to owning two mobile phones to ensure effective business operations. Lack of reliable Internet connectivity was identified as a significant obstacle to using the Internet, as highlighted by previous studies (Maier and Nair-Reichert, 2008; GSMA, 2018).

Inadequate energy infrastructure: This study emphasizes the crucial relationship between electricity and information and communication technology (ICT) access, stating that the absence of one lead to inadequacy (Fjose et.al, 2010). This study focused on Kampala, Capital City of Uganda, which is expected to have good infrastructure but encounters similar limited connectivity issues due to electricity outages. This study suggests that access to electricity heavily influences the ease of doing business in Kampala. For ICT to work to its full capacity, stable electricity is essential. The study's qualitative findings revealed that in Kampala, Uganda, micro-enterprises, and other businesses get interrupted due to power outages. This study emphasises that even if women entrepreneurs in Kampala acquire mobile phones or computers, electric outages prevent them from using these devices consistently, impacting businesses and their revenue (Fjose et.al, 2010).

This study found that not everyone in Kampala has the luxury of accessing consistent electricity, as intermittent electricity, known as load shedding, leads to power cuts for certain areas to stabilize the grid. According to Gillwald et al., (2019) only 18 percent of the Ugandan population is connected to the electricity grid, and some SMEs opt to using diesel/petrol generators as an alternative source of electricity. The study suggested that diesel and petrol generators serve as alternative sources of electricity. However, these generators are not affordable for most women small and medium-sized enterprises due to excessive costs. Most women entrepreneurs rely on their mobile phones to conduct business tasks. Without electricity, women entrepreneurs and consumers cannot charge their mobile phones or connect to the internet, leading to a lack of internet uptake in most SMEs. For MSMEs that rely on landlines face unreliability due to electricity supply shortages, and the excessive cost of putting up a landline makes it unaffordable for microenterprises to implement ICT in their business. The significance of these study findings in highlighting these obstacles limit the adoption or implementation of ICT in WMSMEs in Kampala. It also emphasizes the importance of access to electricity for effectively harnessing the potential productivity gains offered by ICTs, especially in countries with weaker infrastructure like Uganda, where challenges in electricity access impact the ability to operate and succeed in businesses.

Financial Constraints: The literature emphasizes the importance of financial factor in women's entrepreneurship and empowerment worldwide, regardless of the country's socio-economic status. In developing countries, both established and aspiring women entrepreneurs have limited ability to make larger investments in their enterprises due to the lack of financing options. Having a small budget or a non-existent ICT budget and ICT is not a one-off cost but an ongoing cost of maintenance and ICT technical skills (Kotelnikov, 2007).

The credit gap is significant for both men and women, but gender-based barriers disproportionately limit women's access to credit from formal financial institutions. These barriers may be linked to financial regulations or infrastructure weaknesses (Kedir and Kouame, 2022; Estrin and Mickiewicz, 2011). Moreover, (Senyonyi, 2020; Brush and Cooper, 2012) state that these challenges in obtaining credit are heightened for women due to the lack of gender-sensitive policy in financial services entrenched gender biases. This study uses access to and use of digital financial services as measures of financial inclusion (Estrin and Mickiewicz 2011; Brush and Cooper 2012). Despite the high rate of entrepreneurship across the continent, the lack of financial investments hinders women entrepreneurs from fully benefiting from technological advancements. The evidence from in (Chapter 4) reveals that urban women entrepreneurs in Kampala, Uganda, are disproportionately affected by financial exclusion (Estrin and Mickiewicz, 2011; Brush and Cooper, 2012).

This study suggests that the main constraints faced by MSMEs in Uganda are financial, including limited access to finance and the excessive cost of collateral requirements, making it difficult for microenterprises to access funding (Senyonyi, 2020; Brush and Cooper, 2012). Therefore, this study suggests that access to finance is vital for the impact of ICT on activities such as entrepreneurship. Previous studies have found that financial inclusion is a developmental challenge in Africa and many developing countries, especially regarding women's access to finance or credit (Kedir and Kouame, 2022). It was evident in this study that very few urban women entrepreneurs have opened a business bank account, with most relying on financial digital services such as mobile banking for their transactions. The lack of a bank account and credit card penalizes entrepreneurs and their customers in most developing countries, as they are prerequisites for making or receiving digital payments.

This finding is consistent with the (World Bank, 2017 Global Findex Report), which found that only thirty seven percent of women in developing countries held a bank account.

This study's findings suggest that the lack of access to finance has discouraged most urban WSMEs from using ICT, widening the financial and support gap from the government and local commercial banks. Additionally, the study suggests a lack of financial support from the government to invest in women-owned enterprises when it comes to ICT.

This study finding is consistent with (Maslina and Subramaniam, 2016). One narrative of participant an urban woman entrepreneur stated that:

“If government can help women with financial investment in ICT. it is difficult to run an ICT based enterprises if you cannot get credit to invest in business.” (Urban Woman Entrepreneur, Participant, UWE 02)

Access to economic resources needed to start a new business, such as access to credit and capital, is particularly restrictive for women's entrepreneurship activity. Uganda faces low levels of integration into formal banking systems, indicating barriers facing entrepreneurs in general and women, impacting their ability to access loans and other financial products and make and receive payments for products and services (Estrin and Mickiewicz, 2011; Brush and Cooper, 2012). The study findings have shown that banks in Uganda are reluctant to do start-up financing and do so under exceedingly rare circumstances. However, there are signs of positive change in the financial institutions when it comes to giving credit to women entrepreneurs. The research findings can be related to Witbooi and Ukpere, 2011; Ghosh et al., 2018 which found that women-owned enterprises face limited access to finance and lack financial support from the government when it comes to investing in ICT.

This study findings, showed that banks are targeting the MSME sector and have set up a Local business club membership that provides in-depth business advice to members and helps loan clients stay abreast of contemporary trends and business practices. The informant Bank Executive estimated:

“5 to 10 percent of its SME loan clients were women, and that banks are using a referral network with women support organisation to provide seminars on how to bring women in business as new clients” (Bank Executive)

The findings of this study are consistent with Seibel and Almedya (2002) stating that micro finance institutions differ in the way they target. Most formal institutions do not have a particular target policy, unless donors stipulate a focus on women. In addition, Snyder (2000) expressed the view that bank managers tend to favour men and ask women to pay extra money. Furthermore, Snyder (2003) stated that an added barrier for most women is their inability to present their projects with the proper feasibility studies and to defend their proposals vigorously enough.

Education: Education can take various forms, such as formal and informal, including campus-based, online, and distance learning. According to Hafkin and Taggart (2001) single most key factor in improving the ability of women in developing countries to take full advantage of the opportunities offered by information technology is more education, at all levels from literacy through scientific and technological education. In a study examining the perception of ICT and women's entrepreneurship in Uganda by support organizations, one of the participants' views aligns with the findings of the (GMA, 2020).

"Many women do not have access to ICT facilities, including a lack of smartphones. Communities do not have centres to access affordable ICTs. Many lack functional ICT skills and have no interest or motivation to use ICT in the management of their businesses"(Acting Executive Director, Women support organization, WSO D).

The study found that most participants had a higher level of education (see Table 3.10). This suggests that education is a key factor in motivating women entrepreneurs to adopt ICT. These findings are consistent with (Mahmood, 2011). However, this study results also indicated that urban women entrepreneurs with post graduate qualifications used ICTs more than those with undergraduate qualifications. Implying that a higher education level motivates users to use technology.

This study findings on the perceived ease of use (PEoU) of various technologies support previous research (Hafkin, 2007) suggesting that a few urban women entrepreneurs have daily access to the Internet (see Appendix G table). This indicates that education is a powerful tool in reducing the gender digital gap in Internet access and use (Hafkin, 2007). Despite empirical evidence of this and past studies (Hafkin, 2007), it is well documented that women face challenges in gaining access to education at all ages due to lack of time, familial and household duties, and socio-cultural norms that prioritize education. This study revealed that more educated urban women entrepreneurs are using the internet for e-learning, running online businesses, utilizing ICTs such as internet-enabled mobile phones, and mobile applications such as WhatsApp and Instagram to generate income and sustain their businesses. This is an indication of a positive trend towards increasing women's education and expanding opportunities which is consistent with previous research (Hafkin and Huyer (Eds.), 2006).

On the other hand, language barriers hinder women SMEs from accessing information, as most websites use English for communication, while the SME owners are more familiar and comfortable with the urban language (Hashim, 2007). This finding confirms (NITA-U, 2021), which revealed that individuals in urban areas faced challenges due to the absence of content in the urban language. Despite the challenges, the use of ICT among urban women entrepreneurs in Kampala is on the rise. Emphasizing the significant potential for ICT to drive economic growth and empowerment in the region. Further investment in ICT infrastructure is crucial for affordable internet access and support for digital literacy skills can lead to more benefits for women entrepreneurs in Kampala.

Age: In Chapter 3 (refer to table 3.10), the findings indicate that most respondents belonged to the 35-45 age group. This study findings suggest that age plays a significant role in influencing the intention of entrepreneurs to use and access ICT for entrepreneurial activities in Kampala, Uganda. The study argues that urban women entrepreneurs in the 35-54 age group are motivated to use ICT in their entrepreneurial endeavours. These results align with existing literature, which suggests that individuals in this age group have a strong interest in ICT (Venkatesh et al., 2000).

Additionally, the findings reveal that individuals in the older age group (65 and above) also use ICT for business purposes but constrained to lack of skills and access to training facilities. This finding is consistent with previous empirical studies (Gilbert and Han, 2005).

ICT skills: The study participants were asked if they had ICT training or have you ever participated in a training programme that was delivered over the internet or mobile phone?" the majority had never had any ICT training for business skills or attended an ICT training programme. This compelling empirical evidence of this study supports previous literatures (Hafkin and Taggart, 2001) that women entrepreneurs' main obstacle to utilising the available ICTs is lack of computer skills and computer training in using ICT devices for business purposes, thus impacting on business growth and empowerment.

Though the data findings show that the urban women entrepreneurs are highly educated, own and use a computer a slight percentage of those with formal computer training, and those without acknowledge that computers and ICT computer skills and training an integral part of business success. does not necessarily mean that they have skills in ICT. This is a challenge in developing countries like Uganda, where many women complete their education without acquiring ICT skills. As Uganda integrates ICT into education, it faces various obstacles such as weak ICT infrastructure, unreliable electricity, and high service and data costs (Farrell, 2007). However, the landscape is changing with the rapid increase in mobile phone ownership. Indeed, the data in this study suggests that some of the urban women entrepreneurs are trying to acquire the very skills that will allow them to make greater, more efficient use of ICT in their enterprises.

The Ugandan government has acknowledged the shortcomings of the education system and has implemented the ICT national policy 2014 (Kabagambe, 2018). The Ministry of Education and Sports is taking steps to allocate and coordinate ICT resources to support the implementation of its ICT strategy (Farrell, 2007). The findings of the study suggest that as the ease of use of technological systems increases, the factors motivating women's entrepreneurship also increase while the inhibiting factors decrease. Additionally, the perceived ease of use is a crucial factor in perceived usefulness.

Therefore, this study can argue that urban women entrepreneurs are more likely to implement ICT in their daily business activities and personal lives if they find it easy to use.

Previous empirical studies have indicated that many small and medium-sized enterprises (SMEs) lack the internal capabilities to effectively use ICT (Melhem and Nidhi, 2009). This may function as a barrier to accessing ICTs, as untrained women may not be able to take advantage of ICT access. In Uganda, this leads to lower participation in education and training activities, limited access to training, and fewer opportunities to acquire the necessary ICT skills (Melhem and Nidhi, 2009). Melhem and Nidhi (2009) have further demonstrated that access to education is a more significant barrier for women than men, with an estimated two-thirds of the world's illiterate population being women (Antonio and Tuffley, 2014).

Lack of ICT knowledge: The high rates of women's illiteracy and the lack of ICT training are two major barriers to women entering the information economy (APC, (2016); Sandys (2005) notes that traditional methods, technology, and ICTs are used in both developed and developing countries to support education and training. In Uganda, women entrepreneurs lack access to information on ICT training for business skills. Illiteracy and lack of ICT knowledge are serious obstacles preventing women from entering the information and technology world. Herbert (2017) states that in addition to general literacy, addressing digital literacy and e-skills is crucial. The study defines ICT literacy as the ability to use ICTs for finding, creating, and communicating information, requiring cognitive and technical skills, while e-skill is the ability to use and develop ICTs at a satisfactory level to participate in an environment dominated by electronically enabled information (Herbert, 2017).

"ICT is a useful tool for women development, but as an ICT support provider, the organisation is dealing with a lot of women who are ICT illiterate and some who have inadequate education, therefore English language is a barrier since all the technology programmes are in English, imagine we had to adjust the programs to be taught in Uganda a local language which most understand." (Acting Executive Director, Women Support Organisation, WSO D).

Previous studies have found that critical skills are necessary to run successful enterprises in developing countries. Women lack the knowledge of using technology or being familiar with it, which leads to not pursuing Internet use. Apart from poor supply side factors, such as human development, digital illiteracy is also a concern in Uganda, as most of the population are non-internet users being digitally illiterate, lack of knowledge on how to use the internet, and others had negative assessment about the need for the internet (Ndiwalana et al., 2019). Literature review suggests the need for more skilled SME owners to implement and manage ICT solutions, particularly in developing countries (Sivathanu, 2019; Kossai and Piget, 2014).

The data identifies a lack of ICT skill training and purposeful literacy, especially among women entrepreneurs in Uganda, as a significant barrier to accessing and using the internet (Chapter 4), as found in numerous studies (Antonio and Tuffley, 2014; GSMA, 2018a; Hilbert, 2011). Even if women entrepreneurs had access to all other factors, they cannot access ICT without a minimal set of computer skills. This study revealed that all participants have not received ICT training, hence they lack ICT skills to effectively use and utilise devices, and most are using them for personal business and gossiping, because they have these smart gadgets but lack skills and knowledge to use the smartphones for business. Therefore, when implementing ideas and investments for women's entrepreneurship using ICT, it is important to focus on developing skills and capacities that will help women fully leverage the potential of ICTs.

This study suggests that even if the costs of ICT devices decrease, women in Uganda would still be at a disadvantage if they lack basic ICT skills and literacy needed to participate in the digital economy and achieve the Uganda digital vision 2040. This limitation affects women's use of technology, and factors such as perceived ease of use and perceived usefulness are crucial in their attitude and intention to use ICT in their businesses (Davis, 1989a; Davis et al., 1989b; Venkatesh and Davis, 2000). While many women entrepreneurs in Uganda can use mobile technologies for communication and networking, they encounter challenges when it comes to using computers for data storage, retrieval, and e-learning due to a lack of ICT training and skills. The ease of use of these technologies was rated negatively.

This aligns with a study by Hazem and Nikos (2009), which found that many women are hesitant and unfamiliar with online assistance because the learning environment is too formal for them to acquire ICT skills.

Lack of awareness about available ICT support for WSMEs: This study indicates that urban MSMEs face challenges in benefiting from ICT applications such as Facebook, Twitter, Instagram, and WhatsApp due to lack of awareness and insufficient ICT training (Sanchez, Ruiz, and Zarco, 2007). Despite the potential for training in this area, efforts have been made to address the obstacles to women's access to ICT. Various international and local non-governmental organizations, such as the World Bank, USAID, UN Women, ILO, ICT4D, and the Canadian International Development Research Centre (IDRC), have increased funding for ICT projects aimed at empowering women (Maier and Reichert, 2008).

In Uganda, women support organizations promote continuous training programs and awareness workshops on the potential of ICT for business growth and empowerment. Organization A, name withheld for data protection, is a local NGO that offers ICT training to women entrepreneurs and member organizations on computer fundamentals and Internet basics. This study findings suggested that the Ugandan government should create an enabling environment for ICT growth by ensuring that schools have computer labs from primary to university level. This is important girls in Uganda drop out of school early, and learning ICT at an early age can help sharpen their entrepreneurial skills later in life. Digital inclusion is crucial for development, and collaboration between the government and various stakeholders can help overcome common problems hindering women's effective participation in the ICT sector.

These findings suggest a lack of awareness and access to ICT training for urban women entrepreneurs. The study also indicated that most ICT training programs are targeted towards rural women, neglecting the needs of urban underserved areas. The study found that most urban women entrepreneurs had not received any ICT training for business skills. Additionally, the research revealed that most participants had never participated in a training program delivered over the Internet or mobile phone.

A women's organization supporting ICT for women entrepreneurs highlighted this discrepancy.

“It is important that various CSOs do not ignore urban women too as the current focus in entrepreneurship is on the rural women. This may create a gap in future interventions” (Programme Officer for ICT and Gender, WSO A)

The findings indicated that many women entrepreneurs need assistance in finding information for online business registration and tax purposes. These findings align with Rogers (2003), emphasising the importance of communication channels in creating awareness and determining the adoption rate of ICTs. Moreover, (Moghavvemi, Salleh, and Standing, 2016) state that urban women entrepreneurs' intention to adopt and use ICT is influenced by perceived desirability and perceived likelihood. Interestingly, as women's entrepreneurial behaviour intention increases, their level of technology use behaviour decreases. This could be attributed to the challenges and constraints that affect access to necessary resources. The lack of support for women entrepreneurs in various areas such as unfair practices, financial constraints, education, affordability, weak infrastructure, and entrepreneurship adversely affects their use of technology despite positive intentions.

The study also referenced previous research, (Davis, 1989) to support its findings. Additionally, Barki and Hartwick (1994) identified two types of IT users: mandatory and voluntary. Mandatory users use IT based on normative belief, while voluntary users do so based on their attitude. Therefore, caution should be exercised when referring to previous studies on intention of use, as the intention to use ICT can be based on several reasons. Overall, this study provides valuable insights into the underlying motivation of urban women entrepreneurs to use ICT for business purposes.

Lack of trust and confidence around ICT data, access, security issues: This study explores the impact of trust on user behaviour towards technology. This study explains that trust in technology can directly influence users' beliefs and intentions, particularly in managing enterprises and creating value.

The findings also highlight the need to ensure the security of ICT use for women entrepreneurs, as their trust in the government and data privacy is a major concern. The findings of this study suggest that users' positive and negative beliefs about trust significantly affect their perceptions towards ICT. This study can argue that women entrepreneurs are more likely to be affected by digital threats, as their online visibility can have negative psychological effects, hindering women's participation in business activities and indirectly affecting national economies. Research has shown that security and privacy in the use of ICT, particularly the internet, are major areas of gender concerns (Dutta and Bilbao-Osorio, 2012). Women are discouraged from using the internet due to the disclosure of personal information and the fear of harassment, leading to less frequent use of the internet (Huyer et al., 2005).

Furthermore, this study has suggested that financial inclusion is crucial for women's development. Therefore, ensuring the security of payments and privacy of online transactions is key to the widespread acceptance and adoption of e-commerce. While appropriate policies are in place to facilitate e-commerce, lack of trust remains a barrier to using the internet for online transactions. Moreover, the lack of trust in accessing and using the internet and financial digital services is considered a predictor and a barrier to online activities and transactions for women entrepreneurs. This study also highlights the impact of trust on using mobile banking services, where positive and negative influences of trust, privacy, and financial risks were observed (Karthik et al., 2017).

Additionally, women entrepreneurs and other female ICT users face cyber harassment, online bullying, privacy violations, and financial hacks, contributing to their lack of trust in ICT systems. This study findings also touch upon the theory of TAM2 (Venkatesh and Davis, 2000) and individual behaviour in decision making, emphasizing the significance of trust, usefulness, and perceived ease of use in the intention to use technology. This study further mentions the impact of cyber violence on hindering women's uptake of broadband services, especially in Uganda. The public are increasingly concerned about the safety of mobile banking and transfer systems due to reports of theft by individuals and financial institutions. When making online transactions, individuals face risks such as financial, product performance, social, psychological, and time-related concerns.

According to Walker and Johnson (2006) trust does not seem to influence the user's intention to use ICT through perceived usefulness. Concerns about trust, including data privacy and personal information, stem from a lack of trust in the government and fear of potential misuse of personal information. However, this study suggest that urban women entrepreneurs are hesitant to use digital platforms, mobile banking applications, e-commerce, and other ICT tools relating to digital transactions and online payment due to fear of digital fraud, data breaches, and limited ICT literacy. This study further points out that trust significantly influences urban women entrepreneur's intention to adopt technology. Despite, policymakers formulating necessary regulations , such as the Data Protection and Privacy Act, 2019 and Computer Misuse Act(2011) prevention, to ensure safety in ICT usage. However, the government needs to further secure the use of ICT for women entrepreneurs to fully embrace (Carter and Belanger, 2008).

Enterprise size: MSMEs lag as larger enterprises adopt ICTs are always targeted by ICT firms because of their larger budget and will to spend more on ICT services, gain competitive advantage (Autio and Fu, 2022). SMEs could afford to run an ICT-based enterprise. This emphasises the critical role of ICT as a developmental and support tool for SMEs in developing countries. The findings of this study suggest that many urban women entrepreneurs are concentrated in the informal service sector and operate microenterprises (Namatovu et al., 2011). This trend is consistent with previous studies indicating that Uganda's informal economy is dominated by women and is broadly defined as a group of vulnerable individuals without protection regarding their work (Komunte et al., 2012; ILO, 2008). The service sector is particularly important for women entrepreneurs in Uganda (ILO, 2008). This study has suggested that embracing information and communication technology (ICT) in their business operations would be beneficial for women entrepreneurs.

However, barriers such as low revenue, excessive costs, and limited digital literacy hinder adoption of ICT. women SMEs in developing countries, play a significant role in providing employment (Ndiwalana and Tusubira, 2006). Women's participation in the economy has been increasing, with women starting their entrepreneurial journey out of necessity to improve their households, personal confidence, skills, and social status (GEM, 2012).

The (MoICT, 2015) has recognized SMEs as engines of growth and an important strategy for advancing the economic empowerment of women (UNCTAD, 2014; Snyder, 2003; MoICT, 2015).

Micro, small, and medium-sized women-owned businesses often face challenges in adopting ICT due to high charges and limited coverage. Urban micro-entrepreneurs struggle to obtain finance for their businesses due to their small size and informal nature. Limited access to finance and lack of government support for investing in ICT are key challenges faced by women-owned enterprises (Mazlina and Subramaniam, 2016). To overcome these challenges, this study empirical evidence suggests that women micro-enterprises be given financial incentives to incorporate new ICTs, to have a competitive advantage and help transition from the informal to formal sectors more affordably. In developing countries early adoption of ICT is seen as crucial for achieving enterprise sustainability, particularly in the micro-enterprise sector (Beynon-Davies, 2018).

Lacking in enabling policy formulation and regulatory environment: In Uganda, there is a lack of effective national policy. The current policy formulation and regulatory environment are lacking, particularly in terms of gender-specific policies and government initiatives. This lack of coordination between different government entities creates disconnected and asymmetric policies (Marcelle, cited in Hafkin and Taggart, 2001). According to Marcelle (2002), decision-making in the ICT sector significantly impacts its production, organization, and interaction with society. The existing systems in the IT sector have a negative impact on women and reinforce traditional gender roles. While there are entrepreneurship policies for micro, small, and medium enterprises, there is no explicit mention of gender or gender-responsive action.

“We endeavour to train a few but we really do not have the capacity to achieve the goal. The policy environment strongly affects implementation or various strides in enabling women use ICTs in entrepreneurship, so it is important to do advocacy for gender sensitive ICT policies and programs.”(Acting Executive Director, Women Support Organisation, WSO D).

The inconsistent implementation of these policies leads to knowledge gaps and bureaucratic complexities for women-led initiatives. Business registration, ownership, and taxation lack consistency and sufficient government support for women entrepreneurs, particularly in emerging and factor-driven economies. The absence of clear government support for women's entrepreneurship can lead to stagnation in time-sensitive entrepreneurial activities. Therefore, it is crucial for the Ugandan government to prioritize strong policy leadership and implement tailored programs that can empower women entrepreneurs through ICT.

Social-Cultural factors: In any society, the influence of recent technologies on culture plays a significant role in the field of information technology and information systems. Individuals decide whether to accept or reject recent technologies based on their cultural background. In this study findings, women entrepreneurs in Uganda manage traditional household responsibilities while running their businesses. Thus, the benefits and opportunities offered by ICT can provide new working options and create flexibility, such as running a business from home. In a study on mobile use among small entrepreneurs in Rwanda, Donner (2004) found that the convenience of maintaining business and personal networks in real time is crucial. The blurring of boundaries between personal and business use of mobile phones, particularly among entrepreneurs at the lower end of the income scale. Women's limited time resources mean that ICTs need to be incorporated into other activities.

This study showed that Uganda is a patriarchal society where men dominate, which aligns with a study by Hofstede and Hofstede (2005) stating that women's access to and use of ICT are heavily influenced by cultural norms. This study used a theoretical framework to identify cultural dimensions among women entrepreneurs in Uganda and the factors affecting their acceptance of ICT (Hofstede, 2005; Davies, 1989). Previous studies (Ahmad, 2011; Bardasi et al., 2011; Church and Truitt, 2017; Ki-moon, 2011; Crittenden et al., 2019) identified cultural barriers and gender discrimination that hinder women entrepreneurs in starting and growing their businesses.

"The usability of tools either due to power relations in homes causing affecting the issues of ownership and usage of the various ICT tools, so due to patriarchy, the men take on contra," the participant further added that "gender roles which take up most of the time women must be exposed and learn about new trends and technologies" (Director, Women Support Organisation, WSO C).

This study's findings revealed that social and cultural constructs had a positive impact on Perceived Ease of Use (PEOU) (Hill et al., 1998; Omar, 2009; Negala, 2015).

Earlier reports and studies (UNESCO, 2013; Abbasi, 2011) in the field of information systems and technology have highlighted that gender-based social and cultural inequalities affect women's access to resources and rights, as well as their participation in ICT-based economies. Women entrepreneurs find it challenging to widen their social networks and travel between home and business. This factor affects women's ability to circulate freely and exercise mobility, to access opportunities, markets, and customers, and to network to build their businesses. ICT through mobile phones and the internet provides women entrepreneurs with the possibility of reaching out to and communicating with business partners, customers, e-learning, and training in the confines of their homes (UNCTAD, 2014).

Relevance: The importance of Information and Communication Technologies for women's entrepreneurship and empowerment depends on how well ICTs address the specific needs and preferences of women. According to UNCTAD (2022), the experiences of women digital entrepreneurs from developing countries, including Uganda, are crucial. In Uganda and other developing counties, the lack of content tailored to women entrepreneurs is a significant barrier. Language barriers prevent SME owners from accessing information, as most websites use English as the primary medium for communication, while SME owners are more familiar and comfortable with the urban language (Hashim, 2007). This finding confirms NITA-U's (2021) discovery that individuals in urban areas face challenges due to the lack of urban language content. Despite these challenges, the use of ICT among urban women entrepreneurs in Kampala is increasing.

There is significant potential for ICT to drive economic growth and empowerment in the region. By continuing to invest in ICT infrastructure and supporting digital literacy skills, more women entrepreneurs in the Ugandan capital city of Kampala can fully benefit from the opportunities that ICT offers. The following table briefly illustrates how ICT can help in women's economic empowerment by overcoming the main challenges and barriers identified in the literature.

5.4.1 Relevance of ICT on Urban Women Entrepreneurs

In Chapter 4, Section 4.7.2 of this study, empirical evidence demonstrates the significance of SMEs' use of ICT in the urban area of Kampala, Uganda. The study suggests that women entrepreneurs in urban areas are benefiting from a strong ICT infrastructure. They use various ICTs, such as mobile phones for voice calls and text messaging (SMS), as well as the Internet, to communicate with customers and suppliers. This has helped reduce mobility challenges and transportation costs, benefiting both their businesses and family responsibilities.

Improved communication and Marketing: The literature review suggests that ICT has brought about improved communication, increased business efficiency, and facilitated easier communication and collaboration across borders, creating new opportunities for women entrepreneurs in education, communication, and information sharing. Women entrepreneurs have enhanced their marketable skills through training in email, word processing, and internet usage (Sharma, 2003; Mitter, 2003; Hafkin, 2002). Other motivating factors for urban women entrepreneurs to use ICT in their business operations include the opening of new avenues for communication and information sharing, as well as the improvement of marketable skills through training in basic computer skills such as email, word processing, data input, and internet usage (Sharma, 2003; 2004; Mitter, 2003; Hafkin, 2002). The specific benefits of ICT, particularly with mobile phones and computers, have simplified accessibility and connectivity. However, the study also revealed challenges faced by urban women entrepreneurs in Uganda in accessing ICTs and the Internet, acting as barriers to their success.

ICT has notably improved communication for women entrepreneurs, with most activities involving communication with customers or suppliers. This finding is consistent with Aluma, (2012) that ICTs have been a major force in women's development as they provide and foster communication, enhancing the exchange of important information for marketing, purchasing, and knowledge creation and dissemination. Reduced transaction costs and enhanced market performance motivate women entrepreneurs to incorporate ICT in their businesses (Komunte, Rwashana, and Nabukenya, 2012).

ICT relevance for enterprise growth and empowerment: The data analysis revealed that participants emphasised the significance of ICT's relevance for enterprise growth and empowerment. According to Ukpere et al. (2014), the positive economic impacts of a burgeoning mobile telephony industry in developing countries have led to self-employment, which is crucial for supporting business sustainability. Ukpere et al. (2014) also highlighted how mobile applications like WhatsApp have empowered businesses to establish an online presence, market and advertise their products, and facilitate e-commerce transactions. A report by GSMA (2011) found that mobile telephony penetration and associated industries in Uganda are creating direct and indirect employment and developing labour force skills.

Additionally, Kabeer (2008) and Salway et al. (2005) found that women are gradually entering paid employment, mostly in low-paid jobs, and are embracing the mobile phone as the most used ICT for business. It has been suggested that with proper ICT support and access, more women entrepreneurs in developing countries can overcome barriers and achieve success in their businesses. The rise in entrepreneurial activity among women, coupled with the need for more business experience and education, has given rise to a new entrepreneurial class. Martin and Wright (2005) assert that ICT is crucial and unique in enabling small enterprises and their entrepreneurial owners to align their strategies to achieve success.

ICT for information and knowledge: Given the limited information resources available to women entrepreneurs, ICT offers the fastest and most cost-effective means of information exchange. For instance, conducting online searches through platforms like Google has significant potential to address the needs of women entrepreneurs and enhance urban entrepreneurial ecosystems.

Previous studies have emphasised the importance of IT use in developing countries, especially in the agricultural sector, enabling access to information on improved farming technologies, credit availability, prices, and trade laws. Various applications of ICT allow women to access previously unreachable profitable markets, enabling them to sell their products or services and determine the optimal timing for scaling (Maier and Nair-Reichert, 2008). The use of mobile phones, coupled with easily accessible information on regulations, taxes, and prices, empowers women entrepreneurs to efficiently plan their product mix and input purchases (Eggleston, Jensen, and Zeckhauser, 2002).

The findings of this study indicate that women in the informal sector are leveraging apps like Garden Market App to obtain information from suppliers and farms, improving awareness of current market prices and enabling more efficient product and service planning. Most participants in the study expressed support for the idea that ICT has opened previously inaccessible opportunities. Access to IT among urban women entrepreneurs allows them to sell their products or offer services in the most lucrative markets and make informed decisions about when to sell, thereby reducing reliance on intermediaries as they can directly engage with suppliers. This has led to the rise of mobile commerce and marketing, reducing exploitation by brokers and bridging the information gap between the market and women entrepreneurs (United Nations, 2005).

Marketing Platform: Literature suggests the extent and impact of ICT use on SMEs in developing countries that entrepreneurship is linked with ICT and technology. Internet and social media have become important platforms for marketing products, encouraging women entrepreneurs to use these tools for starting and growing their businesses (Gusniar Nurdin et al., 2014). For example, urban women entrepreneurs in Uganda are creating value by using e-commerce platforms such as SafeBoda, a motorcycle taxi-hailing app, to connect market vendors with customers. This has evolved into an e-commerce platform, boosting sales for many micro-businesses and benefiting thousands of customers (UNCTAD, 2018).

However, microenterprises face various challenges that hinder their growth and survival. Some of the challenges are, resource shortages (informational, financial, physical, natural, social, and human), vulnerabilities from the environment (government regulations, taxes, weather, uncertainty of prices, risk, lack of structures (organizational, institutional), (Rogerson, 2008; La Porter and Shleifer, 2008). Furthermore, inadequate processes to support microentrepreneurs for pro-poor growth activities. (Wolcott, Kamal and Qureshi, 2008; Makoza and Chigona, 2012). Other previous studies argue that ICTs supporting the economic activities of micro-entrepreneurs may help them remain competitive in markets (Goods and Qureshi, 2009; Chew, Ilavarasan, and Levy, 2011).

This study findings suggested that urban women entrepreneurs in Uganda have embraced the use of ICT in their business operations, allowing them to access new profitable markets to sell their goods and services and determine when and at what price. (Maier, and Reichert, 2008; Komunte, Rwashana, and Nabukenya, 2012). The usage of ICT by women has given them confidence as they are eliminating the intermediary and dealing with decision making and direct contact to suppliers, thus minimizing the information gap between the market and the women entrepreneurs (Sandys, 2005).

Social and Cultural Factors: The literature suggests that ICT can have a positive impact on the development of social capital for SME owners by breaking down social barriers. Huo (2013) stated that ICT plays a positive role in social capital development among female entrepreneurs by enabling them to broaden their social networks and build solidarity with others. Additionally, (Martin, 2001; Wright, 2012) emphasised that online networking opportunities are especially beneficial for socially isolated women in areas with strictly observed gender norms. This study findings indicate that ICT benefits women entrepreneurs by reducing barriers to accessing relevant business information. Furthermore, Uluma (2012) and Ukpere et al. (2014) stated that online communication and networking represent a new dimension of social interaction, significantly expanding social horizons.

Online interaction enables women to share experiences, gain credibility, and learn from each other. Networking is a crucial aspect of women's entrepreneurship. Fielden and Dave (2004) suggested in "Entrepreneurship and Social Inclusion" that socially constructed barriers may inhibit women's progression. However, McClelland et al. (2005) found that women entrepreneurs in developed countries like Canada, Ireland, and Singapore used networking as a means of business development. According to Ndubisi and Kahraman (2011). In the context of developing countries such as Uganda, the relationship between technological skill and firm development is crucial for women entrepreneurs.

Furthermore, (Ndubisi and Kahraman, 2005) suggested that women enterprises are experiencing increased profits, performance, and job effectiveness with the acceptance of ICT, which is achieved through business networking. Increased confidence and agency enable women to travel more and develop a wider network of contacts and expose them to more economic opportunities (Rice, 2003). ICT plays a vital role in women's enterprises and mobilization of women's support (Nath, 2006). ICT has increased social awareness through advertisements, newspapers, and social media. Urban women entrepreneurs are using social networks such as Facebook, Instagram, YouTube, and Twitter to connect with each other and with the outside world (Amin et al., 2015).

ICT for access to finance: This study found that ICT is relevant to WSMEs as it helps in making better decisions, accessing capital, and growing their businesses (Komunte, Rwashana and Nabukenya, 2012; Eggleston, Jensen and Zeckhauser, 2002; United Nations, 2005). This study found that few women SMEs owned bank accounts and instead opt for mobile banking which has made financial transactions more straightforward and accessible to most SMEs. These findings align with Kpodar and Andrianaivo, (2011), which suggests that ICT is a powerful tool for marginalized groups, such as women, who are currently excluded from financial services.

Literature (Komunte, Rwashana and Nabukenya, 2012; Kpodar and Andrianaivo, 2011), has shown that ICT is an effective tool for improving SMEs' access to finance. For example, an increasing use of financial digital services, such as mobile money, a financial service provided in Uganda, with non-bank payment service providers and payment system operators (MTN Momo-Pay, MTN Mobile Money) and Airtel (Airtel Money) playing a significant role in mobile money transactions in Uganda. Literature has shown that all enterprises operate in a system where banking or taking of digital payments is more complex. Processing mobile payments on smartphones and tablets has a powerful, positive impact for SMEs. Digital payments provide flexibility, better payment tracking, business data, and more.

Previous studies (Komunte, 2015) argued that mobile payments have had a particular and positive impact for women entrepreneurs: Women, can benefit from digital payments. Social norms and family responsibilities, for example, often prevent women from traveling to distant suppliers or bank branches.

Digital payments give women better access to marketplaces, for example, not needing to travel far to deposit money, thus lowering mobility. The use of these ICTs will lead to microenterprises accessing formal financial services, and this, in turn, may drive growth and expansion (A4AI, 2019; Cominos et al., 2008; Jamali, 2009; Benzing et al., 2009) stated that Uganda, being a cash economy, micro-enterprises tend to send cash when they need to do a transfer. Using ICTs such as mobile phone applications in business, i.e. the option of having a mobile money account gives the unbanked women an economical alternative and independence. This mobile money service has the potential to address the financial problem of having access to money at any time.

Given that the respondents cited excessive costs of ICT devices, service, mobile tax and limited access to credit, ICT is not likely to be effective in areas, such as access to credit. However, ICTs can certainly help women entrepreneurs overcome constraints in finding customers, accessing loans through online applications, easing the mobility issues of face-to-face interactions at financial institutions. This study found most women entrepreneurs accessed credit to start up their enterprise by physically going to a local commercial bank.

As stated earlier, ICT is playing a significant role in financial inclusion in entrepreneurship development. The use of mobile money by urban women entrepreneurs is one of the indicators of financial inclusion of marginalized groups such as women.

As the research aim was to find out the role and extent of ICT on women entrepreneurship in Uganda, the findings show that the use of ICT is providing efficiency for the enterprise, and one can argue based on the findings in this study that urban women entrepreneurs (enterprise ownership) and the use of mobile money lead to a higher probability of entrepreneurship, hence filling the unemployment gap as more women are owning businesses and using ICT. The use of mobile money accounts leads to higher entrepreneurship among women. This has brought about a social change in women's livelihoods, as shown in this study, it is enterprise ownership or self-employment. This study can argue that the implications for Uganda, where mobile money is expanding with a growing population of women entrepreneurs who are often marginalized in the labour market.

The findings of this study can support the argument that ICT has opened opportunities to address the financial issue, playing a significant role in promoting financial inclusion in entrepreneurship development and bridging the financial digital gap, enabling women to access loans online, especially for those who do not have a bank account. Mobile money is filling this gap and playing a role in reducing the need for physical mobility, as women no longer must visit a bank in person to apply for credit, make deposits, or open a bank account. Although this study did not conduct a comparative analysis of genders, it is noted that in Uganda, women use mobile money less frequently than men, due to the mobile gender gap (GSMA, 2020).

ICT for development: In developing countries such as Uganda, there is a lack of clear gender disaggregated statistical data available on the use of ICT by women SMEs (UNESCO, 2003, Hafkin, 2007). In the context of Uganda, there is a dearth of well-researched data on how ICT is empowering women at the grassroots and individual levels (Huyer and Mitter, 2003). The available data is gender blind and not sex disaggregated, making it difficult to determine the extent to which women are adopting ICT compared to men and how it impacts women economically.

There may be a gender digital problem in terms of adoption, usability, age, and income distribution. Additionally, there is anecdotal evidence from across developing countries that marginalized groups, particularly women, are using ICT in innovative ways for empowerment (Hafkin, 2002). This study seeks to address critics who question the potential of ICT as a supporting and developmental tool for women's entrepreneurship. Understanding the impact and extent of ICT on women entrepreneurs is crucial in this context.

5.4.2 Impact of ICT on Society, SMEs Growth and Women Entrepreneurship

Impact on society in developing countries and Uganda: The literature review has demonstrated the profound impact of technology on entrepreneurship. ICT is significantly influencing society, changing the way we work, communicate, and share information. This impact is bringing about positive effects, making life easier. For example, the Internet serves as an information resource and communication platform, providing access to a wealth of information and speeding up long-distance communication through electronic mail (e-mail) which have replaced traditional handwritten letters. Connectivity is more crucial than ever, especially for women, as technology has become an integral part of our daily lives. It is now essential for any business, whether small or large, to embrace information and ICT to survive. Given that women-owned enterprises are often micro-sized and operate in the service sector, integrating ICT is crucial for their sustainability.

ICT has become critical, making the internet the gateway to information, services, and opportunities for SMEs (ITU, 2019). As societies become increasingly reliant on ICTs women are at risk of missing the benefits and opportunities for full participation in information-based economies. Worldwide, women lag in terms of internet connectivity (APC, 2017). Research indicates that mobile phones have had a significant impact on women entrepreneurs, improving access to information, facilitating communication, and supporting economic development (Gillwald et al., 2019).

Women entrepreneurs in developing countries, particularly in urban areas with promising ICT infrastructure, are leveraging technology to unlock their potential (Matamanda and Nel, 2020). In Uganda, urban women entrepreneurs are utilizing modern ICTs such as smartphones, tablets, and internet-enabled laptops to create value for their businesses (Nesaratnam, Mamba and Singh, 2019). Other available technologies used for sharing and disseminating business information include landline telephones, fax machines, newspapers, electronic mail, and typewriters (Huyer and Mitter, 2003; Matamanda and Nel, 2020). However, Uganda faces challenges with ICT adoption due to one of the lowest Internet penetration rates among developing countries (Gillwald et al., 2019). These findings are consistent with studies (Kamberidou, 2020).

Urbanisation and ICT: It is projected that by 2030, half of Africa's population will be living in urban areas, driven in part by technological advancements ((Kaoihana, and Igarta, 2024; Awumbila, 2017). According to the Sustainable Development Goals Extended Report (2023) the continent is experiencing rapid growth in Internet and mobile phone access, leading to an expected surge in data usage. Urbanization has facilitated the entry of women into the labour market, particularly in the informal sector, which currently accounts for eighty percentage of employment in Kampala (Matamanda and Nel, 2020). Urbanization has also provided opportunities for microenterprises to access crucial information. The distribution of Internet cafes and mobile phones in Africa reflects varying levels of access, often limited by income and bandwidth. Tele centres, often established by private entrepreneurs in urban areas, offer services such as internet access, photocopying, faxing, and in some cases, telephony. In Uganda, urban areas serve as digital 'hot spots' with widespread high-speed internet infrastructure (Skerratt et al., 2012).

Impact on SME growth in developing countries and Uganda: The impact of ICT on consumer behaviour has led to increased demand for MSMEs to enhance their competitiveness. The growing Internet and ICT penetration in Africa has sparked discussions among scholars about the creation of a new economy driven by ICTs, particularly mobile phones. This new economy is characterized by information being the critical resource and the basis for competition across all sectors (Pather and Abiodun, 2017).

Various studies have emphasised the crucial role of ICT for MSMEs, particularly those dominated by women who have been sceptical about adopting ICT (Cataldo, Pino, and McQueen, 2020). Furthermore, attitudes play a significant role in the adoption of ICT, as the decision is often influenced by the pre-usage beliefs and attitudes of the business owner (Chakraborty and Al Rashdi, 2018). In developing countries, the microenterprise sector has recognized the need for early adoption of ICT to achieve sustainability (Beynon-Davies, 2018).

Research findings have indicated that ICTs can create new opportunities and contribute to the growth of developing countries like Uganda by enabling entrepreneurship and digital inclusion. Participants in the study realized that they could expand their revenue and customer base by establishing an online presence and marketing their products or services using their mobile phones (Gillwald et al., 2019). This has improved relationships with customers and suppliers, increased efficiency, and reduced production costs. However, SMEs in Uganda have been slow to adopt e-commerce, and the low Internet penetration rate in the country is a constraint (Gillwald et al., 2019). This study suggested that the ICT experience of women entrepreneurs influenced their behaviour in using ICT and the technology tools they employ. For example, all the participants owned and used mobile phones for various tasks such as communication, mobile money, information search, marketing and advertising, social networking, and watching training videos related to business growth.

This study findings contribute to TAM 2 (Venkatesh and Davis, 2000) which suggests that the prior use of technologies, such as social media, significantly influences the intention of urban women entrepreneurs to use ICT in their enterprises. However, the use of ICTs presents challenges and risks, such as privacy and security, which impact society. This study findings highlighted women entrepreneurs concerns about security and trust issues while using ICT. This concern necessitates policymakers to revise current regulations and policies to protect women and SMEs. This empirical evidence aligns with previous studies (Muhleisen, 2018) emphasis on the importance of implementing policies and regulations to ensure that marginalized groups benefit from the digital revolution and that potential harm is minimized.

Impact on women entrepreneurship in developing countries and Uganda: It is crucial for women entrepreneurs to grasp the opportunities and challenges presented by ICT to attain a competitive edge and enhance enterprise performance. Additionally, women entrepreneurs should assess the potential benefits of ICT for their enterprises. As stated in Chapter 2, ICTs empower women entrepreneurs to make well-informed decisions and can lead to increased profits and reduced costs (UNCTAD, 2020). However, women entrepreneurs encounter challenges in their entrepreneurial journey such as socio-cultural norms, institutional systemic issues, and legal gender inequalities (UNCTAD, 2014).

In Uganda, women-owned SMEs generate thirty percent lower profits than their male counterparts. This research study suggests that ICT enables new models of social networking and information access, allowing women microentrepreneurs to overcome societal barriers and negotiate their social positioning. These aspects of ICT have significant implications for advancing female entrepreneurship, particularly considering the challenges women entrepreneurs traditionally face due to their comparative marginality and social constraints. These findings align with (UNCTAD, 2014; Ongori and Migiro, 2011), stating that SMEs embracing ICT experience growth, reduced costs, increased sales, and improved efficiency.

5.4.3 Harmonisation of ICT and its use within a society

This study findings show that the harmonization of ICT in Ugandan society offers benefits, such as efficiency and effectiveness in public service delivery, e-government, e-learning, and e-agricultural initiatives. It also improves access, quality, and transparency of services for citizens. For Uganda to integrate ICT and its use within society, policymakers should ensure that ICT policies, standards, and practices align with Uganda's national vision, goals, and values. This involves addressing the challenges and opportunities that ICT presents for the development and empowerment of Uganda and its people. Furthermore, this study highlights that access to ICTs and digital skills empowers women entrepreneurs and enables microenterprises to connect with a wider community, promoting digital inclusion. The empirical evidence indicates that if marginalised groups, such as women, are given access, affordability, digital inclusion can be achieved, making ICT relevant to all segments of society.

Additionally, this study shows that ICT fosters innovation and entrepreneurship, creating an enabling environment for ICT based enterprises and start-ups that can leverage ICT to solve urban problems and create value. However, this study also identifies challenges in harmonizing ICT and its use within Ugandan society, such as the need for collaboration and coordination among multiple stakeholders, including government, academia, local and international partners, the private sector, and civil society. This study emphasises that these stakeholders have different interests, perspectives, and capacities when it comes to ICT.

Another challenge identified by this study is that in today's world, the right to privacy has become a contentious issue as ICTs provide governments and private companies with extensive surveillance and tracking capabilities, potentially infringing on privacy rights (Dodwell, 2015). ICT is a dynamic and evolving field that requires continuous monitoring. Most participants highlighted the role of the government and called for evaluation, monitoring, and understanding of the needs of women entrepreneurs when it comes to ICT. Participants emphasised the importance of acting on feedback to ensure that policies and practices are responsive to changing needs and contexts for marginalised groups such as women. The research findings have indicated that trust, privacy, and security pose significant challenges for women entrepreneurs when using ICT. They are concerned about privacy, storage of personal data, and the potential for misuse of ICT. Building trust and establishing clear and agreed standards are crucial for successful digital cooperation.

Initiatives such as the free public Wi-Fi (MYUG Wi-Fi) by the National Information Technology Authority Uganda (NITA-U) and the ICT Innovation Centre have contributed to the growth of the country's ICT industry and supported entrepreneurship to an extent (NITA-U, 2021). However, this study has revealed that the MYUG Wi-Fi initiative has primarily benefited large businesses, while women microenterprises have faced challenges in accessing the service. This study found that ninety-five percent of the participants were unaware of this free Wi-Fi service.

"I would prefer to use free Wi-Fi if it were available. But here in Kampala, there is no free stuff, and as a business owner, I have never heard of such service" (Urban Women Entrepreneur Participant, UWE 05).

This study findings align with a report by the Ministry of Information and Communication Technology (2014), which stated that in Uganda, promotion and awareness creation of ICT have been carried out in the public sector, but to a limited extent. In the private sector, there is still a need for improvement in promoting and creating awareness about ICT. The lack of awareness is a critical factor that policymakers should address to achieve full inclusion. Harmonizing ICT and its use within Ugandan society requires an integrated approach that promotes digital inclusion, privacy, security, ethical considerations, social inclusion, and diversity. It is important to ensure that access to ICT is available to everyone, regardless of socioeconomic status, location, or ability.

This study highlighted that achieving the harmonization of ICT usage within Ugandan society requires addressing the existing challenges in business. It identified several challenges faced by women entrepreneurs in using ICT (Chapter 4, section 4.4.1). Despite the potential benefits of mobile markets, such as lowering service costs, the excessive costs of services in Uganda have persisted due to government taxes and political issues (Gillwald et al., 2019). Therefore, this study suggests that to use ICT as a supportive tool to overcome these challenges, the Ugandan government must take initiative-taking measures to regulate the industry in the public interest and invest in infrastructure to make ICT more accessible and affordable for everyone, especially women.

5.5 Success and Failures: Lessons Learnt in ICT investments in Uganda.

5.5.1 Success to investments in Uganda

This study suggested that successful ICT investments in Uganda are largely due to collaboration and partnerships among various stakeholders, including the government, private sector, academia, financial institutions, and international donors (Gillwald et al., 2019). Most participants in this study agreed that collective efforts can harness the full potential of ICT to benefit the country significantly and its people, particularly women in business who are major contributors to economic growth. Suggestions were made by participants that promoting accessibility and affordability of ICT requires a joint effort.

Furthermore, in increasing women's financial inclusion through ICT could be achieved by leveraging new mobile technologies, revising regulatory frameworks, reducing the cost of mobile devices, encouraging widespread ownership of mobile phones, and international donors playing their part in funding the ICT process and designing ICTs tailored to the specific needs of women in developing countries. Empowering women through financial inclusion via ICT offers greater macroeconomic growth.

Chapter 4 outlined notable successes in this field, including establishing online marketplaces, communication e-commerce platforms, and mobile banking services. This research study findings revealed that women entrepreneurs are experiencing financial inclusion by using mobile banking to send and receive money using their mobile phone, significantly including all the unbanked women (Gillwald et al., 2019). As information technology becomes more intricately linked to developing countries, education becomes more important for women. This research study showed that low literacy levels are greatly associated with the use of ICT. This finding is consistent with (Hazarika, 2011; Gillwald et al., 2019). This study findings have shown how women entrepreneurs expressed how the organisational support has been crucial in their entrepreneurial journeys. These ICT initiatives are another success factor that has led support organisation to understand that ICT training goes hand in hand with other necessary life skills for women entrepreneurs.

The ICT training, women entrepreneurs received has motivated their interests and attitude to run an ICT based enterprise. This motivation has seen a tremendous growth in MSMEs, especially in the telecommunication sector, where most women have found employment as running kiosks as mobile money agents which has improved their livelihoods (GSMA, 2023). This study suggested that women entrepreneurs have received help from local NGOs and other SMEs support agencies on how to integrate ICT for business purposes. For example, access and share information and knowledge using the internet and using WhatsApp as a marketing tool, thus cutting costs something that was not possible before (Soluk, Kammerlander and Darwin, 2021).

5.5.2 Obstacles to investments in Uganda

The empirical evidence clearly indicates that in Uganda, there is a lack of coordination and consistency among ICT policies, standards, and practices, to duplication, fragmentation, and inefficiency (Gillwald et al., 2019). For instance, the Uganda Communication Commission, which has traditionally enjoyed considerable autonomy, has failed to implement crucial regulatory interventions that could have enhanced market competition and increased the uptake of ICTs within the ICT entrepreneurship sector.

Another failure in the Ugandan context, based on the empirical evidence of this study, is that available training programs do not reach the intended groups, and there is a higher concentration of ICT and entrepreneurial programs for rural areas than urban.

“However, outreach and use of ICT is still limited to urban areas”(Director, Women Support Organisation, WSO B)

Furthermore, attempts to assist women entrepreneurs in business start-ups and growth have achieved little success in empowering women in Uganda (Section 4.2.4) as most SMEs struggled to take off, often due to a lack of funding and affordability. The empirical evidence has shown that affordability remains a significant barrier to ICT accessibility in women's enterprises in Uganda. This research study participants expressed concerns about the unaffordable prices of ICT devices, taxes on mobile money and services, and access to providers as a primary reason for the limited use of ICT. Furthermore, the participants expressed concerns about programs that provide financial assistance. For instance, when starting or improving a business, the available subsidised microcredit will be effective for male entrepreneurs and will not impact the profit of women-owned enterprises (Fiala, 2018), resulting in a digital divide, leaving some entrepreneurs needing to catch up. In contrast, others need help to prosper, hindering the growth of ICT-based businesses. Therefore, this study highlights the importance of integrating the needs and concerns of women and acknowledging the gender divide in accessing resources such as financial help and affordable ICTs. There is a need for tailor-made ICT training, otherwise, women will need easy access to ICT and other resources (UNCTAD, 2014).

Findings of this study has suggested lack of relevant ICT policy addressing the needs of women entrepreneurs. This study calls for the Ugandan government to consider sector-specific taxes on mobile-enabled services and social media tax to counter the adverse effects of the Internet tax on women. Increasing digital inclusion can deliver significant economic and social benefits by reforming these taxes and fees. Uganda can learn from neighbouring Kenya government in 2019, removed the sixteen percent tax, increased digital inclusion that can deliver VAT rate on mobile handsets (GSM, 2019). The experience of urban women entrepreneurs is that WMSEs still need to clarity about the benefit of ICT, the technical terms used are unclear and their attitude to technology is for the educated, rich, and larger companies.

Cyber capabilities are constantly evolving in developing countries such as Uganda and becoming more targeted and impactful on physical systems and even more insidious in their ability to undermine societal trust. This study participants raised concerns about the risks of cyber-attacks, especially when substantial theft of data, mobile money, and online gender-based violence were substantial limitations. Failing to balance trade-offs and risks like privacy and security leads to potential harm and costs (Gillwald et al., 2019). It is a reminder to balance the need to be vigilant and protect against these lead threats.

To sum up, investing in ICT and supporting entrepreneurship has immense potential for developing countries. Despite the challenges, Uganda's ICT and entrepreneurship sectors shows great promise for growth and prosperity. Creating a nurturing ecosystem that offers access to funding, mentorship, and training is essential to achieving this potential. By providing the necessary support, women entrepreneurs can leverage the power of technology to build thriving enterprises and drive the expansion of Uganda's economy.

5.6 Summary chapter 5

This study explores the extent and impact of ICT use on SMEs in developing countries using urban women SMEs as an example. This study uses the TAM2 theoretical model (Venkatesh, 2000) developed for larger organisations in developed economies.

It is unique in that this study applies TAM2 model to explore the extent and impact of ICT use on SMEs in a developing country local setting. To understand the challenges and opportunities urban women entrepreneurs Uganda face in adopting and using technology due to differences in the level of development and access to resources.

This study key findings , suggested that ICTs, such as computers, are perceived by women entrepreneurs to be associated with excessive costs, regulation, social class, education and lack of ICT literacy , and lack of awareness. Affordability is a significant barrier to ICT usage, with unaffordable prices for data and services cited as a major reason for limited access to ICT. Issues such as government taxes on data services and political decisions like banning Facebook further exacerbate the situation, impacting the income of women SMEs (Gillwald et al., 2019).

Furthermore, this study emphasises the limited availability of ICT and entrepreneurship training programs targeted at grass root level. This study suggested the need for more support through capacity building and institutionalized training options to cater to the specific needs of women entrepreneurs. Inclusive stakeholders recognize the potential of ICT in supporting women micro-entrepreneurs but also emphasize the importance of a comprehensive approach to address structural barriers and gender inequalities in the business environment. Their collaboration aims to develop a comprehensive approach that provides the necessary support for women micro-entrepreneurs to thrive.

Chapter 6 Conclusions, Contributions and Recommendations for Future Research

6.1 Introduction and Summary of the Thesis

This chapter comprehensively overviews this study's core objectives and research questions. It will also highlight the main findings and evaluate the substantive theory in section 6.2. Section 6.3 will acknowledge the implications of and its contributions to knowledge in contrast, section 6.4 will detail study's limitations and offer guidance on overcoming these limitations in the future. In section 6.5, potential future contributions of the theory are suggested, along with ideas for researching it in other substantive areas of developing countries. Lastly, the chapter will conclude with observations and remarks on the original goal, summarising study's successes.

6.1.1 Aim, Objectives, and Research Questions Overview

This comprehensive research study aimed to develop a theory by addressing four distinct research questions and objectives, focusing on urban women entrepreneurs in Kampala, Uganda.

The specific objectives of this study are:

1. To investigate the technologies that female microentrepreneurs in Kampala, Uganda, use to grow their businesses.
2. To gauge urban women entrepreneurs' views on ICT's role and relevance in boosting enterprise growth and empowerment.
3. To explore government ICT policies that strengthen and support the position of women microentrepreneurs in Kampala, Uganda.
4. To examine the connectivity, access, and relevance of ICTs for women's entrepreneurship and empowerment to foster a favourable environment that encourages their success.

This study successfully generated a substantive theory by addressing four research questions and objectives and achieved its aim.

Chapter 2 of this study acknowledged the important academic contributions made in ICT and women's entrepreneurship. Key factors related to ICT use in developing countries were identified, specifically about SMEs and women entrepreneurship.

This study also provided a thorough review of published research on ICT use in these areas and presented a solid theoretical foundation for its implementation in the context of women entrepreneurship.

Additionally, this study highlighted the motivation factors that specifically influence ICT adoption in women-led SMEs. In Chapter 4, this study conclusions are summarised, and important concerns related to ICT use in SMEs in Uganda.

6.2 Evaluation of the Substantive Theory

Glaser and Strauss (1967); Glaser (1978) highlighted the importance of a criteria base for evaluating varied factors, such as Fit, Understandable, Relevance, Grab, Work, General, Control and Modifiability to measure the substantive theory of how ICT is used as a tool for development among women entrepreneurs in developing countries. (See Chapter 3, section 3.8).

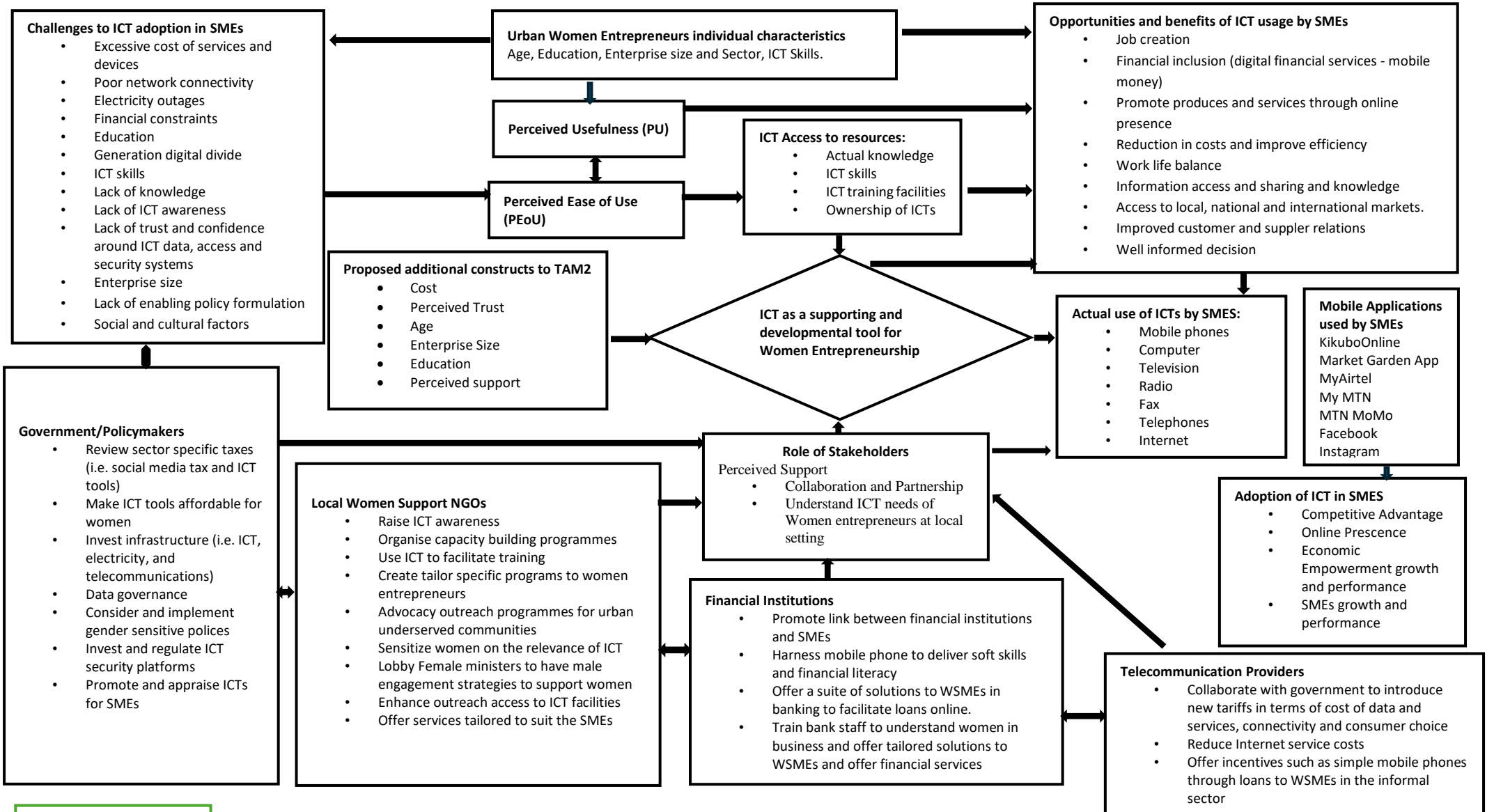
Stakeholders acknowledged the robustness of the new theory and expressed different perspectives on its significance, particularly in the context of narrowing the digital gap for women entrepreneurs in Uganda and significant as it closely fits the data and the substitute areas.

"The digital divide is evident in Uganda, and women are lagging as few uses ICT for business growth. For both women support organisations trying to narrow the digital gap, the substance theory of ICT as a development tool in women entrepreneurship would be beneficial." (Programme Officer ICT and Gender, WSO A).

Perspectives of stakeholder groups not engaged in theory building, were considered for flexibility among diverse stakeholders. The thesis highlights the importance of engaging diverse stakeholder groups in theory-building, ensuring, that theory is understandable and relevant to professionals and laypersons (Glaser, 1978; Glaser and Strauss, 1967. It emphasises the significance of a theory being adaptable, flexible, and applicable to diverse situations within the field, as well as remaining valuable over time (Glaser and Strauss, 1967).

Relevance: The new substantive theoretical framework (Figure 6.1) of this study embraces the uncertain and evolving nature of technology and the challenges and opportunities it brings to marginalised groups such as women in developing countries. The foremost contribution of this research is the emerged substantive theory for TAM2 (see Figure 6.1) to the relevance and extent of ICT use for women SMEs in developing countries. Such a model is lacking in extant empirical studies on women entrepreneurship .

Figure 6.1 Substantive Theory: Demonstrates ICT use as a supporting and developmental tool for Women Entrepreneurship



Source: Author

This proposed substantive model (see Figure 6.1) is a tailored, stage procedure of facilitating women entrepreneurs personal and competitive advantage. The new theory (Figure 6.1) categorised themes that emerged from GT qualitative data collection generated a framework for exploring the views gathered by participants in online questionnaire and semi structured interview on extent and impact of ICT use on SMEs in developing countries. Furthermore, the new theory (Figure 6.1) posits new constructs, cost, age business size, trust, education, as well as other major constructs, perceived support, infrastructure, knowledge and skills, ICT training, finance, legal and regulatory, ICT, digital skills (see Figure 6.1) all have strongly influenced the adoption of ICT by WSMEs by urban SMEs in Kampala, capital city of Uganda. These significant factors in the digital divide have not been empirical researched by the TAM2 (Venkatesh and Davis, 2000) in context of ICT use on WSMEs developing countries.

The fact that ICT might sometimes fail seems to be fundamentally important for all the original TAM2 constructs, such as perceived ease of use (PEoU), perceived usefulness (PU), as well as the behavioural intention to use (BITU) ICTs on SMEs. This study suggests that the introduction of ICT to women SMEs using the new theory can significantly impact the inclination to adopt ICT in MSMEs, highlighting the importance of exploring this phenomenon further.

Perceived Usefulness (PU) and Perceived Ease of Use (PEoU): Perceived usefulness (PU) and perceived ease of use (PEOU) are the two most mentioned variables influencing individuals and enterprises to adopt information technology systems. First, PU has a positive connection with women entrepreneurs' intention to accept and use ICT. This finding implies that an increase in PU from the chosen ICT led to the ICT acceptance and usage in urban women enterprises in Kampala, Uganda. This research shows that women are more likely to use technology if they perceive it valuable. Davis (1989); Venkatesh and Davis, (2000); Ndubisi et al., (2003) point out the importance of perceived usefulness in driving technology adoption, in SMEs. Moreover, (Davis, Bagozzi, and Warshaw, 1989) stated that the perceived ease of use and usefulness are direct factors in an individual's intention to use technology

The empirical evidence of this study affirms the characteristics mentioned in the extended model. For example, the extensive use of mobile phones for communications, financial services, and marketing was immediate because the participants in this study immediately recognized its relative advantage and ease of use for accomplishing job tasks and high degree of usefulness. The new compatibility within the service sector's environment further ensured its acceptance and use. This study findings mention that women entrepreneurs initially found it challenging to use new ICTs like the internet and mobile phones but became more confident with time and practice. They learned to use these technologies from other female entrepreneurs, as well as through training and guidance from friends and family.

This study findings indicate that the increasing use of social and mobile technologies is attributed to their ease of use and effectiveness in helping individuals connect to learn and share information. This ease of use can impact an individual's intention to make purchases online or through offline methods. The substantive theory suggested that PEOU is closely related to ICT use and ICT implementation among urban WSMEs in Uganda. The findings in Chapter 4 of this study, clearly suggests that WMSMEs to perceive ICT as a useful tool but do not wish to adopt them of the challenges many WSMEs face. This study findings align with other such studies on the extent and impact of ICT use on SMEs where the major constraint of technology adoption is cost, trust in the technology, age of the entrepreneur, education level of the business owner, and enterprise size and lack of ICT support for SMEs which were affected more than larger enterprises (Okundaye et al., 2019). To successfully take advantage of ICT use, WMSMEs in Uganda need to secure the main types of infrastructure.

Challenges influencing ICT usage in SMEs: The availability of ICT infrastructure in urban areas has become a significant factor for the success of ICT in WMSMEs. Most participants acknowledged that despite of having basic ICTs (i.e. mobile phones, Internet, telephone lines, wireless communications, television and radio) the quality of these ICTs has a considerable impact on the successful integration with new and future ICTs. This study findings suggested that women SMEs face various challenges (as shown in Figure 6.2) in adopting ICTs to achieve long term profitability, growth and competitiveness at local, regional and international level. Uganda's, weak infrastructure, prevents access and hinders usage.

This study findings found that the SMEs are not ready to implement ICT due to excessive cost of services and devices, poor network connectivity, power outages, size and sector of the enterprise, inadequate ICT skills, limited access to finance, traditional selling methods(Uganda is a cash based economy), limited ownership of ICT devices, cultural and social norms, weak legal framework, inadequate ICT policies.

Cost and Intention to Use and Actual Usage: Secondly, this study discusses the impact of price and traffic issues on women business owners' intention to use certain technologies that can benefit micro, small, and medium enterprises in Uganda. This study highlights the significant impact of excessive costs, and this includes the cost of internet subscriptions, mobile and computer ownership as well as network connections, as a hindrance to ICT use in WSMEs. This study findings revealed that the use of ICT was constrained due to financial resources. Most urban women entrepreneurs' perception on cost and lack of adequate budget for ICTs services, devices, resorted to basic ICTs to carry out daily business activities.

Therefore, this study can suggest that promoting a sharing economy within the informal sector and lowering the costs of ICT and internet access can help in overcoming this barrier. The Ugandan government has made pledges to prioritize and promote the use of ICT as a tool for social transformation and development, particularly by making internet costs affordable for MSMEs. It also mentions the practical challenges faced by urban women entrepreneurs due to high service fees, expensive data, and poor connectivity, leading to the acceptance strategies like using multiple SIM cards.

To achieve gender equity on ICT, use and access, this study suggests that gender equity advocates should promote the development of incentive programs and pricing policies to increase access and stimulate expansion in previously underserved areas where women-owned businesses are predominant, particularly in the service sector, which is often their only source of income. Previous research also indicated that TAM needed integration with additional variables such as cost to improve its prediction of system use (Szajna, 1996; Lucas and Spitler, 2000). This study findings revealed that the use of ICT was constrained due to financial resources.

Most urban women entrepreneurs' perception on cost and lack of adequate budget for ICTs services, devices, resorted to basic ICTs to carry out daily business activities.

Trust and Intention to Use: From a theoretical perspective, this study can argue that lack of trust in technology leads to a lower intention to use it, regardless of its speed compared to traditional methods. The results of this study indicated that trust plays a significant role in determining the Intention to Use (ITU) ICTs, regardless of their speed in comparison to traditional methods. This study participants, opinion on ICT usage, was explored and found that financial crime has increased in Uganda because of the Internet. Financial services are more exposed, than ever before, to financial crimes and hacking and theft. For instance, participants showed a preference for the conventional method of conducting business by physically going to the bank and interacting with bank staff face-to-face. Therefore, according to the findings of this study, trust is a determining factor in the Perceived Usefulness (PU) of ICTs. This study can therefore argue that if users feel assured of security of ICT, the technology becomes more useful to them.

Additionally, the concept of trust, as confirmed by Doney and Cannon (1997) and supported by Fida (2011), influences user behaviour, particularly in the context of e-commerce systems (Ba and Pavlou, 2002) using ICTs and mobile applications (Sang et al., 2010) and increases individual intention to engage in online activities (Gefen et al., 2003). Women entrepreneurs acceptance of ICT will increase if they perceive it secure. The government should ensure that online services are secure, regularly update and review all security measures, and provide the reliability of mobile applications, particularly mobile money services. Adding trust as a component to the original model would be beneficial, especially in the context of developing countries. Trust, as discussed in literatures review, has a direct relationship with PU and PEOU, particularly in Information Systems studies relating to online systems (Gefen et al, 2003). The concept of trust encompasses connectivity, access to ICT, information, and data privacy.

Age and perceived usefulness (PU) and Perceived ease of Use (PEoU): The fifth new construct on how the age factor influences the use of ICT among urban women entrepreneurs. According to Marlin and Wright (2005), demographic factors like age, gender, and background are not as obvious in cyberspace as in the real world.

Therefore, affect the decision of adopting ICT or embracing technology for business activities. This study is proof of an age as an additional factor of the conceptual framework and emphasises the importance of considering age of the enterprise owner is an essential factor and a determinant in ICT use and adoption. These findings indicate that different age groups have varying perceptions and behaviours regarding technology adoption. Younger entrepreneurs exhibit higher levels of perceived usefulness and ease of use of technology. However, older entrepreneurs may face challenges in understanding and utilising recent technologies.

The qualitative findings of this study revealed that older participants raised their concerns of lack of ICT training facilities for the elderly. The participants added that the enterprises could not achieve ICT adoption goals without upskilling through necessary ICTs training programs. However, due to the lack of both ICT knowledge skills and technical knowledge of software or hardware, most were unable to manage ICT devices. This study contribution to the ICT and entrepreneurial literature is the identification of the added construct age as a factor that inhibit ICT adoption by SMEs in Uganda. This study also highlights the significance of perceived ease of use and the preference for user-friendly systems, such as mobile phones, among all age groups. Additionally, it notes concerns among women entrepreneurs regarding the lack of training in ICT skills.

Education Perceived ease of use: The sixth most important construct is that of education. The data indicates that individuals with higher education are more likely to embrace technology, and their intention to use it is influenced by the perceived ease of use. This study also suggests that education strongly influences the perceived ease of use, and it was found that knowledge acquired through formal education or ICT training programs geared towards supporting women entrepreneurs significantly impacts their motivation to use user-friendly technology relevant to their enterprises. Self-taught ICT skills gained through personal interest to be influential in the success and acceptance ICT. The participants in this study were highly educated, which explains their ownership of ICTs such as mobile phones computers and one enterprise in the educational sector had a website business email and business bank account and other ICTs.

In developing countries like, Uganda, education can be a crucial factor in adopting ICT and innovation and significantly influence the utilisation of ICT to create value for SMEs. At an individual level, education determines the intention to use ICTs such as computer software, computers, web creation, and other tasks. Mud (1979) states that education, along with gender, age, and ICT, is particularly important.

This Study findings suggested that education plays a crucial role in the use of ICT SMEs in Uganda. Education has a significant impact on Perceived Usefulness (PU) and Ease of Use, and it improves the user's attitude. Therefore, this study can argue that education is an essential factor for the acceptance of technology, as it significantly contributes to the success of technology implementation in women-owned SMEs in developing countries. Most participants stated that understanding how to use the ever-changing ICTs and accessing Internet was due to lack of knowledge and technical knowledge. ICT literacy prevented WSMEs from adopting ICT as they relied on outside support to operate on maintain ICT devices, install software and how to access the internet or develop enterprise websites.

Size of Enterprise and Perceived Usefulness: Another factor was size of the enterprise. This study highlights that women-owned enterprises in Uganda are generally smaller and younger (Uganda Bureau of Statics (2007) cited Kikooma, GEM, 2012; Oly Ndubisi and Cengiz 2005; UNCTAD, 2014; Martin and Milway, 2007), which impacts their ICT utilisation (Kosai and Piget, 2014). The empirical evidence indicated that very few WSMEs, in Uganda have a business email or website, relying instead on mobile phones for communication. The owner's attitude towards technology, level of education, age, and skills influence the adoption and utilisation of ICT SMEs. If the owner lacks ICT skills and understanding and concerned about ICT investments and benefits to the enterprise, they are unlikely to use ICT. Moreover, if the owner does not perceive technology as beneficial for the business, especially if it is not user-friendly, costly it therefore commercial aspects and benefits are the drivers of ICT use, they are unlikely to adopt it and stick to traditional ways of doing business (Barba-Sánchez, Martínez-Ruiz and Jiménez-Zarco, 2007).

Perceived Support and intention to use: Fourthly, this study suggested that women entrepreneur's perception of available support is significant with intention to use ICT(see Figure 2.2) and invest in an ICT based enterprise. The qualitative findings of this study revealed that participants believed that the government and other institutions played a major role in helping SMEs and their owners in developing ICT experiences in Uganda. The role of government in facilitating and enabling environment and supporting SMEs remain a significant factor in creating a right environment for business growth and ease of use and actual use of ICT in SMEs. Without this support it the MSMEs sector experiences negative growth in its economic development Therefore, perceived support was a significant factor on ICT acceptance and usage.

This study acknowledge that the Ugandan government has recognised the role of ICT and has developed policies and programs to support women entrepreneurship, yet MSMEs lag, in particular SMEs in the informal economy owned by women. In this study while exploring this theme, the major problem that emerged was absence of legal supporting ICT framework, lack of tax incentives for SMEs, excessive costs of devices and services, lack of gender sensitive policies. Furthermore, the participants believed that the government should take initiative and propose legislation supporting WSMEs. Therefore, this study can suggest that for successful ICT adopting in SMEs, women entrepreneurs will need government support in terms gender sensitive ICT framework, taxation, licencing and other opportunities technological support and infrastructure (Kamunge et al., 2014), expertise to help them with ICT challenges, as most indicated strong reliance on the friends or family to solve ICT problems. Most participants expected to receive financial support when they intended to invest in ICTs, also ICT training was a vital to increase the women entrepreneurs ICT knowledge and skills.

This study suggested that available training programmes should stress the capability of ICT rather than focusing on basic ICT skills, as the findings found that some of the women entrepreneurs has invested in basic ICT training, and some have learned it from the programmes offered by support organisations, or from educational institutions or workplace. Very few studies on TAM2 (Venkatesh and Davis, 2000) on WSMEs have proposed perceived support factor into their research framework.

Furthermore, this study revealed that participants lacked financial institutional support from local banks such as ICT loans that could help SMEs to adopt technologies that support ICT.

Furthermore, participants in this study believed that local non-government organisations supporting ICT training and entrepreneurship for women at grassroots level, should take the initiative and propose ICT framework that is gender sensitive. Perceives support on ICTs for their adoption in SMEs is a fundamental factor that could motivate WMSMEs to adopt ICT (Raravi, 2020). This added factor is vital for SMEs growth as government, local NGOs, financial institution have a responsibility to provide adequate technology infrastructure, technology upgrade loans, and telecommunications to raise ICT awareness, promote and support the growth of enterprises, especially SMEs, in society (Roztocki et al., 2019).

Opportunities: In this study the participants from different SMEs shared their views on the different roles of ICT usage and the perceived benefits to enterprise growth and economic empowerment. Some of the opportunities of ICT usage (as shown in Figure 6.2) are job creation. Findings of this study revealed that ICT has created employment for women. Most women entrepreneurs are using mobile phones and WhatsApp business mobile application to access markets, information and as a form of communication, enterprise growth, and marketing which makes labour markets more inclusive and global. ICT has increased SMEs productivity by moving from traditional business models into e-business models. and advertising using ICT is cost effective for most SMEs.

Furthermore, women entrepreneurs are now making their own decisions, therefore can develop effective strategies with ICT devices to improve enterprise operations (Wang, 2020). This study findings on the opportunities and benefits of ICT for SMEs, shows that women entrepreneurs perceive ICT usage as useful for their enterprises, especially the benefits they could have derives from it, would contribute to the success of their enterprise.

Actual Usage: Finally, the actual usage of technology by individuals is influenced by their behavioural goals, which are determined by their perception of usefulness and ease of use (Davis, 1989). This study has highlighted the benefits Internet provides to society, including platforms like WhatsApp, e-mail, and others.

It is important for society to choose the appropriate applications based on their needs. This study suggested that urban WSMEs have increased their Internet usage such as marketing, selling products and services, and conducting financial transactions. The Internet has become a major platform for women SMEs in facilitating transactions and e-commerce. This online presence of SMEs is providing lucrative incomes to new women entrepreneurs. Therefore, the new theory emphasises the importance of encouraging the intention to use ICTs, not only to promote new ICTs, but also to promote continuous technology usage without hesitation (Man and Waiman, 2001).

Gain competitive advantage: This study findings suggested that many participants agreed that ICTs is used effectively, helped MSMEs gain a competitive advantage in local, national, regional and international markets. Women MSMEs who believed in and used ICT related e-commerce technologies and social platforms daily for business, believed in gain a competitive advantage and perceived ICT benefits. For example, lower costs, improve on SMEs operations, advertising starters and communication with a wider audience on the internet.

The substantive theory should be reviewed by policymakers every six months and can be adjusted to suit the needs of local SMEs. This process must continue until women entrepreneurs are able to use basic ICT, integrating ICT into their enterprises. The emerging substantive theory focuses on adaptability, as discussed in Chapter 2. The basic understanding of the benefit of this approach led to the inclusion of ICT variables, revealing a significant challenge. The empirical evidence of this study showed that cost, trust, education, business size, social influence and age-related constructs have a strong positive effect on Perceived Usefulness, Perceived Ease of Use, Behavior Intention (BI), and Actual Use (AU) (the original constructs of TAM2) (Venkatesh and Davis, 2000) of the technology (See Figure 6.1).

In addition, the theory needs to be adaptable to different situations within the field and responsive to new developments. As Glaser and Strauss (1967) noted, the theory should also be general enough and applied in diverse daily situations. This ensures that the theory remains relevant and valuable over time.

It is important to note that each woman entrepreneur is unique, and their acceptance ICT depends on factors such as age, perception of ICT, trust, nature of the enterprise, and cultural, social, and educational background. Therefore, stakeholders such as policymakers, financial institutions, and local NGOs/SMEs supporting organisations that support ICT, and women entrepreneurship should focus on individualised skills development to cater to the specific needs of each entrepreneur.

Overall, the substantive theoretical framework is designed to be adaptable and responsive to new developments in the field, ensuring its ongoing relevance and practicality. I hope that this study and future work will inspire more research aimed at exploring the extent and impact of ICT use on SMEs in developing countries using the new theoretical framework proposed by this study (See Figure 6.1).

6.3 Contributions: Revisiting the Research Questions.

This research study successfully achieved its aims and objectives by addressing the three questions outlined in Chapter 1, Section 1. The Author conducted thorough research in ICT and women entrepreneurship, as evidenced by the comprehensive review in Chapter 2.

The information and influential research contributions presented in this chapter illuminate the current state of the research field. Women entrepreneurs will undoubtedly be of value to anyone interested in this study area.

Research Question 1: What are policymakers' views on the connection between ICT and the growth and empowerment of urban women's enterprises?

Research Question 2: How is ICT used to empower urban women entrepreneurs in Kampala, Uganda?

Research Question 3: What are the main challenges and opportunities of ICT for enterprise growth and empowerment in Uganda?

Research Question 4: What lessons have been learned about ICT and women's entrepreneurship in past decades?

Key diverse stakeholder groups for this research study were identified as part of the research process. A pilot survey and interviews with senior management of women entrepreneurship support organisations followed this. Additionally, responses were gathered from online survey questionnaires with urban women entrepreneurs on their perception of ICT in their businesses, as identified in Chapter 4. These steps allowed for a comprehensive understanding of the topic and helped to achieve study's aims and objectives. The extensive research in ICT and women entrepreneurship, as demonstrated by the comprehensive overview provided in Chapter 2, provided valuable insights into the current state of the research field.

This research developed a substantive theory for entrepreneurship in Uganda that clearly interprets the naturally nuanced definitions and categories that impact women's entrepreneurship. This theory is based on a comprehensive understanding of the topic and insights from senior management interviews and online survey questionnaires with urban women entrepreneurs. The information presented in Chapter 2 of This research study also provides valuable insights into the current state of the research field. It will undoubtedly be helpful to anyone interested in this area of study.

This study sheds light on the role of ICT in women entrepreneurship in Uganda for the first time, showcasing the advantages and obstacles of ICT adoption and presenting a roadmap for success. The theory that emerged is a highly personalised model consistent with the current ICT framework and strategic goals set by the government. This study could be a valuable resource for anyone interested in entrepreneurship in Uganda and developing countries.

6.3.1 Managerial and Practical Considerations

The literature to date has documented various studies on implementation of ICT in SMEs in Uganda is rapidly being introduced to an infrastructure that could be more robust, and social, cultural, and institutional barriers need to be better addressed.

The literature has shown that the gap still exists, and then policymakers' one-size-fit is - approach does not consider individual needs at the urban level. The perception and attitude towards ICT adoption in Uganda, particularly in business, raise questions about the relevance of ICT adoption in micro, small, and medium enterprises. Since most SMEs in Uganda are not profitable and generate low revenues, women entrepreneurs see no practical need to invest in ICT or allocate an ICT budget.

Most women SMEs sell products and services face-to-face without any ICT intervention. However, the use of ICTs, such as mobile phones, has been embraced by women entrepreneurs, and mobile apps such as WhatsApp have given the most online presence, where women entrepreneurs advertise their products on their WhatsApp profiles, saving them much money on rent and advertising. Therefore, the researcher suggests that main stakeholders, such as the Ugandan government, should play a leadership role and have a clear ICT strategy to support and strengthen women's entrepreneurship.

The research reported benefits of deploying ICT in SMEs, including improved communication and mobility, cost reduction, better decision-making, increased access to e-government services, and enhanced overall performance. Banks have adequate knowledge to reconsider their operating methods and become more knowledgeable in women's development through entrepreneurship. This study found that banks have recognized the importance of ICT and are using it as an empowering tool to offer more services to women in business.

Although there has been tremendous progress in capacity building to empower grassroots women entrepreneurs through ICT training programs, ICT skills still need to be improved, as most women need more proper education, according to the previous chapter. To address the ICT skills gap, this research highlighted the relevance of technology by motivating women accept technology courses, from schools to universities, to prepare them for the future. Participants expressed privacy concerns when using ICT, and the lack of trust in it hinders its adoption in SMEs despite its tremendous opportunities. The research suggests that policymakers need to make regulations to ensure that data does not result in breaches and control cyber-attacks, particularly in the financial sector, to help gain trust in ICT use.

Additionally, users should be trained on protecting their data and be in charge through ICT awareness campaigns.

6.3.2 Contributions to Methodology

This study makes a significant contribution by using grounded theory to investigate the connection between ICT and female entrepreneurship in the Ugandan capital city, Kampala. By doing so, new questions were answered, and existing ones were reevaluated more rigorously (Kuhn, 1996). This study describes the participants' experiences and views on the link between ICT use in SMEs in Uganda. Moreover, policymakers' views provide valuable insights into the connections between ICTs and business growth and empowerment based on their expertise and experience in supporting women entrepreneurs to implement ICTs in their businesses. This research study also emphasizes the challenges women entrepreneurs and support organizations encounter in supplying ICT advice and implementing initiatives.

6.3.3 Theoretical Contribution

Women's entrepreneurship has been examined from various theoretical perspectives, including the capability approach, institutional theory, feminist theory, and expectancy theory (Yadav and Unmi, 2016). This research study presents a significant contribution to entrepreneurial research. Despite TAM2 (Venkatesh and Davis, 2000) widely used as the theoretical basis for exploring technology acceptance, its application limits in understanding the outcomes of technology usage among entrepreneurs, particularly women entrepreneurs in developing countries.

Therefore, the main theoretical contribution of this study is to adopt TAM2 as an appropriate framework and then extend it as illustrated in (Figure 6.1) . With this study I was able to develop a more extensive framework, I have depended my research on the different opportunities and especially the factors hindering PU and PEOU of ICT, especially among women MSMEs in Kampala, Capital city of Uganda.

Therefore, the main theoretical contribution of this study to adopt a TAM2 as an appropriate framework and then to extend by exploring additional factors such as age, education, business size, trust, cost and the role of government support and local organisational support to the qualitative analysis that are entrepreneurial activities of WSMEs in Uganda. These factors additional factors represent important theoretical advancements in technology acceptance and usage in SMEs.

Furthermore, new theory as can be seen from Figure 6.1, could have the potential to improved women ICT skills, knowledge and understanding of individual needs of local women entrepreneur in using ICT within SMEs to successfully adopt and use ICT in the future with the support of different stakeholders. Moreover, previous research has produced mixed evidence regarding the impact of ICT on empowerment.

6.4 Recommendations

Entrepreneurs, especially women entrepreneurs, can significantly benefit from utilising ICT as a supportive tool or platform for their businesses, particularly in the areas of communications, business development, access to finance, health, and education. Furthermore, women can expand their businesses globally through online platforms. To capitalize on the opportunities presented by ICT, it is essential to create an enabling environment for women's entrepreneurship in Uganda. This study has identified several factors that can foster ICT acceptance in Ugandan SMEs and achieve digital inclusion for women.

6.4.1 Practical Recommendations

In line with the key findings of this study. There seven key essential recommendations for governments to take into consideration while developing their initiatives to consider promoting a sharing economy and encourage the adoption of ICT by SMEs within the informal sector.

Affordability: Empirical evidence from this study suggested one of the key problems facing SMEs has been the fact that SMEs cannot afford the cost of ICT products and services, remain high a major hindrance to ICT adoption by SMEs.

In addition, excessive cost of acquiring and maintaining ICTs further creates barriers to their adoption.

- Governments could assist in reviewing review sector- specific taxes (social media tax).
- Policymakers, and telecom companies (i.e. MTN Uganda, MyAirtel Africa-Uganda), should collaborate to introduce new reduced tariff, in terms of cost of data, connectivity and consumer choice.
- Offer tax incentives to women SMEs that buy ICT products and services from local enterprises.
- Provide financial and non-financial support to mobile phones and software businesses that give SMEs access to latest ICTs and software without incurring excessive costs.
- Reduce internet service costs over the next 5-10 years that make ICT tools and services more affordable and incentives for women entrepreneurs.
- Local NGOs and other SME support organisation can create tailor specific programmes to grassroot level women entrepreneurs and provide a free ICT consulting service for SMEs.

Energy and Telecommunication: The Ugandan government should prioritize strengthening its electricity and telecommunication infrastructure to meet the increasing demand for reliable electricity and support seamless integration of ICT.

- This would require long-term infrastructure investments. It is recommended that Uganda focuses on infrastructure investments to facilitate online business activities and encourage greater participation of women entrepreneurs in internet-based endeavours and other ICT initiatives.

- A resilient energy infrastructure will enhance internet services and connectivity. Transitioning to smart grid systems presents an opportunity to reduce power losses and outages while increasing energy efficiency, particularly benefiting small and medium-sized enterprises (SMEs) in the manufacturing sector and enabling them to sustain their operations.

Data Governance: The research study recommends standardizing data collection systems, especially those used by local apps.

- This would facilitate the development of gender-sensitive policies and programs and enhance national planning. Currently, data collected from women in the informal sector through apps like the Garden Market Application. Integrating this data into a national system could lead to more effective policies and programs.
- This data can help in better understanding and planning for the informal sector. Furthermore, by analysing this information, banks can use the available data to assess creditworthiness when considering loans for women-owned small and medium-sized enterprises (SMEs).

Gender Equality -gender sensitive policies: This study emphasises the significance of taking gender into account when discussing universal access schemes.

- It highlights that offering free WIFI only during specific hours may not fully cater to the needs of women in the local context. For instance, NITA-U has rolled out MYUG WIFI, providing free WIFI in Kampala and other urban districts to facilitate businesses in accessing ICT and running their operations efficiently. However, the free services in Kampala are limited to the hours between 6 pm and 6 am.

Raise awareness of the benefits of ICT: one of the key challenges facing women SMEs in developing countries is the fact that many SMEs are not aware of the benefits and the direct financial gains to be attained by adopting ICT.

The government should demonstrate its commitment to raising awareness and change the mindset to ICT adoption by showcasing SMEs success stories and opportunities gained through ICT adoption among women SMEs about the potential benefits of Information and Communication Technology (ICT).

Specific actions to consider exploring are:

- Female members of parliament should advocate at the ministerial level to ensure effective communication of information to women.
- Efforts to raise awareness could include radio programs, television, and text messages to mobilise women and encourage them to use ICT.
- This study suggests that local non-governmental organizations (NGOs) and relevant ministries should develop strategies to engage men in supporting women entrepreneurs in integrating ICT into their businesses.
- It also emphasises the importance of dispelling stereotypes and promoting the use of technology among women to enhance their businesses.
- Organise awareness campaigns , annual ICT business alignment awards programmes for women in business.

Education ICT literacy, skill, training, and capacity building in the support of enterprise ICT policies: This study suggested that the lack of ICT literacy is a major problem affecting all both informal and formal sectors of the economy. Women support organisations and governments could assist by organising capacity building workshops target to women SMEs at grassroots level and focus on the following:

- Develop and execute tailor made capacity-building programs to assist women in enhancing their managerial skills and acknowledging their existing abilities.
- Use ICT to facilitate training and networking opportunities.

- Focus on building confidence, improving ICT-related skills (including social media usage), and enhancing financial and managerial skills to empower new women entrepreneurs.
- Implement mobile phones for distance e-learning to accommodate the mobility and family responsibilities of women entrepreneurs.
- Ensure that ICT plays an appropriate role in value creation within the enterprise.

Financial: It is crucial to foster collaboration between banks, government entities, and mobile companies to devise and implement innovative approaches for providing financial support to women entrepreneurs. Research reveals that urban women entrepreneurs rely on mobile phones as their main information and communication technology (ICT) tool. This offers opportunities for enhancing communication, learning, and reaching out to communities with limited access to traditional services. Governments and local commercial bank can offer support by doing the following:

- Key stakeholders can harness mobile phones to deliver soft skills training and financial literacy instruction, addressing the challenges associated with low access to financial services in Uganda.
- The study also emphasises the necessity of financial support for women entrepreneurs to invest in ICT and expand their businesses.

Thus, enabling mobile money services and offering loans through mobile phones is vital for nurturing women's entrepreneurship.

- Banks make it a requirement to equip bank staff with basic ICT skills and to gain an understanding of entrepreneurs and their enterprises to provide tailored solutions to women SMEs.

Lack of trust and confidence around security issues: This study explored the impact of trust on user behaviour towards technology. The lack of trust in ICT use by SMEs is a major problem affecting women SMEs in developing countries. It explains that trust in technology can directly influence users' beliefs and intentions, particularly in managing their enterprises and creating value.

- This study highlights the need to ensure the security of ICT use for women entrepreneurs, as their trust in the government and data privacy is a concern.

The findings suggest that users' positive and negative beliefs about trust significantly affect their perceptions towards ICT.

6.4.2 Theoretical Recommendations

The thesis emphasises the importance of formalizing women's MSMEs by raising awareness of the benefits of access to formal financial services, fostering enterprise growth, and expanding business networks. It also highlights the need for a robust cybersecurity strategy to safeguard data in Uganda and addresses the excessive cost of ICTs as a barrier to running ICT-based businesses. Furthermore, it emphasises the potential of ICT in improving the performance of women-led SMEs in developing countries and empowering women entrepreneurs.

The primary challenge for establishing ICT-based businesses in Uganda is the high expense of ICTs. This study suggests that the findings can be used by researchers, senior management, women support organizations, regulators, and anyone interested in promoting ICT for women's entrepreneurship. It emphasises the importance of promoting the acceptance of ICT to aid small and medium-sized businesses, especially those owned by women, in attaining growth, enhancing performance, accessing information and knowledge, and gaining a competitive advantage.

The empirical evidence of this study emphasises the importance of using ICT to bridge the gender divide and empower women entrepreneurs. It highlights the potential of ICT in improving the performance of women-led SMEs in developing countries and its role in promoting economic growth and gender equality. Additionally, understanding how ICT is used in women-led urban SMEs in developing countries can provide valuable insights into empowering these businesses further.

6.5 Limitations of This study

Firstly, this study is limited by the research design type and the literature reviews. The methodology chosen for this study, Grounded Theory, has faced criticism in the literature. However, this study defends the GT methodology and highlights its positive aspects. This approach allowed this research study to avoid potential biases and produce valuable evidence enlightening urban women entrepreneurs' perceptions and challenges in the Ugandan capital city, Kampala.

Secondly, the COVID-19 pandemic presented challenges in face-to-face interactions with various stakeholders, leading to a limited amount of data collected. More interviews could have further enriched the contributions of this research. Therefore, future studies should be designed to gather more data through an adequate number of interviews with a larger group of urban women entrepreneurs and senior management, thus providing comprehensive insights into the factors enabling and constraining ICT and women entrepreneurship in a local setting. Nonetheless, the research study was conducted with dedication and diligence.

Thirdly, the research used the TAM2(Venkatesh and Davis, 2000) model, criticized by numerous researchers due to limitations and weaknesses in its application (Venkatesh and Bala, 2008; Hala, 2013; Lee et al., 2005).

Lastly, the small sample size and the sampling strategies, which were limited to women urban SMEs utilising ICTs. Therefore I urge caution in generalizing the findings of this study to other ICT applications and user groups. Despite several significant findings in line with previous studies and literature, it is important to consider study's limitations when interpreting the results.

Finally, I suggest survey research that operationalises my framework to provide new insights into long-term enterprise effects of ICT use on women SMEs in developing countries.

6.6 Directions for Future Research

The literature reviews and compelling evidence of this study found that despite the importance of IC, access remain unequal as women in developing countries are less likely than men to own a technological device hence access to available opportunities.

This study highlighted the need for more study into ICT use in SMEs and women entrepreneurship in developing countries by showing that, from a theoretical viewpoint, previous research discusses ICT and women entrepreneurship, and to date there is little research done on the relevance and major impacts of the use of ICT on SMEs and value creation within urban women micro enterprises in developing countries, such as Uganda.

There is an actual need for large qualitative scale empirical research on ICT in women entrepreneurship in developing countries as the area remains unexplored and unsupported by analytical evidence.

Therefore, this study's exploratory findings provide a starting point for further studies into ICT-related subjects, both local and international entrepreneurship. Future research should examine the theory's applicability, viability, and adaptability in critical ICT areas outside of urban women entrepreneurship. It could involve exploring how the theory can apply to rural women entrepreneurs and medium and larger women-owned enterprises, both rural and urban.

Developing a formal theory of ICT use in women entrepreneurship could benefit from extending the theory to work beyond this context in other areas, providing a more abstract understanding of terms and definitions. Finally, future studies could be a comparative study on ICT use by SMEs in Uganda's urban female and male entrepreneurs.

6.7 Summary

In conclusion, the thesis aims to explore the challenges and opportunities presented by ICT use on SMEs in developing country, using local women entrepreneurs as an example. The research justification was based on the need for a research-based explanation regarding how women entrepreneurs in developing countries perceive and construct the concept of ICT and the social structures required for them to participate in women's entrepreneurship.

The thesis explores the underlying methodology and strategies to address the research questions.

The research conclusions were presented using survey responses and interviews and a detailed analysis of how the grounded theory emerged from the data and literature.

Additionally, the thesis discusses the implications for implementing and developing future constructs of the substantive grounded theory.

Study's primary concern was the extent and impact of ICT use on SMEs in Kampala, specifically urban women entrepreneurs, and senior management. This study revealed that the excessive cost of devices and services hinders running ICT-based enterprises in Uganda. The thesis argued that ICT is an effective tool that can support and strengthen women's entrepreneurship.

As a result, researchers, senior management, women support organizations, regulators, and anyone interested in supporting ICT for women's entrepreneurship can use this theory to frame measures and ensure that ICT is leveraged in women-owned businesses.

The encouragement of ICT adoption can help SMEs achieve growth, increase performance, access information and knowledge relevant to their businesses, and gain a competitive advantage.

This study extended the TAM2 framework and confirmed that ICT is a significant supporting and developmental tool for WSMEs to gain competitive advantage, however several entrepreneurial internal and external factors hinder successful implementation of ICT.

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List of Appendices

Appendix A: Research Invitation Letter to Participants Urban Women entrepreneurs



London Campus

Winchester House, 11Cranmer Rd

London SW9 6EJ, United Kingdom

Tel: +44 207 566 7600

Email: info.london@tsd.ac.uk

SUBJECT: Invitation to participate in a research study – Questionnaire.

Dear ...

I am a doctoral candidate at the University of Wales Trinity Saint David (London Campus). I am in the process of drafting my doctoral thesis and am collecting data for that purpose.

The purpose of this letter is to ask for your assistance by agreeing to be a voluntary participant in this study titled:

Exploring the Extent and Impact of ICT use on Small and Medium Enterprises in Developing Countries: *The Case of urban women enterprises in Kampala, Uganda.*

As an enterprise owner in Uganda, your views as a woman entrepreneur would be valuable. My research findings will provide an opportunity to both an academic and management audience in Uganda and the UK. This study aims to identify the available opportunities and challenges brought on by ICT and how ICT can embrace urban women entrepreneurs who have minimal access to ICT in Uganda.

Please could you confirm your interest by e-mail or by text message. In case you agree, you will need to complete an online questionnaire, or one will be sent out to you whichever method you choose. I will be starting the data collection in the month of March 2022. I would be happy to contact you for an informal discussion before completing an online questionnaire.

Please let me know your availability and best method of contact with details and feel free to ask any questions that you have about participating in this project at any time. Please find a participant information sheet for more details.

Please find attached a participant information sheet that outlines the research study. All information collected during case study will be kept confidential with methods advised by the university being strictly adhered to.

Looking forward to hearing from you.

Thanks, and regards,

Researchers name:.....

Researchers email...

Mobile: +44..... DBA Candidate, University of Wales Trinity Saint David (London Campus)

Appendix B: Participant Consent Form



PARTICIPANT RESEARCH CONSENT FORM

University of Wales Trinity Saint David Ethics Reference Number:

Participant name/ Initials or Study ID Number: UWE 01

Title thesis: Exploring the Extent and Impact of ICT use on Small and Medium Enterprises in Developing Countries: *The Case of urban women enterprises in Kampala, Uganda* Name of Researcher:

Participant to complete this section: Please initial each box:

1. I confirm that I have read the Participant Information Sheet, and the nature and purpose of the research project has been explained to me. I understand and agree to take part.	
2. I understand the purpose of the research study and my voluntary involvement in it.	
3. I understand that I may withdraw from the research study at any stage and that this will not affect my status now or in the future.	
4. I understand that while information gained during This study may be published, I will not be identified, and my personal results will remain confidential and deleted after the research study.	
5. I understand that data (including hard and electronic copies of transcripts, or any video or audiotapes used) will be password protected and accessible only by I.	
6. I certify that I am 18 years old or older.	
7. I agree to the interview being audio recorded.	
8. I understand that I may contact I or supervisor if I require further information about the research and that I may contact the Research Ethics Coordinator of the University of Wales Trinity Saint David, if I wish to make a complaint relating to my involvement in the research.	

Initials of Participant (Consent)

Date

Researchers Name -...

Researchers Signature:

Date:

Appendix C: Questionnaire – Urban Women Entrepreneurs



TOPIC Exploring the Extent and Impact of ICT use on Small and Medium Enterprises in Developing Countries: *The Case of urban women enterprises in Kampala, Uganda*

SECTION A: DEMOGRAPHICS

1. How old are you?

- (a) 18–24 years (c) 34–54 years (e) 65+
(b) 25–34 years (d) 55–64

2. What is the highest educational qualification that you have obtained?

- (a) No formal schooling (e) Some non-university post-secondary education (g) Some university/college education
(b) Primary school (6 years or less) (f) Vocational or technical training diploma (h) Bachelor's degree
(c) Some secondary school (7–12 years) (i) Postgraduate
(d) Completed secondary school.
(j)

SECTION B: MICROENTERPRISE OPERATIONS, OWNERSHIP HISTORY AND PAST EXPERIENCE?

1. Do you have any other job apart from your experience? Yes/ NO, If YES, what? ____

SECTION C: CHARACTERISTICS OF ENTERPRISE

1. Which of the following sector describes your business?
a. Manufacturing (using machinery) c. Wholesale
b. Service d. Retail trade
e. Specify
2. What is the legal status of your enterprise?
a. Sole proprietors c. Incorporate d. Cooperative
b. Partnership d. with limited liability • Other (please specify)
3. Do you have any employees? (Including yourself (paid or unpaid) use ICT for business activities? -----
4. In which markets do you sell most of your products/services?
a. Urban markets? (In the urban area)
b. Regional or provincial markets?
c. National markets? (Across the country)
International markets?

SECTION D: ROLE OF ICT, USAGE, OWNERSHIP AND ACCESS

1. Do you use, own, or have access to any of the following ICT tools for your business activities? (e.g., for getting information, reaching customers, suppliers, networking,). Please circle all that apply.

(a) Regular mobile phone	(e) handheld tablets (e.g., iPad)	(i) Telecentres
(b) Mobile phone that can access the internet.	(f) Internet on computer	(j) Internet kiosk
(c) Computer (PC	(g) Internet on mobile phone	(k) Radio
(d) Laptop	(h) Internet café (Internet club)	(l) Television (TV)
(q) Landlines	(r) Other Specify _____	(m) Fax machines
		(n) Typewriter
		(o) Photocopier
		(p) Cash Tills
2. Do you have access to Internet at your business?
 - a. if yes what ICT equipment do you use to access the internet?
 - b. if not, what are the main reasons why you do not have access to Internet at your business or Home? _____
3. How do you get information?
4. How often do you use the Internet for business?
 - a. where do you access the internet? _____
5. Do you have a business e-mail address? _____
 - a. Personal email _____
6. Does your business have a website?
 - a. if not why _____
7. What activities do you use the Internet for your business? _____
8. What are the problems or difficulties that you encounter when trying to use a computer, mobile phones, or the Internet for your business operation?

a. Computer	c. Internet
b. Mobile Phone	d. Other ICT
9. What is your perception to be the disadvantages of using ICT by women entrepreneurs?
10. What your perception on the advantages of using ICT by women entrepreneurs?
11. Do you use ICT tools such as telephone, mobile phones, Personal Computer, and Internet to network with other women entrepreneurs? ___
12. To use mobile phones, computer, and the Internet more effectively for your business, what type of support would you need and why? _____
13. If you listen to the radio: Does the Radio station, you listen to offer advice on ICT project or have information regarding women development and business _____?
14. If you watch TV: Does, the channel you watch have information regarding women development.
15. If you read newspaper, how is it helpful to your business.

ACCESS TO E-GOVERNMENT

1. As a business owner have you tried to use or used the Internet to access for paying tax? Obtain forms or submit completed forms?

ICT SKILLS

1. Would you say that when it comes to using different ICT such as Computers, Mobile Phones, internet, and any other technology for your business or personal activities you are confident and have the relevant skills?
 - a. if yes, can you specify _____
 - b. if not Why? _____

2. Have you had or taken any ICT training course in relation to your business?
 - a. If yes, why?
 - b. If not, what are the main reasons? _____
3. When it comes to ICT, which areas would you like to receive training for your enterprise?
4. Have you ever participated in a training programme?
5. If yes, how was it delivered? _____

CURRENT ICT SUPPORT FOR WOMEN ENTREPRENEURS

1. Do you have access to ICT support for your enterprise? _____
2. If yes, what is it?
 - a. Online or
 - b. Regular face-to-face?
3. If no, why not? ____
4. Did you ever access ICT support? If yes how? _____
5. What are your views on the current availability of ICT support for women entrepreneurs in your area? ____
6. Can you provide your views regarding access to these organisations providing ICT Support? _
7. Has accessing the available ICT support helped you or your business?
8. If yes, how has business support helped you personally and professionally? What changes has business support brought about? 304
9. If yes, could you please specify the mobile banking service/services you use? _____
10. Do you have better access to resources with business support?
11. What type of ICT support have you received from your business support organisation with regards to? (SKIP IF RESPONDENT HAS NOT HAD ANY SUPPORT/TRAINING)

a. Finance	e. Mentoring/Role model
b. Marketing	
c. Networking	
d. Training	

CURRENT ICT SUPPORT PROBLEMS AND NEEDS FOR WOMEN ENTREPRENEURS

1. Are there any need regards to ICT support which you think would be useful that is not currently available? -----
2. What are your specific ICT needs? -----
3. What are your views on the organisations providing the ICT support including the ones that are exclusively online? -----
4. What sort of ICT tools are being used by your support providers?
5. Can you describe your experience of using ICT in your business and through your support organisations? _
6. What are your views on the government, support for women entrepreneurs?
7. Any other comments/views you think may be relevant?

Appendix D: Interview for Senior Management- Women Support Organisations



URBAN NON-GOVERNMENT WOMEN ORGANISATIONS (NGO's) SUPPORTING ICT USE IN WOMEN OWNED ENTERPRISES - (3rd INTERVIEW)

Topic: Exploring the Extent and Impact of ICT use on Small and Medium Enterprises in Developing Countries: *The Case of urban women enterprises in Kampala, Uganda*

Background

1. What is your position/experience in the organisation?
2. What is your target audience, main goals, initiatives, and policies and what is unique? about the services offered to women entrepreneurs in Uganda by your organisation.?

Challenges of ICT

1. What has been the common patterns and barriers (cultural, structural, and personal issues of Ugandan women entrepreneurs who have used ICT unlock their potential for enterprise success?

Opportunities of ICT

1. What is the relevance and impact of ICT in addressing the needs of urban women entrepreneurs in overcoming the constraints and what opportunities technologies can offer existing women microenterprises?

Support

1. What efforts are being made to improve cultural, structural, and personal issues of urban women entrepreneurs such as access, usage, ownership, and preference in using ICT for business?

Lessons and Failures

1. What are the lessons learned from the past decades, investments and activities, success and failures related to ICT in entrepreneurship? Any other comments /relevant views?

Appendix E: Interview questions for ICT Policymaker



INTERVIEW SCHEDULE SENIOR MANAGEMENT

Topic: Exploring the Extent and Impact of ICT use on Small and Medium Enterprises in Developing Countries: *The Case of urban women enterprises in Kampala, Uganda*

The interview will be based on the relevant initiatives and projects being implemented or the interviewee is aware of that target women entrepreneurs and if available, in leveraging ICT for women economic development.

GOVERNMENT ORGANISATIONS - (1ST. INTERVIEW)

SECTION A: BACKGROUND, EXPERIENCE AND ROLE IN THE MINISTRY

First, I want to ask you a few questions about your role in the organisation.

1. What is your role/position in the Ministry and what do you do? _____

SECTION B: Women entrepreneur specific ICT for development initiatives/projects

1. How do you think your organisation makes a difference to women entrepreneurs?

SECTION C: Data, statistics, Reports

Are there any government initiatives aimed at encouraging the development of the urban ICT sector?

SECTION D: Policy, Legal and Regulatory, ICT Development and Government ICT support programmes for Women Entrepreneurs

1. Has the government implemented policy to encourage women entrepreneurship in Uganda?

SECTION E: Infrastructure: financing, deployment, and sustainability

1. What is the government strategy on the deployment of national ICT infrastructure?

SECTION F: Role of ICT for women entrepreneurs

1. How important do you think about the use of ICT in Women enterprises?

SECTION G: Lessons and Challenges

1. What are the challenges and obstacles that you face in leveraging ICT and providing ICT support to women entrepreneurs? (Urban, peri-urban, or rural areas in Uganda)

SECTION H: Access to information and communication technologies

1. What has the government ensure that ICT facilities are provided at levels of cost, which match the ability to most users to pay, so as reduce gender and spatial disparities in information access?

SECTION I: Information network security

1. Has the government implemented laws and regulations of electronic data, information security and business security for women?

Any other comments/views you think may be relevant?

Are there any relevant stakeholders that would be able to provide beneficial information on ICT and female entrepreneurship in Uganda? _____

Appendix F: Interview questions for Bank Executive



Interview Guide

Financial Institutions and Organisations: Banks/Microfinance Institutions

Introduction:

My name is Margaret Kyakunda

Welcome and thank you for readiness to be interviewed. Your point of view is important for studying Information and communications technology (ICT) and women entrepreneurship in Uganda.

Topic: Exploring the Extent and Impact of ICT use on Small and Medium Enterprises in Developing Countries: *The Case of urban women enterprises in Kampala, Uganda* Aim:

This study aims to identify the available opportunities and challenges brought on by ICT and how ICT can embrace urban women entrepreneurs who have minimal access to ICT in Uganda.

Anonymity:

I am going to record this session, because I do not want to miss any of your comments. You may be assured of complete confidentiality.

General. This is a qualitative study that is expected to provide new knowledge which will be useful to both an academic and management audience in Uganda and the UK.

Interview Questions

SECTION A: BACKGROUND

First, I want to ask you a few questions about your role in the organisation.

1. What is your role?
2. How do you think your organisation makes a difference to women entrepreneurs using ICT?

SECTION B: ROLE AND EXTENT OF ICT

1. How important do you think about the use of ICT in Women enterprises to access financial services?
2. Is using ICT as a tool for accessing finance by women economic empowerment part of the financials' best initiatives?

SECTION C: Infrastructure: financing, deployment, and sustainability

Has the bank/financial institutions made any investment in deploying broadband?

SECTION D: Opportunities and Challenges

1. Do you have any current or future ICT specific financing programmes aimed at women entrepreneurs? if yes please describe?

SECTION E: LESSONS AND FAILED LEARNED

1. What are the lessons and failures learned from Uganda's ICT experiences?

Any other comments/views you think may be relevant?

Thank you for taking part in this research study.

Appendix G: Types of ICTs Ownership, Access, and Usage

Table 5.2 ICT, ownership, access and Usage in Women Enterprises in Kampala, Uganda.

ICTs access and Ownership	Activities	Frequency	Type of ICT value services Mobile App	Location
Mobile phone	Information search, financial activities, Social Networking, Training and learning, Sales and purchasing, access internet, Access Markets, Communication (Voice, text messaging and e-mail)	Used Daily by all participants	WhatsApp, WhatsApp for Business, Instagram, Facebook, Twitter, SafeBoda, Telegram, Kikubo online, Uber, MyAirtel, MTN MoMo, Market Garden App, askURA.	Business premises, NGOs training facilities Travelling to work, Home.
Computer	Training and learning, financial activities, Voice call and text messaging, Sales and purchasing, Data storage and Inventory accounting activities, Internet, Communication(E-mail)	Few of the participants used them daily and weekly and a proportion own but not used them. Majority do not own and do not have access.		Internet Cafes, Roadside Kiosk, Family, friends, and Neighbour, Government offices, Private support organisation workshops for ICT and business training Workshops
Broadband (modem-hub) wireless connection	Internet connection	Few used them daily; majority do not own and not use them		Home, workshops

Fixed telephone	Voice calls to suppliers and customers	Very few uses them daily a proportion Occasionally. Few own them and not use them. Majority do not own or used them		Business premises or work Home
Typewriter	Sectorial services	One used it Daily as it was her source of income and the majority, have not owned or used. Mostly found in government offices but they are phasing out		Business premises and government offices
Televisions	Service Sector (i.e. Health and Beauty)	Training and e-learning		Business premises
Photocopier, printing, and fax machines	Printing, photocopying, and sending correspondence	A proportion use them at separate locations		Home, work. Business

Source: Adapted from Benbasat,1991; Davis; Bagozzi and Warshaw, (1989).