

**THE ROLE OF DIGITAL TECHNOLOGY ADOPTION ON THE PERFORMANCE
OF SMALL AND MEDIUM-SCALE ENTERPRISES IN JUBA CITY, SOUTH
SUDAN**

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DECLARATION

I, Apai Paul Zindo, declare that this dissertation entitled: *“The Role of Digital Technology Adoption on the Performance of Small and Medium-Scale Enterprises in Juba City, South Sudan”* is my original work. To the best of my knowledge, it has never been submitted elsewhere to any university or higher institution of learning for approval.

Signed:



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Date: September 10th, 2025

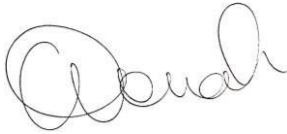
APPROVAL

This is to certify that this dissertation entitled “*The Role of Digital Technology Adoption on the Performance of Small and Medium-Scale Enterprises in Juba City, South Sudan*” has been produced under my guidance and supervision. It is now ready for submission to the board of examiners of Uganda Christian University for approval.

Approved by

Dr. Asiimire Donah

Signed

A handwritten signature in black ink, appearing to read 'Donah', written in a cursive style.

Date: September 10th, 2025

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GLOSSARY OF TERMS AND ACRONYMS

OECD	Organization for Economic Co-operation and Development
SS	South Sudan
PU	Perceived Usefulness
PEOU	Perceived Ease of Use
SME	Small and Medium Enterprises
USA	United States of America

ABSTRACT

The study explored the role of digital technology adoption on the performance of small and medium-scale enterprises in Juba City, South Sudan. This emerged because many SMEs in South Sudan, particularly in Juba city, have limited access to digital technologies due to cost, lack of infrastructure, or knowledge gaps, and yet studying the role of digital technology adoption can help identify these barriers and offer solutions to increase uptake. The objectives of the study were: to assess the role of the perceived usefulness of digital technology on SME performances in Juba City, South Sudan; to explain the role of perceived attitudes toward digital technology on SME performance in Juba City, South Sudan; to analyze the role of perceived ease of use of digital technology towards SME performance in Juba. The study adopted a non-experimental cross-sectional research design. The study findings reveal that a significant majority of respondents strongly agreed that many businesses perceive digital technology as a key driver for improving performance. Many SMEs are increasingly recognizing the importance of digital technology in staying competitive, especially in the post-pandemic era where technology has been key to resilience. The respondents' attitudes towards technology adoption are generally favorable among SMEs due to their perceived benefits, though there may still be some hesitation related to cost or unfamiliarity. The research findings reveal that many SMEs find digital technology relatively easy to use, a significant portion may still struggle with usability due to a lack of technical infrastructure or digital literacy. Digital tools are perceived as beneficial, but the complexity of integrating them into various business processes (finance, marketing, ICT, etc.) can pose challenges for some SMEs, particularly those lacking technical expertise SMEs should invest in digital literacy programs for both management and staff. Policymakers should focus on enhancing digital infrastructure in Juba City, such as improving internet access, mobile network coverage, and the availability of affordable digital devices.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

The study explored the role of digital technology adoption on the performance of small and medium-scale enterprises in Juba City, South Sudan. This emerged because many SMEs in South Sudan, particularly in Juba city, have limited access to digital technologies due to cost, lack of infrastructure, or knowledge gaps, and yet studying the role of digital technology adoption can help identify these barriers and offer solutions to increase uptake. SMEs play a critical role in the economy of South Sudan by providing employment and supporting livelihoods, and hence boosting their performances could lead to broader economic development. Finally, SMEs in Juba city must compete not only with local businesses but also with regional and international firms as the global economy becomes more interconnected. Digital technology adoption can enhance their competitiveness by improving efficiency, customer reach, and innovation. This chapter presents the backgrounds to the study, statement of the problem, purpose and objectives, research questions/hypotheses, scope of the study, justification, significance, and theoretical/conceptual framework.

1.1 Background of the Study

The concept of small and medium enterprises (SMEs) dates back 4000 years ago, during the ancient cultures when business flourished among Arabs, Egyptians, Romans, Jews, and Greeks. During that time, the cottage industries thrived and the workman in craft produced goods at his home and would sell the finished products by himself to the market. As time passed, there was a major resurgence in small scale industries throughout the world (Benson & Sunday, 2020).

Small and medium-sized enterprises (SMEs) are businesses that have revenues, assets, or several employees below a certain threshold such as restaurants, bars, retail & wholesale shops. On average, small-size enterprises consist of fewer than 50 employees, and medium-sized enterprises with fewer than 250 employees (Daniel, 2023). However, it should be noted that each country has its definition of what constitutes a small and medium-sized enterprise thus number of employees and financial thresholds vary.

Small businesses have distinct advantages over larger companies that include operating more flexibly, having a stronger sense of community, and being more likely to financially support their community, may also have a narrower, more direct focus than larger businesses (Daniel, 2023). SMEs are also less bureaucratic, more flexible in decision-making, take more significant risks, and usually have expertise in specific areas (Juniarti & Omar, 2021).

The Digital Darwinism theory founded by Charles Darwin in 2011, emphasizes how important it is for businesses to evolve and adapt in the digital era “survival for the fittest in the digital economy (Holicki, 2022). The theory states that it is not the strongest or most intelligent that survives, but the one that most successfully uses technology to adapt to change. This demonstrates the need for firms to embrace digital technologies, to avoid falling behind & losing opportunities in the digital era. Kelly et al. (2024), defines digital technologies as tools, systems and devices that can generate, create, store or process data. These include computers, smartphones, software applications, the internet, and emerging technologies such as artificial intelligence.

Karltorp (2017), maintains digital technologies such as Internet and mobile technologies have made entire industries transform and create new ways of

operating and organizing firms mainly to reduce costs and improve customer relationships. However, digitalization can be challenging for small and medium-sized companies (SMEs) because they often have limited resources to implement these rapidly evolving technologies.

According to the OECD (Organization for Economic Co-operation and Development, 2023), many people in emerging economies find work in small and medium-size enterprises, with formal SMEs contributing roughly 50% of total employment and 40% of GDP in these countries (Daniel, 2023). However, uptake of digital technologies by SMEs in developing countries is generally lower than their counterparts in developed countries (Faiz, 2023). SMEs exhibit greater susceptibility to economic shocks due to limited capital buffer stocks, weak governance, and limited digital capabilities (Lukonga, 2020). Some vital benefits in adopting the latest technology by small and medium enterprises are flexibility, cost saving, quality, efficiency, and competitive advantage (Mallinguh et al., 2020).

Some of the factors influencing the development of SMEs in Sri Lanka include access to capital, infrastructure, labor intensiveness, potential to mobilize financial resources, unbalanced regional development, nurturing entrepreneurial talents, while SMEs are playing significant roles to large industries through sub-contracting and facilitating the linkage between the formal and informal sector (Dau et al., 2019). South Sudan is less developed than Sri Lanka but the above factors influencing development of their SMEs can be used as guidelines for promoting growth through benchmarking performance of SMEs in the same line of business. For example, modern equipment used, providing loans to registered firms to acquire the necessities to meet standards and produce quality products.

The Middle East, North Africa, Afghanistan and Pakistan (MENAP) region has been pushing to promote innovation and entrepreneurship through establishing dedicated institutions for the development of SMEs (Lukonga, 2020). These institutions are fundamental in upskilling people starting up small and medium sized enterprises, these skills are attained through trainings from experts. This is highly recommendable for growth of SMEs and need to be established in South Sudan.

Achieng and Malatji (2022), observed that despite the economic activities of the SMEs in Sub-Saharan Africa driving much of the region's economic growth and development, SMEs tend to fail compared to macro enterprises with an estimate of 70% to 80% failing or remaining stagnant in their first two years of operations.

Benson and Sunday (2020), observed that SMEs in Uganda have been identified as the major source of technological innovation and new products contributing above 20% of GDP. Despite impediments from the World Bank and some initiatives from the government of Uganda, there are inadequate frameworks to enable SMEs realize full growth potential.

South Sudan's Vision 2040 is the country's long-term development strategy aimed at transforming South Sudan into a middle-income country by 2040. It emphasizes the importance of private sector development, with specific reference to SMEs in promoting economic growth and reducing poverty.

Several policies and frameworks support the development of Small and Medium-Scale Enterprises (SMEs), although the legal landscape is still evolving. The Transitional Constitution of South Sudan (2011), as amended, provides a broad legal framework that supports the development of businesses, including SMEs. Section 40(3) guarantees the right to own property and engage in business activities,

promoting an environment where individuals and groups can establish and operate enterprises, including SMEs. The SME is dominant in most of the sectors of the economy in South Sudan such as retail and wholesale trade, construction, hotels and restaurants, transports and communication sectors (Dau et al., 2019).

South Sudan ranks 181 out of 190 in the World Bank's Ease of Doing Business Index, largely due to the inefficiency of business processes and high transaction costs associated with paperwork, transportation, and market entry. The main business activities in the informal sector are laundry services, bread making, selling of soft drinks, market stalls, grass collection, charcoal making, artisanal quarrying and stone crushing, beer making and selling, casual labor in hotels and markets (Andile & Angelo, 2016). The authors acknowledge the attempts by the government to reform the informal business sector through the established White Nile SME fund that was however hampered by the lack of risk capital and support.

A significant portion of SMEs in Juba City lack access to formal banking services due to the underdeveloped financial infrastructure. According to the World Bank (2024), less than 15% of the South Sudanese population has access to formal banking services. This results in difficulties for businesses, especially SMEs, to secure loans and engage in cashless transactions.

A lack of skilled labor and limited access to quality education hinders productivity in SMEs and contributes to unemployment in Juba. The adult literacy rate in South Sudan is only 27%, among the lowest in the world. These skills gap significantly impacts business efficiency and limit SME growth. E-learning platforms and online vocational training programs can provide cost-effective access to education and skills development. In other parts of Africa, online educational platforms like Coursera and Udemy have gained traction, enabling people to access global knowledge and bridge the skills gap.

Victor (2022), articulates creating a strong economy that is prepared to take on future challenges, this necessitates SS having competitive and resilient SMEs. This will require developing the capacities of firms, strengthening the institutions that support them, and reforming the business environment where they operate. Overall, uncertainty in the business environment discourages investment and slows the growth of SMEs in South Sudan.

1.2 Statement of the Problem

South Sudan is a country with widespread poverty, low literacy rate of up to 34.52 %, and the lowest mobile penetration rates in Africa (Oluwole, 2023; World Bank, 2024). SMEs play a vital role in the economy of South Sudan, making up about 93% of all registered firms (Victor, 2022). However, the performance of Small and Medium-Scale Enterprises (SMEs) in Juba City, South Sudan has declined where up to 45% of the SMEs are not going beyond their 5th anniversary (Omer, 2018; Arok et al., 2019). The poor performances have been attributed to various factors such as limited access to capital, supply chain coordination, transaction handling, insufficient managerial skills, poor infrastructure, and inventory management. Section 41 of the Transitional Constitution of South Sudan (2011) encourages private sector development and economic diversification, urging the government to promote small-scale and medium-scale industries as drivers of economic growth.

Mobile banking solutions can offer accessible financial services to underserved populations. Platforms like mobile money have already proven successful in other African nations like Uganda and Kenya (M-Pesa), where 80% of adults now use mobile money services, which could be replicated in South Sudan to close the financial inclusion gap. Digital tools like inventory management software, mobile banking, and cloud computing can streamline business processes, reduce errors, and lower operational costs. This study aims to bridge this gap in knowledge by analyzing how

SMEs can transform different aspects of their performances through digital technology adoption.

1.3 General Objectives of the Study

The purpose of the study was to understand the role of digital technology adoption on SME performances in Juba City, South Sudan.

1.3.1 Specific Objectives of the Study

- i. To assess the role of perceived usefulness of digital technology on SME performances in Juba City, South Sudan.
- ii. To explain the role of perceived attitudes toward digital technology on SME performance in Juba City, South Sudan.
- iii. To analyze the role of perceived ease of digital technology towards SME performance in Juba.

1.4 Research Questions

- i. What is the role of the perceived usefulness of digital technology on SME performance in Juba City, South Sudan?
- ii. How do perceived attitudes towards digital technology affect SME performance in Juba City, South Sudan?
- iii. What is the role of perceived ease of use of digital technology on SME performance in Juba City, South Sudan?

1.5 Justification of the Study

The study assesses the current state of digital infrastructure in Juba City, including internet connectivity, access to digital tools, and the presence of technology hubs or support systems.

It will examine the availability of digital technology and the types of digital technologies SMEs are adopting (e.g., accounting software, e-commerce platforms,

social media, mobile apps).

The study assesses the acquisition barriers to digital technology in terms of costs of technology acquisition and maintenance, technical skills, and training among SME owners and employees.

Digital technology tools can improve operational efficiency by automating processes, reducing manual errors, and streamlining operations. E-commerce platforms and social media can help SMEs expand their market reach beyond local boundaries. Digital tools facilitate better customer relationship management and engagement through targeted marketing and feedback collection.

1.6 Significance of the Study

The study provides an in-depth understanding of the opportunities and roles in the adoption of digital technologies available to SMEs. This data would contribute more information to existing knowledge areas and academia.

1.7 Scope of the Study

1.7.1 Content Scope

The study would be limited to the role of digital technology adoption on SME performance in Juba City, South Sudan.

1.7.2 Geographical Scope

The study focused on selected business owners located in different commercial areas within Juba City. These areas include Konyokonyo, Jebel, Custom, and Munuki. These market areas have most of the SMEs in the city, hence will enable the researcher to collect data on the area of study.

1.7.3 Time Scope

The research study covered the period from April to September 2024. This enabled the researcher to be updated on current affairs concerning the area of study.

1.8 Conceptual framework

Independent variable

Dependent variable

Digital Technology Adoption

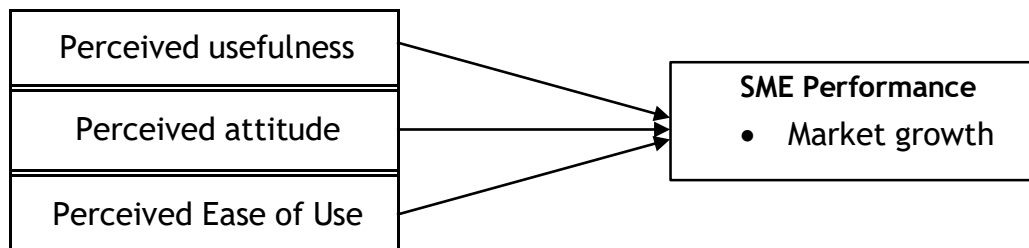


Figure 1: Conceptual framework

Source: Niyongere (2022) and modified by the researcher.

The conceptual framework in Figure 1 above, illustrates that digital technology plays a critical role in terms of perceived usefulness, perceived attitudes, and perceived ease of use on the performance of SME, measured in terms of market growth.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter discussed related literature about the role of digital technology adoption on the performances of small and medium-scale enterprises (SMEs) in other parts of the world. For consistency, the literature review presented the theoretical framework and the objective-by-objective discussions of related literature.

2.1 Theoretical Review

2.1.1 Technology Acceptance Model (TAM)

The technology acceptance model theory proposed by Davis in 1989, sheds light on the processes underpinning the acceptance of technology, to predict the behavior of and provide a theoretical explanation and inform practitioners about measures that they might take before the implementation of systems (Davis, 1989; Davit & Savvas, 2023). The model was based on Ajzen's Theory of Reasoned Action (TPB). The TPB was used as a fundamental theory to test and predict decisions based on attitude, subjective norms, and perceived control that provided a psychological perspective on human behavior. Based on prior empirical literature on human behavior and the management of information systems, multi-item scales for perceived ease of use and perceived usefulness were developed. The model suggested that an individual's decision to perform a behavior is the result of the analysis of the benefit that they expect to receive from the behavior compared to the effort/costs they put in to perform the behavior (Payne, 1982; Davit & Savvas, 2023). This implies that the use of technology is determined by an evaluation of the trade-off between the perceived usefulness of the system and the perceived difficulty of using it.

Although perceived ease of use does not affect attitude directly, it underpins the effect of perceived usefulness. The model assumes that if an application is expected to be easy to use, the more likely it is that it will be considered useful for the user and the more likely it is that this will stimulate the acceptance of the technology (Davis, 1989; Davit & Savvas, 2023).

Goodhue (2007), argued that the theory brought into focus the factors that make people utilize the technology and blurred the focus on the impact of technology utilization on performance leaving blind spots in literature. The first blind spot is that the TAM research implicitly suggests that the more technology is utilized, the better the performance, which is not true in practice; the second blind spot concerns the little attention paid to what makes a system useful such as the system's design and its fit to the user's task, which is equally important both for accepting technology and achieving high performance by utilizing it.

The TAM theory guides this research study in understanding the role of digital technology adoption on SME performance. This is through examining the different roles these constructs; perceived usefulness, perceived attitude towards use, and perceived ease of use are playing; and they can be fully utilized for better SME performance in South Sudan.

2.1.1 Diffusion of Innovations Theory (DOI)

Diffusion of Innovation (DOI) Theory was developed by (Rogers, 1962), and is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (i.e.,

purchase or use a new product, acquire and perform a new behavior, etc.). The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.

According to (Rogers, 1962), the adoption of a new idea, behavior, or product (i.e., "innovation") does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others. Gollner & McKay, 1997), argued that the diffusion of innovation theory and the adoption of information technology can be applied to any study in developing countries. Abraham, (2011) found that people who adopt an innovation early have different characteristics than people who adopt an innovation later. When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder the adoption of the innovation. This theory can also be used to understand how digital technologies are adopted by SMEs in Juba City, including the factors that influence the rate of adoption and the barriers faced.

2.2 Role of Perceived usefulness of digital technology on SME performance

Lichtenberg and Allen, (2022), explored how the perceived usefulness of digital marketing technologies influences their adoption among small and medium-sized enterprises (SMEs). Using a survey of SME decision-makers, the research demonstrates that perceived usefulness is a key determinant of technology adoption, significantly impacting how SMEs leverage digital marketing tools to improve customer engagement, increase sales, and enhance brand visibility. The findings suggest that SMEs are more likely to adopt technologies they believe will

deliver measurable benefits, which in turn positively affects their marketing performance and overall competitiveness.

DelCampo and Gable (2014), investigated the impact of information technology (IT) on the performance of small businesses using data from a national survey. It explored how various IT investments influence small business performance metrics such as revenue growth, profitability, and operational efficiency. The research highlights the positive effects of perceived usefulness and ease of use on IT adoption and provides evidence that effective IT utilization leads to enhanced business performance. The findings suggest that small businesses can achieve significant performance improvements through strategic IT investments and that perceived usefulness is a critical factor in the successful adoption and implementation of IT solutions.

Tung et al., (2016) examined the role of perceived usefulness and perceived ease of use in the adoption of information technology among small and medium enterprises (SMEs). Using a survey of SMEs, the research identifies how these two factors influence the decision-making process related to IT adoption. The findings highlight that both perceived usefulness and perceived ease of use are significant predictors of IT adoption in SMEs, with perceived usefulness having a stronger impact. The study provides insights into how SMEs can leverage these perceptions to enhance IT adoption and, consequently, improve their operational performance.

Zubair and Siddiqui (2021), investigated the role of perceived usefulness in the adoption of digital technologies and its impact on business performance among small and medium-sized enterprises (SMEs) in multiple developing economies in Africa. Using survey data from a sample of SMEs, the study highlights the critical importance

of perceived usefulness as a driving factor in technology adoption decisions. The findings indicate that SMEs that perceive greater usefulness in technology experience improved operational efficiency, revenue growth, and market competitiveness. This research contributes to the growing body of literature on technology adoption in resource-constrained environments and provides recommendations for policymakers and business owners in developing economies. The literature review showed that there is a limited exploration of how perceived usefulness affects various dimensions of SME performance across different industry sectors. There is a need for longitudinal studies to assess the long-term impact of perceived usefulness on technology adoption and business outcomes. There is also insufficient research on the interaction between perceived usefulness and other factors such as organizational culture or external pressures especially in South Sudan.

2.3 Role of perceived attitude towards use of digital technology on SME performance

Johnson and Wang (2020), explored the relationship between perceived attitudes toward digital technology adoption and firm performance among small and medium enterprises (SMEs). Using a sample of SMEs across various industries, the research shows that positive attitudes toward digital technology significantly influence adoption rates, which in turn lead to improved operational efficiency and financial performance. The study emphasizes that owner- managers attitudes toward technology are crucial in determining the level of digital adoption and the resulting business outcomes. The findings provide useful insights for policymakers and business advisors in supporting SME digital transformation.

Patel and Kumar (2019), investigated how perceived attitudes towards digital technology affect its adoption and subsequent business performance in SMEs. The authors examine factors such as ease of use, perceived usefulness, and the perceived necessity of digital tools. The study finds that SMEs with positive attitudes toward technology adoption experience higher revenue growth, improved customer satisfaction, and better market positioning. The research underscores the importance of attitude in bridging the gap between technology potential and actual business outcomes, particularly in competitive markets.

Miller and Thompson, (2021), examined the impact of SMEs' attitudes towards digital technologies on their adoption of digital tools and overall business performance. Using a survey of SMEs from diverse sectors, the authors find that positive attitudes toward technology are strongly correlated with increased technology adoption and improved business metrics such as productivity and profitability. The study suggests that SMEs with more favorable attitudes toward digital tools are better positioned to leverage technology for growth and competitive advantage.

Silva and Abdul (2022), explored the influence of perceived attitudes toward digital technology adoption on SME performance in emerging economies. The study draws on survey data from SME owners and managers and finds that positive attitudes towards digital tools significantly enhance the adoption rate, leading to performance improvements such as operational efficiency, market reach, and customer satisfaction. The research highlights that fostering a positive attitude toward technology is critical for SMEs to reap the benefits of digital transformation in resource-constrained environments.

The literature review reveals somewhat limited studies on how different types of attitudes (e.g., individual vs. organizational) affect technology adoption and

performance. There is a need for research on the influence of cultural and contextual factors on attitudes towards technology in SMEs. There is an urgent need to explore how changes in attitudes over time impact technology adoption and performance.

2.4 Role of Perceived ease of use of digital technology on SME performance

Smith and Lee (2021), explored the role of perceived ease of use in the adoption of digital marketing technologies by small and medium-sized enterprises (SMEs) in the United States. The study finds that perceived ease of use is a significant predictor of technology adoption, impacting SMEs' marketing performance. Technologies perceived as user-friendly are more likely to be adopted and used effectively, leading to enhanced marketing strategies and improved business outcomes. The research highlights the importance of designing intuitive digital marketing tools for SME success.

Zhang and Chen (2020), examined how perceived ease of use influences the adoption of e-business technologies and its impact on the performance of small and medium enterprises (SMEs) in China. By surveying SME owners and managers, the study finds that a higher perceived ease of use correlates with increased adoption rates of e-business technologies. Additionally, the adoption of these technologies positively affects various performance indicators, including operational efficiency and customer satisfaction. The research underscores the importance of ease of use in facilitating technology integration in SMEs.

Brown and Green, (2019) explored the influence of perceived ease of use on the adoption of cloud computing technologies in small and medium-sized enterprises (SMEs) in the United Kingdom. The study finds that perceived ease of use is a crucial factor affecting the decision to adopt cloud technologies. SMEs that find these

technologies easier to use are more likely to integrate them into their operations, resulting in improved performance metrics such as cost savings, flexibility, and scalability. The research highlights the importance of user-friendly technology for successful adoption in SMEs.

Liu and Li, (2018) investigated how perceived ease of use affects the adoption of digital technology and its subsequent impact on the performance of small and medium enterprises (SMEs). The research uses survey data from SMEs across various sectors in China and finds that perceived ease of use is a significant determinant of technology adoption. Furthermore, the study demonstrates that ease of use positively influences operational efficiency and overall business performance. The findings provide practical insights for SMEs looking to implement digital technologies effectively.

The literature reviewed indicates that there is a need for more research on how perceived ease of use interacts with other adoption factors like perceived usefulness and organizational support. There are limited studies on the long-term effects of perceived ease of use on technology adoption and SME performance in Africa, specifically in South Sudan. Researchers need to conduct an exploration of sector-specific differences in how perceived ease of use impacts technology adoption and performance.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter highlighted the research methodology which is a detailed description of how the study was carried out. It covered the research methodology that described the research design, study population, sample size and selection, sampling techniques and procedure, data collection methods, data collection instruments, and data analysis.

3.1 Research design

The study adopted a non-experimental cross-sectional research design to conduct the research. The researcher believes that the research design will enable data to be gathered from a group of subjects at one point in time on the role of digital technology adoption on the performance of small and medium-scale enterprises in Juba City, South Sudan.

3.2 Area of study

The study was conducted on Small and Medium-sized Enterprises (SMEs) in commercial areas within Juba City. The areas included Konyokonyo market, Jebel market, Custom market, and Munuki markets. SMEs are highly concentrated within these market areas in Juba City thus would enable the researcher to collect data on the area of study.

3.3 Sources of Information

The researcher used both primary and secondary data. Secondary data was data that someone else had already collected for example published journals, articles, international conference proceedings, published academic papers, and dissertation

reports while primary data was data that the researcher will get directly from respondents through survey questionnaires.

3.4 Study population

The target population consisted of businesses that meet the criteria for being classified as SMEs. The categories included; Business owners, administrative staff, Finance officers, Marketing representatives, Operations Managers, and ICT staff.

3.5 Sampling determination and sample size

The study used a target population of 12,654 SMEs in Juba City. However, the sampled SMEs that were used for the study as a sampling frame were 85 SMEs only. All 85 SMEs are located in Konyokonyo, Jebel, Custom, and Munuki market areas. A total of 70 SMEs were selected as a sample size using Krejcie & Morgan's (1970) table of determining sample size. Simple random Sampling was used, this sampling technique gives each member of the population within the study area an equal chance of being selected.

3.6 Variable definition and measurements

Digital technology adoption was the independent variable of the study with three constructs: Perceived usefulness, Perceived attitudes, and Perceived Ease of Use. The dependent variable was SME performance which was measured through Market growth.

3.7 Procedure for data collection

The researcher sought an introductory letter from the Academic Registra of Uganda Christian University. This was used to indicate to all those concerned that, the exercise to be carried out is purely for academic purposes and poses no danger to anyone including the Government or the participants.

Immediately thereafter, onsite visits were conducted to all selected SMEs within the areas of study. The researcher sought consent for each of the selected SMEs, and left every record anonymous for the privacy and confidentiality of sensitive information provided by the respondents. Instead of names, identification numbers were used so that no information could not be traced to any respondent. Finally, all participants were informed of their right to participate voluntarily, and of their freedom to withdraw from participation in the study. This catered for voluntary participation.

3.8 Quality Control

The researcher and research assistants were trained such that they all became familiar with the statement of the problem, objectives of the study, sampling procedure, data collection tools, and plan for data collection. The data collection tools were pre-tested by another market that would not take part in the study.

3.9 Data collection methods and instruments

The data collection method for the study was surveys. This data collection method is a crucial aspect of any type of research study because inaccurate data collection methods impact the results of a study and ultimately lead to invalid results. Questionnaires were used as research instruments for data collection from primary respondents. Questionnaires were the data collection tools used to study the role of perceived usefulness, perceived attitude, and perceived ease of use of technology on SME performance in Juba City. The questionnaire was semi-structured thus consisted of both open and closed-ended questions.

Data analysis and presentations

The researcher was involved in data collection and preparation which included; logging the data input, checking the data for accuracy, entering the data into the computer, transforming the data, developing and documenting a database structure that will integrate the various measures describing the data.

Quantitative data from the questionnaires was analyzed with the use of descriptive statistics such as frequencies and percentages.

Data was then coded before being entered and analyzed in the computer using the Statistical Package for Social Scientists (SPSS 19). A multiple regression analysis was adopted to test the relationship between variables.

3.10 Methodological constraints

Quantitative methodology of research seeks average responses hence not as effective at understanding in-depth perceptions of people.

Failure to accurately select participants might lower the generalizability and accuracy of the findings.

Self-report measures are used, where there can never be certainty that participants were honest.

3.11 Anticipated limitations

Time was too short because of the long distance to Juba City and other logistics challenges especially with finances. The researcher used local leaders and borrowed funds to facilitate the research process.

CHAPTER 4: DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents findings from the study on the Role of Digital Technology Adoption on the Performances of Small and Medium-Scale Enterprises in Juba City, South Sudan. A series of self-administered questionnaires were used to gather data from the respondents. The chapter begins by presenting the response rate and demographic information of the respondents and then empirical findings.

4.1 Response rate

The study sought to establish the response rate. The findings are summarized in Table 1 below. The effective response rate was 93% and was treated as an acceptable level of reliability.

Table 4. 1 Number of people that responded to the study

Category of Respondents	Number of Questionnaires given out	Number of Questionnaires collected	%
Business Owners	10	10	100%
ICT Managers	10	10	100%
Finance Officers	20	19	95%
Marketing Officers	20	18	90%
Administrative Staff	10	8	80%
Total	70	65	93%

Source: Primary data, 2024

4.2 Demographic Statistics of Respondents

4.2.1 Gender of Respondents

The study sought to establish the gender of respondents. The findings are summarized in Table 2 below:

Table 4. 2: Show the gender of respondents

Gender	Frequency	Percentage	Cumulative Percentage
Males	40	62%	62%
Females	25	38%	100%
Total	65	100%	

Source: *Primary data, 2024*

Table 2 above indicates that there were more males than females in the study. A total of 40(62%) were males, while 25(38%) were females. This means the respondents were balanced and not biased.

4.2.2 Age categories of respondents

The study sought to establish the age of respondents. The findings are summarized in Table 3 below:

Table 4. 3: Show the age bracket of respondents

Age of respondents	Frequency	Percentage	Cumulative percentage
≤ 25 years old	5	8%	8%
26 - 35years old	20	31%	39%
36 - 45 years old	25	38%	77%
46 years and above	15	23%	100%
Total	65	100%	

Source: *Primary data, 2024*

According to the research findings, Table 3 above illustrates that 25(38%) of the respondents were in the (36 - 45 years old) age bracket while 20(31%) were in the age bracket of (26 - 35 years old), 15(23%) of the respondents falls in the 46 years and above age bracket whereas 5 respondents representing (8%) falls in the (≤25 years old) age bracket. By implication, it means that the majority of respondents belong to the highly productive age group of 26 to 45 years old.

4.2.3 Marital status of respondents

The study sought to establish the marital status of respondents. The information was obtained using questionnaires and the findings are summarized in Table 4:

Table 4. 4: Marital status of respondents

Marital Status	Gender		Total	Percent	Cumulative percentage
	Female	Male			
Single	4	10	14	22%	22%
Married	15	25	40	61%	83%
Widowed	1	2	3	5%	88%
Cohabiting	5	3	8	12%	100%
Total	25	40	65	100%	

Source: *Primary data, 2024*

Table 4 above shows that most of the respondents 40(61%) were married while the number of single ladies and gentlemen was 14(22%), and cohabiting respondents were 8 representing 12%. There was a total of 3(5%) of respondents who were widowed respectively. As seen, the majority of respondents were in some form of relationships whereas the single respondents were mainly young adults who are yet to get married.

4.2.4 Nature of business

The study sought to establish the nature of business. The information was obtained using questionnaires and the findings are summarized in Table 5.

Table 4. 5: Nature of business

Type of Business	Frequency	Percentage	Cumulative percentage
Retail	25	38%	38%
Manufacturing	15	23%	61%
Wholesale	9	14%	75%
Service-based	16	25%	100%
Total	65	100%	

Source: *Primary data, 2024*

Table 5 above indicates that 25(38%) of respondents were engaged in retail business while 16(25%) of respondents were in service-based business. Another 16 respondents which represent 23% were in small-scale manufacturing business. There was also a total of 9(14%) of respondents who were wholesale business. As seen, the majority of respondents were in some form of small and medium scale enterprises which made them very relevant for the study.

4.2.5 Number of years of business operations

The study sought to establish the number of years of business operations. The information was obtained using a questionnaire and summarized in Table 6 below:

Table 4. 6: Years of business operation

Years of business operations	Frequency	Percentage	Cumulative percentage
1 - 3 years	8	12%	12%
4 - 6 years	20	31%	43%
7 - 9 years	27	42%	85%
10 years and above	10	15%	100%
Total	65	100%	

Source: *Primary data, 2024*

Table 6 above reveals that 27(42%) of the respondents agreed that their businesses have been in operation for 7 - 9 years, whereas 20(31%) of the respondents said that they have been in business for 4 - 6 years. Another, 10(15%) of the respondents said that they have been in business for more than 10 years while 6(12%) of respondents had 1 - 3 years of experience in the business. By implication, this means that the majority of respondents had many years of in the business and would know whether digital technology has contributed to success.

4.2.6 Number of employees in the business

The study sought to establish the number of employees in the business. The information was obtained using a questionnaire and summarized in Table 7 below:

Table 4. 7: Number of employees in the business

Number of employees	Frequency	Percentage	Cumulative percentage
1 - 10	10	15%	15%
11 - 50	35	54%	69%
51 - 100	15	23%	92%
More than 100	5	8%	100%
Total	65	100%	

Source: *Primary data, 2024*

Table 7 above reveals that 35(54%) of the respondents agreed that they have 11-50 employees, whereas 15(23%) of the respondents said that they have 51 - 100 employees. Another, 10(15%) of the respondents said they have 1 - 10 employees while 5(8%) had more than 100 employees. By implication, this means that the majority of respondents own SMEs.

4.2.7 Location of the business

The study sought to establish the location of the business. The information was obtained using a questionnaire and summarized in Table 8 below:

Table 4. 8: Location of the business

Location of the business	Frequency	Percentage	Cumulative percentage
Munuki Market	5	8%	8%
Konyokonyo market	30	46%	54%
Custom Market	20	31%	85%
Jebel Market	10	15%	100%
Total	65	100%	

Source: *Primary data, 2024*

Table 8 above reveals that 30(46%) of the respondents agreed that their businesses are located in the Konyokonyo market, whereas 20(31%) have their businesses located in the customs market. Some, 10(15%) of the respondents said that they have their businesses in the Jebel market, while only 5(8%) of respondents have their businesses in the Munuki market. By implication, this means that the majority of

respondents had their businesses in the middle of the city and were likely to be aware that digital technology impacts their business performances.

4.3 Empirical findings on the study objectives

4.3.1 Role of perceived usefulness of digital technology on SME performances in Juba

The study sought to determine digital technology's perceived usefulness on SME performances in Juba City, South Sudan. The information was obtained using the Likert scale in the questionnaires and the findings are summarized in Table 9 below;

Table 4. 9: Role of Perceived usefulness of digital technology on SME performance

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Digital technology improves my business's revenue growth.	46(71%)	12(18%)	4(6%)	3(5%)	-
The use of digital tools increases profitability in my business.	42(65%)	20(31%)	3(4%)	-	-
Digital technology helps in expanding my market share.	39(60%)	24(37%)	2(3%)	-	-
Using digital technology enhances my sales growth.	49(75%)	16(25%)	-	-	-
Digital technology increases client retention for my business.	55(85%)	8(12%)	2(3%)	-	-

Source: Primary Data, 2024

Table 9 above illustrates that 46(71%) of the respondents strongly agree that digital technology improves their business's revenue growth, while 12(18%) of the respondents agreed that digital technology improves their business's revenue growth. Some 4(6%) of respondents remain neutral due to a lack of measurable impact on revenue or being in the early adoption stages whereas a small number of only 3(5%) of the respondents disagreed possibly due to challenges in implementation or industries less affected by digital advancements. By implication, a significant majority of respondents strongly agreed with the statement which indicates that many businesses perceive digital technology as a key driver for

increasing revenue. Digital tools such as online marketing, e-commerce platforms, and data analytics contribute to reaching wider audiences and optimizing sales strategies.

In terms of the use of digital tools and whether it increases profitability in SMEs, 42(65%) of respondents strongly agreed that the use of digital tools increases profitability in SMEs whereas another 20(31%) of the respondents agreed that the use of digital tools increases profitability in SMEs. Finally, only 3(4%) of the respondents were neutral due to the initial investment costs of digital tools offsetting immediate profitability gains. It means that the majority of the respondents agreed that digital tools help in reducing operational costs, improving efficiency, and thus increasing profitability.

On whether digital technology helps to expand SMEs' market share, a total of 39(60%) of respondents strongly agreed that digital technology expands SMEs' market share while some 24(37%) of respondents agreed and yet only 2(3%) of respondents were neutral perhaps due to limited digital outreach or niche markets. By implication, it means that over half of the respondents agreed that digital technology aids in reaching new markets and customers through online channels and digital marketing.

In terms of whether using digital technology enhances sales growth, 49(75%) of respondents strongly agreed that using digital technology enhances sales growth while 16(25%) of the respondents agreed. It implies that the majority of respondents believe that digital technology facilitates sales processes, customer engagement, and transaction efficiency.

Finally, regarding whether digital technology increases client retention for SME businesses, a total of 55(85%) respondents strongly agreed that digital technology enhances the client retention for SME businesses. In comparison, another 8(12%) of respondents agreed. Finally, 2(3%) of the respondents were neutral possibly due to

challenges in directly linking digital technology to client retention or recent investments yet to yield returns. This implies that slightly more than half of the respondents agreed that digital technology is seen to enhance asset utilization and efficiency.

4.3.2 The Role of perceived attitudes towards digital technology on SME performance in Juba City

The study sought to explore the effect of perceived attitudes toward digital technology on SME performances in Juba City, South Sudan. The information was obtained using the Likert scale in the questionnaires and the findings are summarized in Table 10 below:

Table 4. 10: Role of the perceived attitude of digital technology on SME performances

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I believe adopting digital technology is essential for business success.	60(92%)	5(8%)	-	-	-
I have a positive attitude towards adopting new technology to enhance the performance of my business.	55(85%)	10(15%)	-	-	-
I feel confident that digital tools can boost my business performance.	50(77%)	12(18%)	3 (5%)	-	-
Digital technology adoption is a good investment for my business.	53(82%)	9(14%)	2 (4%)	-	-
I am willing to invest in more digital tools for future business growth.	48(74%)	12(18%)	5 (8%)	-	-

Source: Primary Data, 2024

Table 10 above illustrates that 60(92%) of the respondents strongly agree that adopting digital technology is essential for business success, while 5(8%) of the respondents believe that adopting digital technology is essential for business success. By implication, it means all respondents agreed with the statement which indicates that many SMEs are increasingly recognizing the importance of digital

technology in staying competitive, especially in post-pandemic economies where technology has been key to resilience.

In terms of whether respondents have a positive attitude towards adopting new technology to enhance the performance of their business, 55(85%) of respondents strongly agreed that they have a positive attitude towards adopting new technology to enhance the performance of their business whereas another 10(15%) of the respondents agreed. This means that respondents' attitudes towards technology adoption are generally favorable among SMEs due to their perceived benefits, though there may still be some hesitation related to cost or unfamiliarity.

On whether there is confidence that digital tools can boost business performances, a total of 50(77%) of respondents strongly agreed while some 12(18%) of respondents agreed and only 3(5%) of respondents were neutral. By implication, it means that many SMEs are aware of the performance improvements digital tools can bring, though some may still be uncertain, particularly if they lack the technical expertise or resources to fully leverage these tools.

In terms of whether digital technology adoption is a good investment for SME businesses, 53(82%) of respondents strongly agreed, 9(14%) of the respondents agreed and only 2(4%) of respondents were neutral. It implies that the majority of

respondents agreed that investment in digital technology is widely seen as necessary for future growth, but some may hesitate due to financial constraints or concerns about Return on Investment.

Finally, on whether there is a willingness to invest in more digital tools for future business growth, a total of 48(74%) of respondents strongly agreed while 12(18%) of respondents agreed and only 5(8%) of the respondents were neutral. This implies that while many SMEs are willing to invest in digital tools, some may be more cautious due to budget limitations, uncertainty about market conditions, or lack of immediate need.

4.3.3 The role of perceived ease of use of digital technology on SME performance in Juba City

The study sought to find out the effect of perceived ease of use of digital technology on SME performance in Juba City, South Sudan. The information was obtained using the Likert scale in the questionnaires and the findings are summarized in Table 11 below:

Table 4. 11: Role of perceived ease of use of digital technology on SME performance in Juba City

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Digital technology is easy to use in my daily business operations.	20(30%)	26(40%)	10(15%)	7(10%)	3(5%)
Learning to use digital tools in my business is simple.	16(25%)	29(45%)	10(15%)	7(10%)	3(5%)
I find it easy to integrate digital technology into different areas of my business.	18(28%)	26(40%)	12(18%)	7(10%)	2(4%)
The benefits of digital technology outweigh the effort required to use them.	23(35%)	26(40%)	8(12%)	5(8%)	3(5%)

I feel that my staff can easily adapt to new digital tools without much difficulty.	19(30%)	25(38%)	12(18%)	7(10%)	2(4%)
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Source: Primary Data, 2024

Table 11 above illustrates that 20(30%) of the respondents strongly agree that Digital technology is easy to use in daily business operations, while 26(40%) of the respondents agreed. Some 10(15%) of respondents were neutral, 7(10%) of the respondents disagreed and only 3(5%) of the respondents strongly disagreed. By implication, it means that while many SMEs find digital technology relatively easy to use, a significant portion may still struggle with usability due to a lack of technical infrastructure or digital literacy.

In terms of whether learning to use digital tools in the business is simple, 16(25%) of respondents strongly agreed whereas another 29(45%) of the respondents agreed. Another 10(15%) of respondents were neutral, 7(10%) of respondents disagreed and finally, 3(5%) of the respondents strongly disagreed. This means that training and resources play a key role here. Many users, especially younger entrepreneurs, find it easy to learn, but older or less tech-savvy individuals may face some difficulty.

On whether it is easy to integrate digital technology into different areas of SME businesses, a total of 18(28%) of respondents strongly agreed, 26(40%) of respondents agreed and 12(18%) of respondents were neutral. Some 7(10%) of the respondents disagreed whereas only 2(4%) of the respondents strongly disagreed. By implication, it means that while digital tools may be perceived as beneficial, the complexity of integrating them into various business processes (finance, marketing, ICT, etc.) can pose challenges for some SMEs, particularly those lacking technical expertise.

In terms of whether the benefits of digital technology outweigh the effort required to use them, 23(35%) of respondents strongly agreed, 26(40%) of the respondents agreed and

only 8(12%) of respondents were neutral. However, 5(8%) of respondents disagreed whereas 3(5%) of the respondents strongly disagreed. It implies that many SMEs recognize that the effort required to adopt and use digital technology pays off, but a small portion feels that the complexity and time required for training and adaptation are limiting factors.

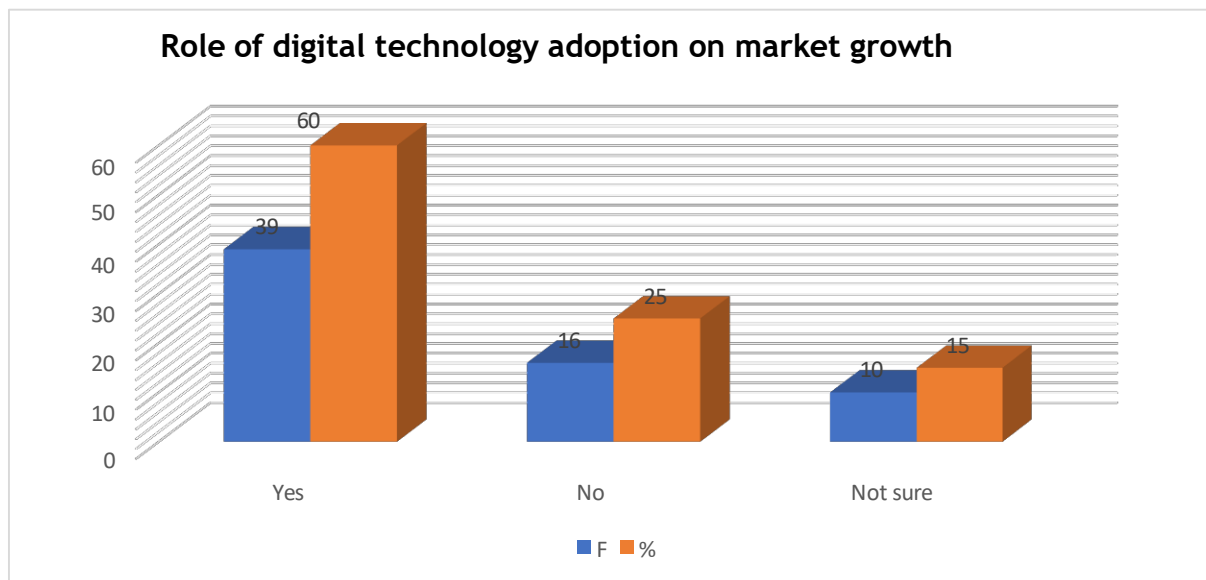
Finally, on whether staff feel they can easily adapt to new digital tools without much difficulty, 19(30%) of respondents strongly agreed, while 25(38%) agreed. Some 12(18%) of respondents were neutral, 7(10%) of the respondents disagreed, and, finally, 2(4%) of respondents strongly disagreed. This implies that while many SMEs believe their staff can adapt to digital tools, the ease of adaptation varies depending on factors such as the educational background of employees, access to training, and the complexity of the tools being adopted.

4.4 SME performances

4.4.1 Market Growth

The study sought to find out whether digital technology adoption has helped businesses increase their market growth in Juba City, South Sudan. The information was obtained using questionnaires and the findings are summarized in Figure 2 below:

Figure 2: Role of digital technology on market growth



Source: Primary data, 2024

In Figure 2 above, the findings reveal that a significant majority of 39(60%) respondents report an increase in market growth due to digital technology adoption. This is because digital tools help businesses reach a wider audience through online platforms, improve customer engagement, and enable more efficient operations, giving them a competitive advantage.

A notable 16(25%) of respondents disagreed that digital technology does not impact market growth. It implies that such businesses do not see a direct link between technology adoption and market growth increase, potentially due to challenges such as limited digital reach, poor execution of digital strategies, or competitive pressure from larger businesses.

Some 10(15%) of respondents were not sure as they did not have sufficient data or clarity to attribute market growth to digital technology adoption, especially if other factors, such as market conditions or operational changes, played a role. In summary, whereas most businesses perceive digital technology as beneficial for expanding market share, a portion may struggle to realize those benefits or measure them effectively.

4.5 Multiple Regression Results

Multiple regression analysis was carried out to establish the overall casual effect of Perceived Usefulness, Perceived Attitude toward Digital Technology and Perceived Ease of Use of Digital Technology on SME Performance using adjusted R² statistics. The multiple regression analysis was also conducted to establish which among the dimensions of the independent variable was the most significant predictor of the variance on SME Performance in Juba City using standardized coefficient statistics. The findings are presented in the table below;

Table 4. 12: Regression Analysis of Digital Technology Factors on SME Performance in Juba City

Model Summary						
Model	R	R Square		Adjusted R Square	Std. Error of the Estimate	
1	0.824 ^a	0.68		0.66	0.415	
Coefficients ^a						
Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.85	0.20	—	4.25	0.000
	PU	0.42	0.08	0.46	5.25	0.000
	PA	0.31	0.10	0.34	3.10	0.002
	PEOU	0.27	0.09	0.29	3.00	0.003
a. Dependent Variable: SME_Performance						
b. Predictors: (constant) T_PU, PA_T, PEOU_T						

$P \leq 0.05$

Source: Primary data

The table above shows a coefficient of determination (R-square) of 0.68 at a significant level of 0.000 suggesting that SME Performance was 68% at a standardized error of estimate of 0.415. The correlation coefficient (R=0.824 or 82%) indicated the strength of the association between PU, PA, and PEOU taking into consideration all interactions

among the study variables. The adjusted R^2 of 0.66 or 66% was the variance on SME Performance explained by PU, PA and PEOU putting into consideration all the variables and the sample size of the study. The remaining variance of 34% was explained by other factors other than PU, PA and PEOU.

The standardized coefficient statistics revealed that perceived usefulness of technology ($\beta = 0.42$, $p < 0.000$) was the strongest predictor of the variance on SME performance, followed by perceived attitudes toward technology ($\beta = 0.31$, $p = 0.002$). This revealed that positive attitudes significantly enhance performance. Perceived Ease of Use ($\beta = 0.27$, $p = 0.003$) revealed that ease of adoption matters, but its effect is weaker compared to usefulness.

CHAPTER 5 - DISCUSSION OF RESULTS

5.0 Introduction

The chapter discusses the study findings and compares them with the literature reviewed. The main aim was to assess the similarities and differences between the current study findings with those of previous studies and point of departure.

5.1 Objective 1: To assess the role of the perceived usefulness of digital technology on SME performances in Juba City, South Sudan

The study findings reveal that a significant majority of respondents strongly agreed that many businesses perceive digital technology as a key driver for increasing revenue. Digital tools such as online marketing, e-commerce platforms, and data analytics contribute to reaching wider audiences and optimizing sales strategies. The model predictor, perceived usefulness was the strongest predictor with a significance level of 0.000, this shows that perceived benefits of digital tools are key determinants in adopting digital technology by SMEs.

The findings are similar to many studies outside South Sudan. For instance, Mbogo (2010) investigated the impact of mobile payments, specifically M-Pesa, on the performance of Small and Medium Enterprises (SMEs) in Kenya. It explores how mobile payment technology has transformed business operations, particularly in enhancing efficiency and customer reach.

The findings indicate that mobile payments have significantly improved the financial performance of SMEs by facilitating transactions, reducing operational costs, and enhancing cash flow management. Additionally, the study reveals that M-Pesa has enabled SMEs to expand their customer base and enter new markets by providing a convenient payment option that attracts more customers. The research concluded that mobile payment systems like M-Pesa are crucial for the growth and

sustainability of SMEs in Kenya, and recommends further integration of such technologies to enhance business performance.

Another study by (Omotayo, & Adeyemi, 2018) on the impact of digital marketing on the performance of SMEs in Nigeria. The research investigated how the adoption of digital marketing strategies influences market share, sales growth, and overall business performance. Using a quantitative approach, data were collected from a sample of SMEs across various sectors in Nigeria through structured questionnaires. The findings indicate a positive correlation between the use of digital marketing tools and improved performance metrics, including market share and customer acquisition.

The study highlights the significance of adopting digital marketing strategies as a means for SMEs to enhance their competitive edge and navigate the challenges of the contemporary business landscape. The research concludes with recommendations for SMEs to integrate digital marketing tools into their business strategies to optimize performance and foster growth.

5.2 Objective 2: To explain the role of perceived attitudes toward digital technology on SME performance in Juba City, South Sudan

The research results show that many SMEs are increasingly recognizing the importance of digital technology in staying competitive, especially in post-pandemic economies where technology has been key to resilience. The respondents' attitudes towards technology adoption are generally favorable among SMEs due to their perceived benefits, though there may still be some hesitation related to cost or unfamiliarity. The model predictor, perceived attitude with a significance level of 0.003, revealed that positive attitudes significantly enhance performance ascertaining that SMEs with favorable perceptions are more willing to adapt and benefit from

technology. The majority of respondents agreed that investment in digital technology is widely seen as necessary for future growth.

These findings are similar to (Baker, 2019) who explored the critical role of digital technology in enhancing the competitive advantage of Small and Medium Enterprises (SMEs) in the aftermath of the COVID-19 pandemic. The research highlights how SMEs have increasingly adopted digital tools and platforms to navigate the challenges posed by the pandemic and ensure business continuity. Through a mixed-methods approach, including surveys and case studies, the study investigates the attitudes of SME owners toward digital technology adoption, focusing on perceived benefits, challenges, and strategies for integration.

The findings reveal that a favorable attitude towards digital technology significantly correlates with improved performance metrics, including sales growth, market share expansion, and operational efficiency. Furthermore, the study identifies key factors influencing the successful adoption of digital technologies, such as management support, employee training, and access to financial resources. The research concludes that embracing digital technology is essential for SMEs to remain competitive and resilient in an increasingly digital business landscape.

Rahi (2021), investigated the relationship between technology adoption and the performance of Small and Medium Enterprises (SMEs) in Pakistan. Given the increasing importance of digital technologies in today's competitive landscape, the research aims to identify the factors that influence SMEs' willingness to adopt new technologies and how these adoptions impact their operational and financial performance. The findings reveal a positive correlation between technology adoption and improved SME performance, highlighting that organizations that embraced digital solutions experienced enhanced productivity, revenue growth, and

market competitiveness. Additionally, the study identifies key drivers of technology adoption, including perceived usefulness, organizational support, and the technological readiness of SMEs. The results underscore the critical need for SMEs to prioritize technology adoption as a strategic initiative for sustainable growth and development. The study concludes with practical recommendations for policymakers and business leaders to facilitate technology adoption among SMEs, ensuring their competitiveness in an evolving economic environment.

The study findings differ from those of Mbogo (2010), which focused on mobile payments and micro-enterprises in Kenya, and Omotayo & Adeyemi (2018), which explored the relationship between digital technology and business performance in Nigeria. Both studies may have presented more conservative views on the role of digital technology in profitability and market expansion, whereas the current study demonstrates a stronger consensus among respondents in Juba City, South Sudan on the positive impact of digital tools. This difference may be attributed to variations in market contexts, levels of digital adoption, and the evolving role of technology, particularly accelerated by recent global events like the COVID-19 pandemic.

The study which was conducted by (Baker, 2019), focused on small businesses' attitudes toward digital transformation, found that while many businesses recognized the importance of adopting digital technology, concerns about cost and complexity often hindered full-scale adoption. The findings from Juba City are similar in that SMEs are largely positive about digital technology but are still navigating challenges related to cost and the learning curve for implementing new tools. Both studies highlight the potential benefits of digital tools for business growth and competitiveness but also acknowledge the barriers to adoption.

On the other hand, the study that was carried out by (Rahi, 2021) on SMEs and digital technology adoption revealed that perceived usefulness and positive attitudes

toward technology were key drivers for adoption. The similarity with the Juba City study lies in the overwhelmingly positive attitudes among respondents, with a strong recognition of the need for digital tools to remain competitive and drive business performance. Both studies found that confidence in technology's benefits, particularly in sales growth and market expansion, was a crucial motivator for SMEs to continue investing in digital solutions.

5.3 Objective 3: To analyze the role of perceived ease of digital technology towards SME performance in Juba City

The research findings reveal that many SMEs find digital technology relatively easy to use, a significant portion may still struggle with usability due to a lack of technical infrastructure or digital literacy. Digital tools are perceived as beneficial, but the complexity of integrating them into various business processes (finance, marketing, ICT, etc.) can pose challenges for some SMEs, particularly those lacking technical expertise. Finally, the key findings reveal that while many SMEs believe their staff can adapt to digital tools, the ease of adaptation varies depending on factors such as the educational background of employees, access to training, and the complexity of the tools being adopted. The model predictor, perceived ease of use with a significance level of 0.03 revealed that ease of adoption matters but its effect weaker compared to usefulness. SMEs that find tools user-friendly report smoother integration into business operations

A study conducted by (Kumar, 2020) investigated the barriers to technology adoption faced by Small and Medium Enterprises (SMEs) in the textile sector of India. Despite the potential benefits of technological advancements, many SMEs struggle to integrate new technologies into their operations. The research identifies key factors contributing to this challenge, including limited access to technical infrastructure,

lack of digital literacy, high costs associated with technology adoption, and inadequate training for employees. Using a quantitative approach, data were collected through surveys. The findings reveal that while there is a general awareness of the importance of technology, the perceived complexity and usability issues significantly hinder adoption efforts. Furthermore, the study highlights the critical role of managerial support and employee training in overcoming these barriers. The research concludes with recommendations for policymakers and business leaders to facilitate technology adoption in SMEs, emphasizing the need for targeted training programs and improved access to resources.

Mansor (2021), explored the impact of digital literacy and technological infrastructure on the adoption of digital technologies among Small and Medium Enterprises (SMEs). Recognizing the growing importance of digital transformation, the research investigated how these two factors influence SMEs' ability to effectively implement and utilize digital tools. A quantitative research approach was employed, collecting data through surveys from a sample of SMEs across various sectors. The findings indicate that higher levels of digital literacy among employees significantly enhance the likelihood of successful technology adoption, while inadequate technological infrastructure poses a considerable barrier.

Additionally, the study reveals that the complexity of digital tools can affect usability, leading to varying levels of adaptation among SMEs. The research underscores the necessity for SMEs to invest in digital literacy training and improve their technological infrastructure to facilitate the seamless integration of digital technologies into their operations. The study concludes with practical recommendations for SMEs and policymakers to enhance digital capabilities and drive growth through technology adoption.

Kumar (2020) study emphasized that ease of use is a critical factor for digital

technology adoption among SMEs, especially in developing economies. Similar to the findings from Juba City, Kumar found that SMEs generally perceive digital technology as easy to use, particularly for day-to-day operations. However, his study also highlighted challenges related to the integration of digital tools into different business processes, which aligns with the difficulties some respondents in Juba City faced when integrating technology across departments like finance and marketing. Mansor (2021), research explored the relationship between perceived ease of use and the successful adoption of digital technology among SMEs. His study found that SMEs with a positive perception of the ease of using technology were more likely to experience performance improvements. Similar to the findings in Juba City, (Mansor, 2021) study observed that while the majority of SMEs viewed digital technology as beneficial and easy to adopt, staff training and adaptation were recurring challenges. The results from Juba City, where SMEs expressed varying levels of staff readiness, mirror Mansor's findings that additional support for employees is often required to fully leverage the benefits of digital tools.

In terms of similarities, both (Kumar, 2020) and (Mansor, 2021) found that ease of use is crucial for the adoption of digital technology, with integration challenges and the need for staff training being common barriers. The study in Juba City similarly identifies ease of use as a key factor for SMEs, with integration and staff adaptation emerging as notable challenges.

A research study conducted by (Mansor, 2021) emphasized the link between perceived ease of use and business performance improvements is evident in Juba City's findings, where most SMEs reported seeing benefits from digital technology, despite some difficulties in the learning curve and integration.

CHAPTER 6 - CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

The chapter provides conclusions of the study and objective by objective and thereafter provides recommendations.

6.1 Conclusions

The study reveals significant insights into the role of digital technology adoption on the performance of Small and Medium Enterprises (SMEs) in Juba City, South Sudan.

6.1.1 Role of Perceived Usefulness of Digital Technology on SME Performance

The study concludes that perceived usefulness has the biggest impact on the adoption of digital technology, positively impacting SME performance across market growth in Juba City, South Sudan.

Most respondents strongly agree that digital tools such as e-commerce platforms, online marketing, and mobile payment systems are instrumental in optimizing business operations and expanding market reach.

The results indicate that SMEs recognize the adoption of digital tools as essential, mainly due to their perceived benefits such as increased competitiveness, improved customer engagement, and long-term growth.

6.1.2 Role of Perceived Attitudes Toward Digital Technology Adoption on SME Performance

The study concludes that perceived attitude is a key factor in the adoption of digital technology, having a significant impact on SME performance in terms of gaining competitive advantage over others.

The majority of respondents expressed highly favorable attitudes toward digital technology adoption, recognizing its importance for business success.

A significant portion of SMEs was confident that digital tools could enhance business performance, with many willing to invest in further technology upgrades despite concerns about costs or technical unfamiliarity.

Positive attitudes were reflected in the eagerness of employees to leverage digital tools for market expansion, and operational efficiency.

6.1.3 Role of Perceived Ease of Use of Digital Technology on SME Performance

The study concludes that younger or more tech-savvy business owners find digital tools easier to adopt, while those less familiar with technology face learning and implementation barriers.

While a substantial number of SMEs find digital technology easy to use in daily operations, a notable percentage still face challenges, especially when integrating these tools across different business areas like marketing, finance, and sales.

Staff adaptation to digital tools also varies, with some SMEs reporting ease of use, while others indicate the need for additional training and technical support.

6.2 Recommendations

Invest in Digital Literacy and Training: To address challenges related to the perceived ease of use, SMEs should invest in digital literacy programs for both management and staff. Government agencies, private sector organizations, and NGOs can collaborate to offer training and capacity-building initiatives that support the development of technical skills needed to maximize the benefits of digital tools.

Improve Access to Digital Infrastructure: Policymakers should focus on enhancing digital infrastructure in Juba City, such as improving internet access, mobile network

coverage, and the availability of affordable digital devices. This will help more SMEs adopt and effectively integrate digital technology into their operations.

Encourage SME Investment in Digital Tools: SMEs that are hesitant to adopt digital tools due to cost concerns should be encouraged to explore financing options, such as government grants, microloans, or partnerships with tech providers offering subsidized services. This can facilitate investment in the technologies required to stay competitive and grow market share.

Facilitate Digital Technology Integration: SMEs should explore cloud-based and integrated digital solutions that allow for seamless connectivity between various business areas, such as accounting, marketing, and sales. Simplified, all-in-one platforms can reduce the complexity of digital adoption and improve overall business performance.

Tailored Support for SMEs Based on Size and Needs: Support programs and interventions should be tailored to the specific needs of different types of SMEs, considering their size, technical capacity, and market focus. Customized solutions will enable more effective adoption of digital technology, especially for businesses with limited resources or those in sectors with unique challenges.

Leverage Peer Learning and Case Studies: SMEs can benefit from learning about the successes and challenges of other local businesses that have adopted digital technology. Creating peer-learning platforms and showcasing case studies will help inspire more businesses to take steps toward digital transformation.

Strengthen Public-Private Partnerships: Collaborations between the government, private sector, and international organizations can help streamline digital

technology adoption for SMEs. Initiatives such as tax incentives for digital investments, public awareness campaigns, and partnerships with tech providers can accelerate SME access to affordable, relevant technologies.

6.3 Areas for further research

While this study explored the role of digital technology in expanding market share, future research could delve deeper into how digital tools influence customer retention and loyalty. Understanding the long-term impact of technology on customer relationships, repeat business, and loyalty programs would provide valuable insights for SMEs looking to sustain growth.

Another area of study is investigating how gender influences the adoption and use of digital technology among SME owners and employees could uncover important disparities. This could include examining the specific challenges faced by women entrepreneurs in adopting digital tools and how targeted interventions could support greater gender equality in the digital economy.

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APPENDIX: SURVEY QUESTIONNAIRE

Greetings,

I am **Apai Paul Zindo** from Uganda Christian University undertaking a research study entitled: “**The Role of Digital Technology Adoption on the Performances of Small and Medium-Scale Enterprises in Juba City, South Sudan**”. You are being requested to respond to these questions as honestly as possible. The information given is very important in understanding the study variables and further to help answer the research questions. The responses will be kept confidential and used for academic purposes only.

Please, circle/tick or fill in the space provided as appropriate

Tick (✓) where appropriate

Section A: Demographic Information

1. What is your gender?
 - Male
 - Female
 - Other
2. What is your age?
 - 18-25 years
 - 26-35 years
 - 36-45 years
 - 46 years and above
3. What is your marital status?
 - Single
 - Married
 - Cohabiting
 - Divorced
 - Widow
4. What is the nature of your business?
 - Retail
 - Manufacturing
 - Service-based
 - Other (please specify) _____
5. How long has your business been operational?
 - Less than 1 year

- 1-3 years
 - 4-6 years
 - 7-9 years
 - More than 10 years
6. How many employees do you have?
- 1-10
 - 11-50
 - 51-100
 - More than 100
7. Location of firm
- Konyokonyo Market
 - Jebel Market
 - Custom Market
 - Munuki Market

SECTION B: Digital Technology Adoption

Perceived Usefulness

8. To what extent do you agree with the following statements about the perceived usefulness of digital technology in your business? (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

S/N	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
01	Digital technology improves my business's revenue growth.					
02	The use of digital tools increases profitability in my business.					
03	Digital technology helps in expanding my market share.					
04	Using technology enhances my sales growth.					
05	Digital technology Increase client retention for my business.					

Perceived attitudes

9. To what extent do you agree with the following statements about your perceived attitudes toward digital technology adoption? (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

S/N	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
01	I believe adopting digital technology is essential for business success.					

02	I have a positive attitude towards adopting new technology to enhance the performance of my business.					
03	I feel confident that digital tools can boost my business performance.					
04	Digital technology adoption is a good investment for my business.					
05	I am willing to invest in more digital tools for future business growth.					

Perceived ease of use

10. To what extent do you agree with the following statements regarding the ease of use of digital technology in your business? (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

S/N	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
01	Digital technology is easy to use in my daily business operations.					
02	Learning to use digital tools in my business is simple.					
03	I find it easy to integrate digital technology into different areas of my business.					
04	The benefits of digital technology outweigh the effort required to use them.					
05	I feel that my staff can easily adapt to new digital tools without much difficulty.					

Section C: SME Performance

Market Share

11. Has digital technology adoption helped your business increase its market share in the past 2 years?

- Yes
- No
- Not sure

Section D: Additional Feedback

12. What challenges do you face when adopting digital technology in your business?

.....

13. What digital tools have had the most positive impact on your business performance?

.....

14. Do you have any suggestions for improving the adoption of digital technology in SMEs in Juba?

.....

The End. _____



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DISSERTATION CORRECTION COMPLIANCE REPORT BY THE CANDIDATE (POST VIVA FORM)

Date: 2nd/09/2025

Name of Candidate: Apai Paul Zindo **Reg. No:** S22M15/003

Title of Dissertation: The Role of Digital Technology Adoption on the Performance of SMEs in Juba City, South Sudan.

SN	COMMENTS BY VIVA VOCE PANEL	ACTION TAKEN	INDICATOR
1	Stick to one indicator under SME Performance and use 3 arrows from the IV to the DV.	The study only used one indicator, Market Growth. Three arrows were drawn from the IV to the DV.	Pg 9
2	Use only quantitative methodology other than mixed methodology. Change from Convenience random sampling to Simple random sampling	The Study only used quantitative data. The Study adopted a simple random sampling.	Pg 19
3	Use regression analysis to show relationship between variables.	The study adopted a multiple regression analysis.	Pg 36
4			

APAI PAUL ZINDO

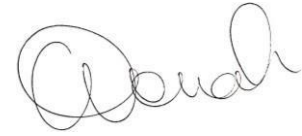
Candidate's Name

A handwritten signature in black ink, appearing to read 'Apai Paul Zindo', with a period at the end.

Signature

Dr. Donah Asii mire

Supervisor's Name

A handwritten signature in black ink, appearing to read 'Donah Asii mire', written in a cursive style.

Signature