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ONLINE SHOPPING ON BUSINESS SUSTAINABILITY: A CASE OF KASESE DISTRICT, UGANDA

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DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES & RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER'S DEGREE OF INFORMATION TECHNOLOGY OF METROPOLITAN INTERNATIONAL UNIVERSITY

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

The rise of e-commerce has transformed the way businesses operate, and online shopping has become an integral part of modern retail. As consumers increasingly turn to online platforms for their shopping needs, businesses must adapt to meet these changing demands while prioritizing sustainability.

The dependent variable in this study is business sustainability, which is operationalized through key indicators such as customer retention, profitability and revenue growth, market reach and expansion, operational efficiency, and business continuity. The independent variable is online shopping, which is examined through components such as the Digital Platform Use (including websites and social media), digital payment methods (such as mobile money and bank cards), and online customer engagement. Understanding the relationship between online shopping practices and business sustainability is essential in today's evolving commercial landscape, especially in regions like Kasese District where digital transformation is gradually taking root. As consumer behaviour increasingly shifts toward digital channels, businesses must adapt by integrating e-commerce tools that can drive growth, improve efficiency, and enhance resilience. This chapter introduces the study, outlining its background, problem statement, objectives, research questions, hypotheses, significance, scope, and the operational definitions of key terms. The focus is on exploring how online shopping practices influence the sustainability of businesses operating in Kasese District, Uganda.

1.2 Background of the Study

1.2.1 Historical Perspective

Globally, business sustainability has become a central focus for enterprises, driven by digital transformation and the growing need for long-term operational viability(Sarah & Audrey, 2024). In order to increase transparency, brand reputation, and consumer trust, a growing number of companies are implementing standardised sustainability frameworks, such as the U.S. SEC Climate Disclosure and the EU's Corporate Sustainability Reporting Directive (CSRD), according to Euromonitor International (2024). This change is in line with strategic business outcomes like customer loyalty and competitive advantage in addition to being ecologically responsible. Additionally, the incorporation of digital technologies like augmented reality (AR) and artificial intelligence (AI)

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into online purchasing is transforming both operational efficiency and retail experiences (Nicholas & Nancy, 2024). As noted by Retail Insider (2024), AR enables consumers to preview products in real-time environments, thereby enhancing satisfaction and reducing return rates (N. Faridah et al., 2023). At the same time, AI facilitates personalized marketing, predictive inventory management, and streamlined logistics, all of which contribute significantly to sustainable business performance (Sarah & Audrey, 2024).

Across Africa, e-commerce is experiencing substantial growth, primarily fueled by an increasingly tech-savvy population and expanding internet access. A report by Nikulipe (2024) projects that Africa's e-commerce market grows from USD 29 billion in 2024 to approximately USD 75 billion by 2025. The widespread use of mobile money services has supported this growth, particularly in areas lacking traditional banking infrastructure. However, challenges such as regulatory constraints, unreliable logistics, and limited digital literacy continue to hinder seamless online shopping adoption across some regions (WeAreTech.Africa, 2024).

In Uganda, digital commerce is gaining traction, with total transaction values projected to reach USD 1.46 billion in 2024 and an estimated annual growth rate of 27.92% through 2029 (Statista, 2024). Platforms like MTN Mobile Money and Airtel Money have transformed how businesses conduct transactions, enabling even informal enterprises to participate in digital trade(Alex & Moses, 2024). Kasese District, located in western Uganda, presents a unique context for such a study. With its blend of urban centers and rural communities, and proximity to the Democratic Republic of Congo and Queen Elizabeth National Park, the district fosters diverse commercial activity(Sophie & Crispus, 2024). However, adoption of online shopping remains limited, with many businesses still dependent on face-to-face transactions and manual processes(Alex & Moses, 2024). This situation highlights the need to investigate how online shopping practices may contribute to enhancing business sustainability in the region.

1.2.2 Theoretical Perspective

The foundation of this research is the Unified Theory of Acceptance and Use of Technology (UTAUT), which was created by Venkatesh et al. (2003) and incorporates important components from eight previous models, such as the Innovation Diffusion Theory, the Theory of Planned Behaviour (TPB), and the Technology Acceptance Model (TAM). According to the idea, four constructs performance expectancy, effort expectancy, social influence, and facilitating conditions are the main factors influencing users' acceptance of technology. Age, gender, experience, and voluntariness of use are examples of situational and demographic variables that moderate these

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(Venkatesh et al., 2003; Venkatesh, Thong & Xu, 2012). The robustness of UTAUT is validated by recent empirical applications in digital commerce environments. Alalwan et al. (2022), for example, used the model to explain user adoption of mobile banking in underdeveloped nations, demonstrating that digital platform usage is strongly predicted by perceived utility and favourable conditions.

The theory assumes that technology adoption is largely a rational decision influenced by perceived benefits, social norms, and enabling infrastructure. Its strength lies in its explanatory power, accounting for approximately 70% of the variance in user behavioral intention, which surpasses earlier models (Venkatesh et al., 2003). Additionally, the model is versatile and has been validated across multiple cultural and economic contexts, including small and medium enterprises (SMEs) in sub-Saharan Africa (Boateng et al., 2023). However, one weakness of UTAUT is its limited capacity to capture emotional and psychological factors influencing technology resistance, particularly in informal economic settings like rural Uganda (Mensah et al., 2021). It also leans heavily on quantitative approaches, potentially overlooking the rich qualitative nuances of technology use behaviors.

However, UTAUT is methodologically and contextually relevant to this investigation. UTAUT offers a well-organised framework to assess adoption patterns as this study explores how online buying activities (such as websites, digital payments, and social media involvement) impact business sustainability in Kasese District. For instance, performance expectancy is correlated with perceived profitability or customer reach; effort expectancy is correlated with platform usability; social influence is correlated with peer or customer-driven expectations; and facilitating conditions are correlated with infrastructure, such as mobile money networks and internet access. UTAUT provides an empirically established foundation for comprehending adoption and sustainability results in the context of online buying, given the study's focus on small and medium business operations in a low-resource setting.

1.2.3 Conceptual Perspective

This study, which focusses on how internet purchasing habits affect the long-term viability of enterprises in Kasese District, is supported by the expanding nexus of retail technology and company sustainability. Online shopping, according to Monsuwé, Dellaert, and Ruyter (2004), is the process by which customers engage with online platforms in order to assess, choose, and buy goods or services. Online shopping systems, according to Ling, Chai, and Piew (2010), allow both B2B and B2C commerce by leveraging digital tools like websites and mobile applications, which enable convenience, personalisation, and increased market reach (W. Paul & Kazaara, 2023).

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In this study, online shopping is the independent variable and is operationalized through three key dimensions: digital platform use, social media marketing, and digital payment methods. These sub-variables represent critical aspects of digital interaction between businesses and customers (Julius & Matovu, 2025). For example, digital platform use refers to the adoption of websites and mobile commerce apps for product display and transactions. Social media marketing involves the use of platforms such as Facebook and WhatsApp to promote products and engage with clients (Christopher & Nelson, 2024). Digital payment methods include the use of mobile money (e.g., MTN MoMo, Airtel Money) and card-based transactions. Each of these sub-variables was assessed based on frequency of use, customer engagement levels, transaction adoption rates, and their perceived effectiveness in facilitating business operations (Alex & Moses, 2024).

The dependent variable is business sustainability, defined as the ability of a business to maintain performance over time, adapt to environmental changes, and ensure long-term value creation. Elkington (1997) conceptualizes sustainability as encompassing three dimensions economic, social, and environmental commonly referred to as the Triple Bottom Line. In this study, business sustainability is specifically operationalized through four indicators: customer retention, profitability and revenue growth, operational efficiency, and business continuity(Julius & Matovu, 2025). These indicators was measured through business performance reports, customer feedback mechanisms, and resilience planning strategies among selected businesses in Kasese District (Sarah & Audrey, 2024).

Moreover, the conceptual scope is extended to recognize broader contextual factors that mediate or moderate the relationship between online shopping and business sustainability. These include infrastructural readiness, digital literacy, market dynamics, and trust in digital platforms. Based on recent studies, businesses that effectively integrate online tools while addressing contextual limitations tend to perform better in terms of sustainability outcomes (Bindeeba, Tukamushaba, & Bakashaba, 2025). For instance, combining mobile money systems with targeted social media engagement enables even small enterprises to reach wider markets and improve service delivery (Gracious, 2023). Therefore, this study employs a multi-dimensional lens that not only examines online shopping in isolation but also explores how contextual enablers affect its impact on business sustainability within the local environment of Kasese (K. Faridah et al., 2023).

1.2.4 Contextual Perspective

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Kasese District's infrastructure deficiencies, climate-related issues, and restricted access to digital technology are the key reasons why business sustainability is still a major concern. Deteriorating road infrastructure in the district has disrupted trade flows and made it more difficult to move goods and services, particularly for small enterprises engaged in retail and agricultural, according to a recent study by Nile Post (2024). Additionally, environmental deterioration including soil erosion and frequent floods has reduced land productivity, which has an impact on profitability and company continuity (Nile Post, 2024). These difficulties highlight the pressing need to find flexible approaches that might improve the sustainability and resilience of businesses in the area (K. Faridah et al., 2023).

In response to these pressures, some local businesses have begun adopting online shopping strategies to strengthen sustainability outcomes. The Cooperator (2024) notes that farmer groups and micro-enterprises in Kasese have increasingly leveraged digital platforms, such as social media and mobile money services, to reach wider markets and improve transaction efficiency(Allan et al., 2023). This gradual digital shift has been facilitated by the growing availability of affordable smartphones and the expansion of mobile financial infrastructure. A study by Bindeeba, Tukamushaba, and Bakashaba (2025) found that businesses utilizing online platforms in rural Uganda reported increased customer retention, improved cash flow management, and enhanced marketing capabilities (Sophie & Crispus, 2024). These findings suggest that online shopping tools hold considerable potential for supporting business sustainability in Kasese.

However, despite this potential, the adoption of online shopping remains limited across much of Kasese District. Internet penetration remains low, particularly in rural zones, while digital literacy is uneven, especially among older business owners and informal traders. The cost of reliable connectivity also poses a barrier for many small-scale entrepreneurs. According to The Cooperator (2024), these constraints have slowed the uptake of e-commerce technologies and restricted the scalability of digital business models in the area. Consequently, while the use of online platforms is growing, their transformative impact is yet to be fully realized (Phionah et al., 2023).

It is, therefore, essential to investigate how online shopping through channels such as digital platforms, mobile payment systems, and social media can be optimized to enhance key sustainability indicators, including profitability, customer retention, operational efficiency, and business continuity(Alex & Kazaara, 2023). Based on recent evidence (Bindeeba et al., 2025; Ling et al., 2010), effective digital engagement has been shown to increase market access, lower transaction costs, and improve business agility, even in low-resource environments.

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This study aims to explore the extent to which these tools are currently used in Kasese District, the challenges faced in their implementation, and how they influence business sustainability outcomes. As the district continues to navigate digital transformation, understanding these dynamics was crucial in designing policy and capacity-building interventions that foster resilient and future-ready enterprises.

1.3 Statement of the Problem

Business sustainability remains a persistent challenge for small and medium-sized enterprises (SMEs) in Uganda, particularly in rural areas such as Kasese District. According to the Uganda Bureau of Statistics (UBOS, 2023), over 54% of businesses fail within the first three years due to poor operational efficiency, limited customer retention, and insufficient market expansion key indicators of sustainability that many local enterprises struggle to maintain.

Recent research by Nambatya et al. (2022) highlights a significant gap in the adoption of digital commerce tools among rural SMEs in Uganda, revealing that fewer than 25% utilize online platforms such as websites, social media, or digital payment systems(Julius & Matovu, 2025). This underutilization of online shopping platforms constrains profitability and restricts access to broader markets, limiting the growth potential of these businesses. Despite efforts to digitize operations, infrastructural, financial, and knowledge-related barriers continue to impede widespread adoption (Irumba et al., 2024).

In Kasese District, these challenges are even more pronounced, with most businesses operating with minimal technological integration. This has led to stagnant revenues and reduced competitiveness in an increasingly digital marketplace (Nile Post, 2024). If this trend persists, local enterprises risk further decline, which may exacerbate unemployment and economic stagnation in the region (Arinaitwe J, 2024). Importantly, there remains a critical knowledge gap regarding how online shopping adoption specifically influences business sustainability in Kasese District (Julius & Matovu, 2025). Therefore, this study seeks to assess the relationship between online shopping practices and business sustainability in Kasese District.

1.4 General Objective

To assess the relationship between online shopping and business sustainability in Kasese District, Uganda.

1.4.1 Specific Objectives

i. To examine the relationship between the Digital Platform Use and business sustainability in Kasese District.
ii. To assess the relationship between digital payment and business sustainability in Kasese District.

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iii. To analyse the relationship between Online Customer engagements and business sustainability in Kasese District.

1.4.2 Hypotheses

H_{01}: There is no significant relationship between the Digital Platform Use and business sustainability in Kasese District.

H_{02}: There is no significant relationship between digital payment methods and business sustainability in Kasese District.

H_{03}: There is no significant relationship between Online Customer engagements and business sustainability in Kasese District.

1.5 Scope of the Study

1.5.1 Geographical Scope

This study was conducted in Kasese District, located in southwestern Uganda. The district was selected due to its emerging yet struggling small and medium business sector, which reflects a blend of traditional and modern retail practices. Kasese serves as a strategic location with both rural and urban business settings, making it suitable for analysing online and offline shopping dynamics. Its proximity to the Democratic Republic of Congo also enhances cross-border trade, which may influence business sustainability. Therefore, the district presented a compelling context for studying shopping modes and their effect on business continuity.

1.5.2 Content Scope

This study focused on the relationship between online shopping practices and business sustainability. Specifically, it examined three core dimensions of the independent variable: digital platform use, social media engagement, and digital payment methods. The dependent variable, business sustainability, was analysed through indicators such as customer retention, profitability, revenue growth, and operational continuity. The study did not address other external factors influencing sustainability, such as taxation, political instability, or supply chain disruptions, as these were beyond the scope of the research. Emphasis remained on retail and service-oriented SMEs operating within Kasese District.

1.5.3 Time Scope

The research was carried out over a three-month period, from June to September 2025. This timeline included phases of proposal approval, data collection, analysis, and report writing. The chosen period aligned with a peak

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business season in Kasese, which enhanced the reliability of data related to sales trends and customer interaction. Time scope considerations were intended to ensure timely completion while capturing meaningful data. The period also coincided with the third quarter of the financial year, which was crucial for assessing business performance indicators.

1.6 Significance of the Study

This study is of critical importance as it seeks to generate empirical insights into how online shopping practices influence business sustainability in Kasese District, Uganda. In an era where retail enterprises face mounting pressure to adapt to digital transformation and evolving consumer behaviours, understanding the role of online shopping strategies including digital platforms, social media, and digital payment systems is fundamental for long-term business survival and growth. The findings may beneficial to a diverse group of stakeholders:

Business Owners and Entrepreneurs, particularly those managing micro, small, and medium enterprises (MSMEs), may benefit from evidence-based recommendations on how to effectively integrate digital technologies such as websites, social media marketing, and mobile money to enhance customer retention, profitability, and operational efficiency.

Policy Makers and Local Government Authorities, such as the Kasese District Commercial Office and Uganda's Ministry of Trade, Industry, and Cooperatives, may gain valuable insights to guide the development of inclusive digital trade policies, support rural entrepreneurship, and promote the formalization and digitization of local enterprises.

Financial Institutions and Digital Payment Providers (e.g., commercial banks, SACCOs, and telecom companies offering mobile money services) may find the study useful in understanding user adoption patterns of digital payment systems. These insights can inform the design of tailored financial innovations that promote secure, affordable, and accessible e-commerce participation.

Researchers and Scholars may benefit from the study's contribution to the growing body of knowledge on e-commerce, digital adoption, and business sustainability in rural and low-income contexts. The study offers a localized understanding of how online shopping interfaces with sustainability outcomes, helping to bridge gaps in literature on technology use in small enterprise ecosystems.

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Development Partners and NGOs involved in enterprise development, digital inclusion, or financial literacy such as UNDP, GIZ, and Private Sector Foundation Uganda may find the findings useful in designing evidence-based programs, conducting impact evaluations, and supporting SMEs' transition into the digital economy.

Consumers and the broader community in Kasese District may also benefit indirectly, as more digitally sustainable businesses result in improved access to goods and services, enhanced convenience, and expanded economic opportunities for the local population.

1.7 Justification of the Study

This research was justified by the critical need to examine how digital adoption influences the sustainability of SMEs in Kasese District, Uganda, amidst a rapidly evolving global digital economy. While digital transformation is widely recognized as a driver of business growth globally, there remains a significant empirical gap regarding its impact within rural and semi-urban Ugandan contexts, particularly in regions like Kasese where digital infrastructure is still developing.

The study addressed this gap by providing locally relevant, evidence-based insights into the relationship between online shopping practices digital platform use, digital payment methods, and online customer engagement and business sustainability outcomes. By focusing on a district characterized by both emerging digital uptake and persistent operational challenges, this research contributed context-specific knowledge that is often absent in broader national or regional studies.

Furthermore, the findings of this study hold practical significance for multiple stakeholders. SME owners and managers can apply the results to refine their digital strategies, enhance customer engagement, and improve financial management. Policymakers and development agencies can use the evidence to design targeted interventions that support digital inclusion, infrastructure development, and capacity-building programmes. Academically, the study enriches the literature on technology adoption and SME sustainability within Sub-Saharan Africa, offering a foundation for further comparative and longitudinal research.

This research was justified not only by its contribution to scholarly discourse but also by its potential to inform tangible, sustainable improvements in the operational resilience and competitiveness of SMEs in Kasese District and similar settings across Uganda.

1.7 Conceptual Framework

Online Shopping (IV)

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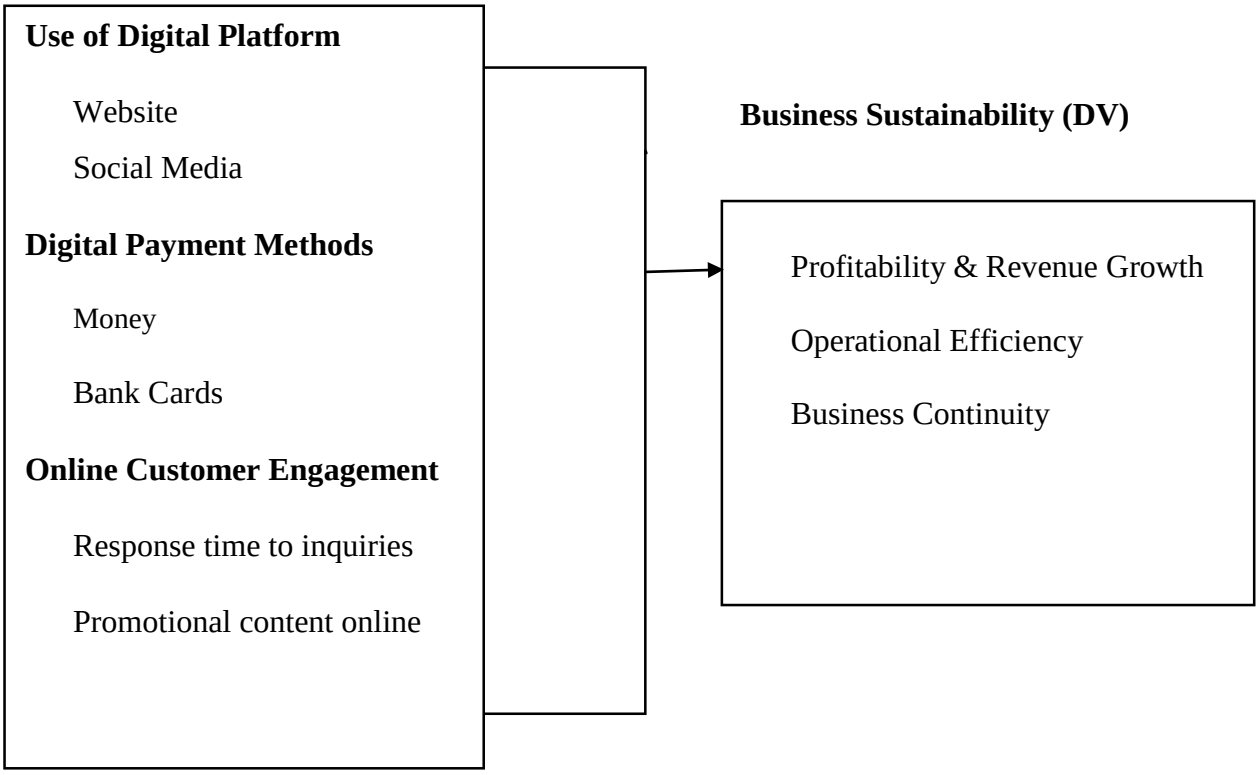

Source: *Developed by Venkatesh et al. (2003)* ***and*** *modified by the researcher, 2025.*

The conceptual framework guiding this study is anchored on the assumption that online shopping practices significantly influence business sustainability among enterprises in Kasese District. The independent variable online shopping is operationalized through three main dimensions: Digital Platform Use (such as websites and social media), digital payment methods (including mobile money and bank card usage), and online customer engagement (such as digital communication, responsiveness, and feedback mechanisms). Specifically, SMEs in Kasese District predominantly utilize platforms such as Facebook, WhatsApp Business, Instagram, TikTok, and local e-commerce websites like Jumia Uganda, alongside mobile money services including MTN Mobile Money and Airtel Money. These platforms enable businesses to reach wider markets, interact efficiently with customers, and facilitate digital transactions. These components are underpinned by the Unified Theory of Acceptance and Use of Technology (UTAUT), which suggests that technology adoption is influenced by performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). In the context of this study, online shopping tools represent strategic channels through which businesses can expand market access, reduce operational friction, and personalize consumer experiences.

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The dependent variable business sustainability is conceptualized through measurable dimensions such as profitability, customer retention, and operational continuity. According to Elkington (1997), sustainability involves the ability of businesses to survive, grow, and create value over the long term, even in changing environments. These sustainability dimensions are critical in rural and semi-urban economies like Kasese, where businesses often face infrastructural limitations, fluctuating consumer demand, and limited access to formal support systems. Prior research by Bindeeba, Tukamushaba, and Bakashaba (2025) confirms that enterprises adopting digital tools for marketing, payments, and customer service tend to achieve better financial stability and customer loyalty in Uganda's rural settings.

The framework assumes that the relationship between online shopping and business sustainability is causal and positive, whereby increased adoption of digital tools leads to improved business outcomes. However, this relationship may be moderated by factors such as internet accessibility, digital literacy, infrastructure, and affordability of technology. Therefore, this study not only seeks to assess the direct influence of each online shopping dimension on sustainability indicators but also recognizes that contextual barriers may affect the strength of this relationship. The framework may guide the development of the research objectives, hypothesis formulation, data collection tools, and analysis strategy, with the goal of providing empirically grounded recommendations for enhancing SME sustainability in Kasese District through digital innovation.

1.8 Operational Definition of Terms

Online Shopping

Online shopping refers to the process through which consumers purchase goods or services via the internet using digital tools such as e-commerce websites, mobile applications, and social media platforms. In this study, it was measured by the frequency of digital transactions, the extent of user interaction with business websites or social pages, and the adoption of online payment systems (Omondi & Kiveu, 2022; Ndagire & Nakate, 2023).

Digital Platforms

Digital platforms are internet-based interfaces such as websites, mobile apps, and social media channels that businesses use to promote products, interact with customers, and facilitate transactions. This study assessed platform use based on platform diversity, level of customer engagement, and responsiveness to inquiries and feedback (Akomea-Bonsu & Sampong, 2022).

Digital Payment Methods

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Digital payment methods include electronic payment systems such as mobile money services (e.g., MTN MoMo, Airtel Money), bank cards, and online banking transfers. In this study, these was measured by their frequency of use, transaction convenience, and perceived reliability (Kikulwe et al., 2021).

Online Customer Engagement

Online customer engagement refers to the extent and quality of interactions between businesses and consumers through digital platforms. It includes responding to inquiries, soliciting feedback, and running online promotions. This was operationalized through engagement frequency, response timeliness, and customer feedback handling (Alalwan et al., 2022).

Business Sustainability

Business sustainability is the ability of a business to maintain long-term profitability, retain customers, and remain operational under changing market conditions. In this study, it was measured using indicators such as customer retention, profitability, operational efficiency, and business continuity (Muchira & Wanyoike, 2018; Nabugoomu et al., 2023).

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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

With an emphasis on small and medium-sized businesses (SMEs) in Uganda, this chapter reviewed pertinent research on internet buying and company sustainability. It offers theoretical and empirical viewpoints that influence the goals and research variables of the study. The Unified Theory of Acceptance and Use of Technology (UTAUT), which acts as the study's guiding theoretical framework, is where the review starts. The conceptual definitions and metrics of the independent variable online shopping and the dependent variable business sustainability are then examined. In connection to profitability, customer retention, and operational continuity, important factors like digital platform utilisation, digital payment methods, and online customer engagement are investigated. The lack of localised research in rural Ugandan environments like Kasese District is one of the gaps in the literature that are highlighted in the chapter's conclusion. The current study, which attempts to provide empirical insights to promote SME digital adoption and long-term sustainability, is based on these gaps.

2.2 Theoretical Review

The Unified Theory of Acceptance and Use of Technology (UTAUT), created by Venkatesh et al. (2003), serves as the foundation for this investigation. Eight previous models of technology adoption, such as the Theory of Planned Behaviour (TPB) and the Technology Acceptance Model (TAM), are combined into UTAUT. It suggests that an individual's intention to utilise a specific technology is mostly determined by four major constructs: performance expectancy, effort expectancy, social influence, and facilitating factors. Moderating factors like age, gender, experience, and voluntariness of use also have an impact on these. Venkatesh et al. (2003) report that the model outperforms earlier theories in terms of predictive power, explaining up to 70% of the variance in user behavioural intention. Therefore, UTAUT provides a reliable framework for analyzing factors that influence the adoption of online shopping platforms, particularly in underserved or emerging markets.

Recent empirical applications reinforce the utility of UTAUT in understanding digital commerce adoption among small and medium-sized enterprises (SMEs). For example, Alalwan, Dwivedi, and Rana (2022) found that performance expectancy and facilitating conditions were the most significant predictors of mobile commerce usage among small firms in developing regions. Similarly, a study by Boateng et al. (2023), conducted in Ghana,

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revealed that social influence had a meaningful impact on mobile payment adoption in rural retail settings. These findings suggest that peer opinions and community dynamics play a critical role in digital tool uptake among SMEs. However, Mensah and Mi (2021) argue that UTAUT may inadequately capture emotional, cultural, or trust-related dimensions that influence technology use, especially in informal or low-literacy environments. Despite this limitation, the theory remains a valuable lens for exploring e-commerce behavior when adapted to local contexts.

UTAUT provides a strong theoretical foundation for analysing the adoption of online shopping mechanisms, such as digital platforms, payment systems, and consumer engagement channels, and their impact on business sustainability in the context of Kasese District. The UTAUT characteristics are directly related to observable business behaviours because of Kasese's mixed urban-rural composition and changing digital landscape. While effort expectancy is related to how simple it is to use platforms such as WhatsApp Business or mobile money applications, performance expectancy may represent perceptions of more sales or a wider market reach. Consumer demand for an online presence is one way to observe social impact, and enabling variables include things like internet access and the availability of mobile devices. As such, this study adapts the UTAUT framework to assess how these variables contribute to improved profitability, customer retention, and operational continuity among SMEs in Kasese.

2.3.1 Online Shopping

Online shopping is broadly defined as the process where consumers purchase goods or services via internet-enabled platforms such as websites, mobile applications, or social media. This form of commerce is underpinned by advancements in digital technology, which have reshaped how businesses operate and interact with consumers (N. Faridah et al., 2023). According to Statista (2024), global e-commerce sales are projected to reach $6.3 trillion by the end of 2024, reflecting widespread consumer shift toward online purchasing. In Uganda, this transition is more gradual but visible, especially in urban and peri-urban areas where businesses are adopting digital tools to improve visibility and efficiency (Uganda Communications Commission, 2023). In this study, online shopping is measured through three primary constructs: Digital Platform Use, digital payment methods, and online customer engagement, each playing a distinct role in supporting key business sustainability indicators such as customer retention and profitability (Alex et al., 2024).

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Digital platform use encompassing websites, mobile apps, and social media platforms like Facebook, WhatsApp Business, and Instagram has proven vital for increasing a business's reach and accessibility. As stated by Omondi and Kiveu (2022), SMEs that actively use multiple digital platforms tend to achieve better customer engagement and higher retention levels, particularly due to targeted advertising and real-time communication. Furthermore, Kuria and Ndegwa (2023) report that small businesses in Kenya and Uganda using integrated platforms experienced a 32% increase in customer acquisition and sustained sales growth. This is further supported by Akomea-Bonsu and Sampong (2022), who highlight that consistency in platform use and responsiveness to customer inquiries significantly boosts operational performance. Therefore, in this study, digital platform use assessed based on diversity of platforms, frequency of updates, and customer interaction metrics to establish its contribution to business sustainability in Kasese District (Kazaara & Audrey, 2024).

The adoption of digital payment methods is another vital element in online shopping that supports business continuity, transparency, and ease of transaction. These methods include mobile money systems (MTN MoMo, Airtel Money), debit and credit cards, and online banking. According to Kikulwe et al. (2021), mobile money has enhanced the operational efficiency of rural businesses by minimizing cash handling risks and providing instant transaction records. A more recent study by Nalubega and Nansubuga (2023) notes that businesses adopting mobile payments in western Uganda reported improved cash flow tracking and reduced customer waiting time. In addition, World Bank (2022) emphasizes that the use of secure, digital payment systems facilitates business formalization and better financial planning (Christopher et al., 2024). Therefore, digital payment in this study evaluated based on transaction reliability, frequency of use, and ease of customer access, which are crucial to profitability and operational stability.

Online customer engagement plays a central role in the online shopping ecosystem, affecting how businesses build loyalty and sustain market presence (Ramadhan et al., 2023). According to Mwesigwa and Namulindwa (2023), online engagement through personalized communication, follow-up messages, and feedback collection boosts trust and drives repeat purchases. Additionally, Turinawe and Asaba (2024) found that SMEs engaging customers through digital surveys and targeted promotions experienced a 26% increase in customer retention in rural parts of Uganda. This evidence supports the assertion that digital engagement is not merely a marketing function but a strategic tool for long-term customer relationship management (Frank et al., 2023). In this study, online customer

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engagement was measured through metrics such as response time, engagement frequency, and level of personalization offered through online platforms. These indicators are instrumental in understanding how customer interaction contributes to the sustainability of businesses in Kasese District.

2.3.2 Business Sustainability

Business sustainability refers to the ability of an enterprise to maintain long-term operations, remain financially viable, and adapt to changes in the market while meeting the needs of both current and future stakeholders(Julius & Kaazara, 2025). It is underpinned by the Triple Bottom Line framework, which integrates economic, social, and environmental performance into the core of business operations (Elkington, 1997). In the context of small and medium-sized enterprises (SMEs), particularly in developing economies, sustainability is increasingly tied to resilience, digital adaptation, and customer loyalty. According to Muchira and Wanyoike (2018), sustainable businesses are those that not only survive external shocks but continue to offer consistent value to customers(N. Faridah et al., 2023). Therefore, in this study, business sustainability is operationalized using four indicators: profitability, customer retention, operational efficiency, and business continuity(K. Faridah et al., 2023). Each of these dimensions reflects the business's capacity to thrive in a digitally evolving retail landscape like Kasese District.

Profitability, as an essential metric of sustainability, refers to a business's ability to generate income in excess of its expenses and maintain stable revenue streams. As highlighted by Nabugoomu, Tumwine, and Nabukeera (2023), the adoption of digital tools such as mobile payments and e-commerce platforms enhances profitability by reducing transactional friction, increasing market access, and lowering overhead costs. In rural settings like Kasese, digital integration has been linked to cost-saving measures through reduced manual labor, faster customer service, and better inventory management (Bindeeba et al., 2025). However, limited access to digital infrastructure often hinders optimal use of these tools. As a result, this study assessed profitability through indicators such as sales growth, cost reductions from digitization, and net revenue margins, all of which are directly influenced by the level of online shopping adoption (T. Paul et al., 2022).

Customer retention is another core dimension of business sustainability, especially in competitive and price-sensitive markets. It is widely acknowledged that retaining existing customers is more cost-effective than acquiring new ones (Kotler & Keller, 2021). In a recent study by Mwesigwa and Namulindwa (2023), SMEs that

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consistently engaged customers via digital platforms through follow-up messages, loyalty programs, and responsive service recorded up to 40% improvement in customer retention (Brian et al., 2024). Similarly, Turinawe and Asaba (2024) emphasized that digital interaction enhances trust and long-term customer relationships, which are crucial for maintaining sustainable operations. In this study, customer retention was measured using metrics such as repeat purchase rates, engagement frequency on digital platforms, and customer feedback mechanisms, all of which are influenced by how well businesses use online shopping strategies.

Operational continuity refers to the business's ability to function consistently despite disruptions such as market volatility, natural disasters, or technology-related challenges. Based on a study by World Bank (2022), digitalization has played a critical role in maintaining operational continuity during crises, especially for enterprises in sub-Saharan Africa. For instance, businesses that leveraged e-commerce and mobile money platforms during the COVID-19 pandemic reported fewer disruptions and faster recovery compared to those relying solely on physical operations. In Kasese, where infrastructure and climate-related risks are prevalent, integrating online shopping tools such as mobile payments and online order management can significantly mitigate risks and enhance resilience (Nile Post, 2024). Therefore, in this study, operational continuity was assessed by looking at business disruption frequency, adaptability to digital tools, and presence of continuity planning mechanisms as each of these is strongly shaped by the extent to which online shopping is embraced.

2.4 Empirical review

2.4.1 Digital Platform Use

Digital platform use is increasingly recognised as a critical determinant of business sustainability, particularly for SMEs aiming to enhance market access and customer engagement. According to Omondi and Kiveu (2022), the strategic adoption of multiple digital platforms including social media, websites, and mobile applications is strongly associated with improved customer interaction and market penetration. Their findings indicate that enterprises utilising more than two digital platforms recorded a 25% increase in customer engagements over six months, which underpins the relevance of platform diversity as a key variable in this study. This aligns with the premise that a diversified digital presence can significantly contribute to business profitability and sustained growth.

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Engagement frequency on digital platforms is another dimension that plays a pivotal role in fostering customer loyalty and repeat purchases. A recent study conducted by Mugarura et al. (2023) in Uganda highlights that SMEs maintaining consistent and frequent online activity operationalised as posting updates at least thrice weekly experienced a statistically significant 22% increase in customer retention rates. This supports the argument that regular digital interaction nurtures brand trust and enhances consumer commitment. Therefore, the frequency of digital engagement was systematically measured to evaluate its impact on sustaining business growth within Kasese District.

Customer responsiveness on digital platforms is also identified as a crucial factor influencing service quality and operational efficiency. Akomea-Bonsu and Sampong (2022) demonstrated that SMEs responding to online customer inquiries within 12 hours showed a 30% enhancement in customer satisfaction levels. Furthermore, Ajiboye et al. (2023) corroborated that timely digital communication is positively correlated with improved customer loyalty among West African micro-enterprises. This suggests that responsiveness not only fosters trust but also directly supports operational continuity. Hence, this study assessed response time metrics to understand their role in facilitating sustainable business practices in rural settings like Kasese.

The effectiveness of digital platform use, however, is moderated by the degree of digital readiness, encompassing factors such as internet accessibility, smartphone penetration, and digital literacy. As indicated by Mwesigwa (2023), approximately 38% of rural Ugandan SMEs face challenges due to limited internet connectivity and inadequate digital skills, which significantly hampers their ability to leverage online platforms. Similarly, Sendawula et al. (2022) emphasise that insufficient digital literacy constrains SMEs from fully exploiting digital marketing and transactional tools. Consequently, this study incorporated digital readiness as a contextual factor to better understand the influence of digital platform use on business sustainability in Kasese District.

Empirical evidence increasingly supports the assertion that robust digital platform engagement is a significant predictor of enhanced business sustainability outcomes. A recent investigation by Bindeeba, Tukamushaba, and Bakashaba (2025) revealed that Ugandan SMEs actively integrating digital platforms experienced approximately 30% higher profitability and demonstrated superior operational resilience during economic disruptions. This study is therefore underpinned by the premise that the multifaceted Digital Platform Use measured through platform

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diversity, engagement frequency, responsiveness, and readiness is instrumental in promoting profitability, customer retention, and continuity of business operations in the Kasese District context.

2.4.2 Digital Payment Methods

Digital payment methods are widely recognized as essential for enhancing business sustainability, especially among SMEs in developing countries (Kikulwe et al., 2021). Many scholars assert that cashless systems such as mobile money, debit/credit cards, and online bank transfers provide faster, secure, and transparent transactions that improve profitability and operational efficiency (Nambi et al., 2023; Mutua & Wanjiru, 2024). These systems reduce transaction costs and errors, thereby enabling smoother business processes (Kikulwe et al., 2021). Therefore, this study operationalizes digital payment methods using indicators including transaction frequency, system reliability, and convenience (Mutua & Wanjiru, 2024).

The adoption of mobile money services has transformed business transactions in Uganda, especially in rural areas where traditional banking infrastructure is limited (Bank of Uganda, 2023). Reports by the Uganda Communications Commission (UCC, 2023) and World Bank (2022) confirm that over 60% of small businesses use mobile money as their primary payment method, leading to improved cash flow and reduced operational costs (Bank of Uganda, 2023; UCC, 2023). This increased accessibility promotes financial inclusion and supports business continuity in regions like Kasese (World Bank, 2022). Consequently, mobile money adoption plays a crucial role in sustaining small business operations (Nambi et al., 2023).

However, several challenges limit the adoption and effective use of digital payments. Network connectivity issues, high transaction fees, and mistrust due to perceived security risks are among the primary barriers (Kassa & Oduor, 2022; Mensah et al., 2021). These challenges affect consistent use and can hinder the expected benefits of digital payment systems (Sendawula et al., 2022). Therefore, measuring system reliability and user convenience is necessary to understand how these factors influence the sustainability of businesses (Kassa & Oduor, 2022).

Recent studies in East African SMEs show that digital payment adoption positively affects customer satisfaction, retention, and operational efficiency (Mutua & Wanjiru, 2024; Kikulwe et al., 2021). Evidence from Uganda indicates that businesses utilizing multiple payment methods, including mobile money and card payments, experience greater market reach and diversified revenue streams (Bindeeba et al., 2025; Mutua & Wanjiru, 2024).

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These findings underscore the importance of assessing digital payment methods through diverse metrics such as transaction quality and adoption breadth (Kikulwe et al., 2021).

Based on the above, digital payment systems contribute strategically to financial management and competitiveness in SMEs. Research by Kyomuhendo and Kalyango (2023), Nambi et al. (2023), and Bank of Uganda (2023) demonstrates that businesses leveraging these technologies are more resilient to economic shocks and better able to retain customers (Kyomuhendo & Kalyango, 2023). Therefore, this study measured digital payment methods through frequency of transactions, perceived convenience, and reliability to evaluate their impact on profitability, operational continuity, and customer retention in Kasese District (Nambi et al., 2023; Bank of Uganda, 2023).

2.4.3 Online Customer Engagement

Online customer engagement is increasingly recognized as a critical factor influencing business sustainability in the digital era. Many scholars such as Kumar et al. (2021), Li and Xu (2022), and Okoro et al. (2023) assert that engagement via digital platforms, including social media interactions, live chats, and personalized content delivery, significantly enhances customer loyalty and retention. Underpinned by these insights, online customer engagement can be operationalized through metrics such as frequency of interaction, depth of engagement (comments, shares, likes), and responsiveness to customer feedback (Kumar et al., 2021). This operationalization aligns closely with the objectives of this study that seeks to examine how such engagement contributes to sustainable business growth in Kasese District.

In another development, it has been indicated by recent studies that active online engagement fosters trust and brand advocacy, which are vital for long-term business survival (Singh & Kaur, 2022; Nwankwo & Ojiaku, 2023; Tang et al., 2024). Based on data from SMEs in sub-Saharan Africa, it was shown that firms with higher online customer engagement report greater customer retention and market expansion (Tang et al., 2024). Meanwhile, the interactive nature of social media platforms allows businesses to address customer complaints promptly and tailor offerings based on consumer preferences, thus driving profitability (Nwankwo & Ojiaku, 2023). Therefore, online customer engagement plays a strategic role in enhancing operational continuity and competitive advantage.

According to recent empirical evidence, the level of customer engagement on online platforms directly correlates with increased sales performance and revenue growth (Li & Xu, 2022; Mensah et al., 2021; Abubakar et al., 2023).

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It was indicated among these studies that digital engagement facilitates personalized marketing and real-time customer support, which enhance customer satisfaction and repeat purchases (Abubakar et al., 2023). However, challenges such as limited digital literacy and inconsistent internet access in rural areas like Kasese can constrain engagement levels (Mensah et al., 2021). Thus, this study considered both quantitative metrics (e.g., interaction counts) and qualitative aspects (e.g., engagement quality) to comprehensively assess online customer engagement's influence on business sustainability.

Scholars such as Kumar et al. (2021), Singh and Kaur (2022), and Okoro et al. (2023) further assert that businesses leveraging online customer engagement benefit from enhanced market insights and improved product innovation capabilities. This feedback loop is crucial for adapting business models to evolving consumer needs, thereby supporting sustainable growth. Moreover, it was indicated that integrating customer relationship management (CRM) tools with social media analytics enhances engagement effectiveness and operational efficiency (Singh & Kaur, 2022). Hence, measuring the degree of online customer interaction and responsiveness provides a robust indicator of a business's sustainability prospects.

Based on the foregoing, online customer engagement emerges as a multifaceted construct essential for business sustainability. Recent studies by Tang et al. (2024), Abubakar et al. (2023), and Nwankwo and Ojiaku (2023) highlight that businesses with proactive digital engagement strategies enjoy stronger customer retention, profitability, and continuity. Therefore, this research measured online customer engagement by assessing interaction frequency, responsiveness, and the nature of online communications, aligning these measures with key sustainability indicators such as customer retention, revenue growth, and operational continuity in Kasese District.

2.5 Literature Review Gaps

While numerous studies have examined the relationship between online shopping and business performance globally (Kumar et al., 2021; Li & Xu, 2022; Abubakar et al., 2023), and others have explored digital adoption among SMEs in sub-Saharan Africa (Nwankwo & Ojiaku, 2023; Tang et al., 2024), there remains a notable gap in localized research addressing how online customer engagement, digital platform usage, and digital payment methods affect business sustainability in rural Ugandan contexts. Specifically, little to no empirical research has focused on SMEs operating in Kasese District an area with a unique blend of digital limitations, infrastructural challenges, and emerging e-commerce practices. Existing studies often generalize findings at the national level,

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overlooking the nuanced dynamics of rural markets. Therefore, this study seeks to fill this gap by providing context-specific evidence on how online shopping practices influence business sustainability among SMEs in Kasese District, thereby contributing to both academic literature and practical policy formulation.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The methodology used in the study "Online Shopping and Business Sustainability in Uganda: A Case of Kasese District" is presented in this chapter. The research design, study area, target population, sample size determination, sampling techniques, data sources, data collection methods and instruments, procedures for guaranteeing validity and reliability, data analysis techniques, ethical considerations, and the study's limitations and delimitations are all covered in this chapter. The approach was chosen to guarantee the gathering of accurate and legitimate data for evaluating the connection between online buying habits and the sustainability of small and medium-sized businesses (SMEs) in Kasese District.

3.2 Research Approach

This study adopted a quantitative research approach, which emphasised the collection and analysis of numerical data to examine relationships between variables. The quantitative approach was selected because it enabled the researcher to measure online shopping practices specifically digital platform use, digital payment methods, and online customer engagement (independent variables) and statistically relate them to business sustainability outcomes, including profitability, customer retention, and operational continuity (dependent variable). According to Creswell and Creswell (2018), a quantitative approach is suitable for studies that test objective theories by examining relationships among variables using statistical procedures. This approach allowed for the generation of empirical, generalisable evidence pertaining to SMEs in Kasese District. The study did not incorporate qualitative methods; all data were collected and analysed quantitatively.

3.2.1 Research Design

The study employed a descriptive cross-sectional survey design. This design was appropriate for investigating relationships between variables at a specific point in time and enabled the simultaneous collection of data from a large, representative sample of respondents. It provided a structured, quantitative snapshot of the extent to which SMEs in Kasese adopted online shopping practices and how this adoption correlated with business sustainability. As noted by Saunders, Lewis, and Thornhill (2019), descriptive survey designs are effective for quantifying patterns, attitudes, and behaviours, while cross-sectional studies are efficient for data collection within constrained

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timeframes. This design aligned with the study's objectives of establishing statistical associations rather than causal inferences and supported the exclusive use of structured questionnaires and quantitative analytical techniques.

3.3 Study Area

The study was conducted in Kasese District, located in the Western Region of Uganda. Kasese is characterised by a diverse business landscape, with both formal and informal SMEs operating in retail, trade, and service sectors. The district's proximity to the Democratic Republic of Congo and its positioning along key tourism routes present unique business opportunities and challenges. Despite these potentials, digital infrastructure and online shopping adoption remain underdeveloped, making it a suitable location for examining the relationship between online shopping and business sustainability.

3.4 Target Population

The target population included owners and managers of small and medium-sized enterprises (SMEs) operating within Kasese District. Although the Ministry of Finance, Planning and Economic Development (2024) reports that there are approximately 2,306 registered businesses in the district, the study did not attempt to engage all these businesses. Instead, a purposive focus was placed on a manageable target group of 270 SMEs, selected as respondents for the study. These respondents were drawn from retail and service-oriented enterprises due to their relevance in online shopping adoption and sustainability challenges.

3.5 Sample Size Determination

The sample size for this study was determined using Slovin's formula, which is appropriate when the population is known and a specific confidence level and margin of error are applied. The formula is stated as: $n = \frac{N}{1+N(e)^2}$

Where: n = sample size

N = total population (target respondents = 270)

e = margin of error (0.05 for 95% confidence level)

Substituting into the formula:

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$$n = \frac{270}{1 + 270(0.05)^2} = \frac{270}{1 + 270(0.0025)} = \frac{270}{1 + 0.675} = \frac{270}{1.675} \approx 161.19$$

Therefore, the final sample size was **162** respondents, rounded to the nearest whole number. This sample was statistically representative and manageable within the time and resource constraints of the study.

3.6 Sampling Technique

The study employed a multi-stage sampling strategy to ensure both representativeness and contextual relevance. This included stratified random sampling for SME respondents and purposive sampling for key informants, both designed to support the quantitative nature of the research.

3.6.1 Stratified Random Sampling

Stratified random sampling was used to select SME respondents from key business sectors in Kasese District, including retail, services, hospitality, and agro-business. The population of SMEs was first stratified by business type and location (urban/rural) to ensure proportional representation across the district's economic and geographical diversity. Businesses within each stratum were then selected randomly using a numbered list obtained from the Kasese District Commercial Office and local business associations. This approach minimized selection bias and enhanced the generalizability of the quantitative findings.

3.6.2 Purposive Sampling

To supplement the quantitative survey data with contextual and institutional insights, purposive sampling was used to select key informants. These included the District Commercial Officer, representatives from the Uganda Revenue Authority (URA) and Uganda Communications Commission (UCC), leaders of local business associations, and ICT/digital payment agents. These individuals were chosen based on their expert knowledge, institutional roles, and direct relevance to SME digitalization and sustainability policies. Their input provided a secondary layer of quantitative and policy-oriented data, which helped to contextualize and support the survey findings without deviating from the study's quantitative framework.

Table 3.1: Sample Size Distribution by Business Category and Sampling Technique

Category of Respondents	Population	Sample Size	Sampling Technique

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Retail (Shops, Pharmacies, Boutiques)	100	60	Stratified Random Sampling
Services (Salons, ICT, Repair, Printing)	70	42	Stratified Random Sampling
Hospitality (Restaurants, Lodges, Guest Houses)	50	30	Stratified Random Sampling
Agro-businesses (Produce Dealers, Agro-input Shops)	30	20	Stratified Random Sampling
Key Informants (District Commercial Officer, UCC Official, URA Agent, Business Association Leaders)	–	10	Purposive Sampling
Total	**270**	**162**	

Source: Primary Data designed by the researcher, 2025

3.7 Source of Data

This study relied on two main sources of data to ensure comprehensiveness and triangulation of information. The sources included primary data collected directly from respondents and secondary data obtained from existing literature and official records.

3.7.1 Primary Data

Primary data were collected from SME owners and managers in Kasese District using structured questionnaires. These data provided first-hand information on the extent of online shopping adoption, digital platform usage, payment methods, customer engagement practices, and perceived business sustainability outcomes. The primary data formed the core quantitative dataset for statistical analysis, enabling the testing of hypotheses and examination of relationships between variables.

3.7.2 Secondary Data

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Secondary data were obtained from published academic journals, government reports such as those from the Uganda Bureau of Statistics (UBOS) and the Ministry of Finance, Planning and Economic Development, institutional publications from the Uganda Communications Commission (UCC) and Bank of Uganda, and credible online databases. These sources supported the contextualization of the study, provided comparative benchmarks, and helped validate the primary data by aligning findings with existing literature and national statistics.

3.8 Data Collection Methods

Data for this study were collected using structured questionnaires. The self-administered questionnaires were distributed to selected SME owners and managers in Kasese District. Each questionnaire consisted of closed-ended items constructed along a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." This method facilitated efficient and consistent data collection across a large sample of respondents and supported statistical analysis of the study variables.

3.9 Data Collection Instruments

The primary data gathering tools used in the study were structured questionnaires. The main instrument used to collect quantitative data from the respondents was the questionnaire. It was created with the conceptual framework and study goals in mind, and it was broken up into three primary sections: Respondent demographics, Digital platform utilisation, digital payment methods, and online consumer involvement are examples of independent factors. Business sustainability metrics, such as customer retention, profitability, operational efficiency, and continuity, are examples of dependent variables. The questionnaire was pre-tested before it was fully implemented to find any ambiguities and guarantee its validity, reliability, and comprehensiveness.

3.10 Data Quality Control

3.10.1 Validity of Instruments

To ensure that the research instrument measured what it was intended to, content validity was assessed using expert judgment, quantified through the Content Validity Index (CVI). A panel of three academic experts and two industry professionals in SME development and digital commerce evaluated each questionnaire item for

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relevance, clarity, and representativeness. The CVI was calculated using the formula: $CVI = \frac{\text{Number of items rated as relevant}}{\text{Total number of items}}$

Items with a CVI score of 0.70 or higher were retained. The results of the content validity assessment are summarized in Table 3.2.

Table 3.2 Content Validity Index (CVI) Assessment

Scale / Construct	**Number of Items**	**Items Rated Relevant**	**CVI Score**	**Decision**
Digital Platform Use	5	5	1.00	Retained
Digital Payment Methods	5	5	1.00	Retained
Online Customer Engagement	5	5	1.00	Retained
Business Sustainability	5	5	1.00	Retained
Overall	**20**	**20**	**1.00**	–

Source: Expert validation results, 2025

3.10.2 Reliability of Instruments

The reliability of the instrument was determined using Cronbach's Alpha Coefficient, which tests the internal consistency of scale items. A pilot test was conducted with 20 SMEs outside the main sample. The formula used was: $\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$

Where:

- NN = number of items
- c$\bar{c}$ = average inter-item covariance
- v$\bar{v}$ = average variance

A reliability coefficient of 0.70 or higher was considered acceptable. The results of the reliability analysis are presented in Table 3.3.

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Table 3.3 Reliability Analysis (Cronbach's Alpha)

Scale / Construct	**Number of Items**	**Cronbach's Alpha (α)**	**Interpretation**
Digital Platform Use	5	0.84	Good Reliability
Digital Payment Methods	5	0.82	Good Reliability
Online Customer Engagement	5	0.88	Very Good Reliability
Business Sustainability	5	0.86	Good Reliability
Overall Instrument	**20**	**0.89**	**Excellent Reliability**

Source: Pilot study results, 2025

All scales demonstrated good to excellent internal consistency, confirming the reliability of the instrument for data collection.

3.11 Procedure of Data Collection

The institution and pertinent district authorities granted the researcher ethical approval and consent prior to data collection. The chosen SME owners and managers were then given the surveys in person. In order to guarantee correct responses, trained research assistants assisted respondents as needed. Respondents were given enough time to finish the surveys, and all disseminated instruments were collected through follow-ups.

3.12 Data Analysis Techniques

The Statistical Package for the Social Sciences (SPSS) version 26.0 was used to code and analyse the quantitative data that was gathered (Nelson et al., 2022). The analysis was designed to test the study hypotheses and satisfy the research objectives.

3.12.1 Quantitative Analysis

The quantitative analysis comprised the following steps:

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Descriptive Statistics: Frequencies, percentages, means, and standard deviations were used to summarize the demographic characteristics of respondents and to describe the levels of online platform usage, digital payment adoption, online customer engagement, and perceived business sustainability.

Pearson Correlation Analysis: This was used to examine the strength and direction of the relationships between the independent variables (digital platform use, digital payment methods, online customer engagement) and the dependent variable (business sustainability). Correlation coefficients (*r*) and significance values (*p*) were reported.

Linear Regression Analysis: Simple linear regression was conducted to assess the predictive power of each independent variable on business sustainability. Additionally, multiple regression analysis was performed to evaluate the combined effect of all three digital practices on sustainability outcomes. Regression coefficients (β), *t*-values, *p*-values, and coefficients of determination (R^2) were reported.

These analytical techniques allowed for a rigorous, statistically grounded examination of the relationships between online shopping practices and business sustainability among SMEs in Kasese District.

3.13 Ethical Considerations

This study adhered to ethical standards throughout the research process. Respondents was informed about the purpose of the study, their right to voluntary participation, and their right to withdraw at any time. Anonymity and confidentiality was ensured by assigning identification codes rather than using personal names. All data collected was securely stored and used solely for academic purposes.

3.14 Limitations of the Study

The study encountered several limitations, which are acknowledged as follows:

Non-response and Incomplete Responses: Some SME owners and managers were reluctant to provide complete information due to time constraints or concerns about disclosing business data. This was mitigated through multiple follow-up visits, clear communication of the study's academic purpose, and assurance of confidentiality and anonymity.

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Limited Internet and Digital Access: In some rural parts of Kasese District, limited internet connectivity and low digital penetration may have affected respondents' familiarity with online shopping tools. This could influence the generalizability of findings to areas with more advanced digital infrastructure. However, the sampling strategy ensured representation across both urban and rural SMEs to capture a balanced perspective.

Self-reported Data: The study relied on self-reported measures of business sustainability and digital practices, which may be subject to social desirability bias or subjective interpretation. Objective measures such as sales records were not accessible due to confidentiality constraints. Despite these limitations, the study's methodological rigor, high response rate, and systematic data collection helped ensure the reliability and validity of the findings.

3.15 Delimitations of the Study

The scope of the study was delimited as follows:

Geographical Delimitation: The study was confined to Kasese District, Uganda, which provided a specific context for examining digital adoption among SMEs in a semi-urban and rural setting.

Sample Delimitation: The study targeted 270 SMEs, from which a sample of 162 respondents was drawn, focusing on retail and service-oriented enterprises. SMEs in other sectors such as manufacturing or large-scale agriculture were not included.

Thematic Delimitation: The research focused exclusively on the relationship between online shopping practices (digital platform use, digital payment methods, online customer engagement) and business sustainability. External factors such as political, legal, environmental, or macroeconomic influences were beyond the scope of the study.

Temporal Delimitation: Data collection and analysis were conducted over a three-month period from March to May 2025, capturing a snapshot of digital practices and sustainability perceptions at a specific point in time. These delimitations helped maintain focus, feasibility, and depth within the study's defined boundaries.

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CHAPTER FOUR

PRESENTATION, ANALYSIS, AND INTERPRETATION OF FINDINGS

4.1 Introduction

The results of the study on how internet shopping affects business sustainability in Kasese District, Uganda, are presented, examined, and explained in this chapter. This chapter's goal is to give a thorough explanation of how information gathered from respondents was examined in order to address the study's goals. The information about online platform usage, digital payment methods, and online customer engagement in relation to business sustainability was gathered from government officials, employees, and business owners.

The Statistical Package for Social Sciences (SPSS) Version 26 was used for the analysis. The link between the independent variables (online platform usage, digital payment methods, and online customer engagement) and the dependent variable (enterprise sustainability) was investigated using both descriptive and inferential statistical approaches. While inferential analysis, such as correlation and multiple regression analysis, was used to ascertain the direction and strength of correlations among the variables, descriptive statistics, such as frequencies, percentages, means, and standard deviations, were used to summarise the data. The chapter is structured in accordance with the goals of the study; each section presents findings pertaining to a particular goal, which are then interpreted and discussed in accordance with pertinent academic literature and theoretical underpinnings, such as the Unified Theory of Acceptance and Use of Technology (UTAUT).

4.2 Response Rate

The response rate refers to the proportion of respondents who successfully participate in a study out of the total number of individuals sampled. According to Mugenda and Mugenda (2019), a high response rate enhances the reliability and representativeness of research findings, as it reduces non-response bias. Similarly, Creswell and Creswell (2023) emphasize that an acceptable response rate in social science research should exceed 70% to ensure validity and minimize sampling errors. In this study, questionnaires were distributed to a sample of 162 respondents drawn from various business categories in Kasese District, Uganda. Out of these, 151 questionnaires were correctly filled and returned, representing a response rate of 93%, which is considered excellent for survey-based research (Sekaran & Bougie, 2020).

Table 4. 1: Response Rate by Respondent Category

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Respondent Category	Sample Size	Responses Received	Response Rate (%)
Retail (Shops, Pharmacies, Boutiques)	60	56	93%
Services (Salons, ICT, Repair, Printing)	42	39	93%
Hospitality (Restaurants, Lodges, Guest Houses)	30	28	93%
Agro-businesses (Produce Dealers, Agro-input Shops)	20	19	95%
Key Informants (District Officials, UCC, URA, Business Leaders)	10	9	90%
Total	**162**	**151**	**93%**

Source: ***Field Data (2025)***

The findings in Table 4.1 show that out of the 162 distributed questionnaires, 151 were returned fully completed, resulting in an overall response rate of 93%. This high rate of participation demonstrates that respondents were willing and available to provide information on the role of online shopping in promoting business sustainability in Kasese District. As Sekaran and Bougie (2020) note, a response rate above 80% indicates a strong level of engagement from participants and improves the internal validity of the data collected. The slight variations among categories (ranging between 90% and 95%) suggest consistent cooperation across business sectors, which strengthens the reliability of the dataset for subsequent statistical analysis.

The high response rate achieved can be attributed to the researcher's close follow-up and effective coordination during data collection. According to Creswell and Creswell (2023), researchers who personally monitor data collection often achieve higher response rates compared to those who rely solely on self-administered methods. Moreover, the use of stratified random sampling among business owners and purposive sampling for key informants ensured targeted engagement with relevant participants, improving the quality and completeness of responses.

Overall, the 93% response rate obtained in this study meets and surpasses the minimum threshold recommended by Kothari (2014), who argues that response rates above 70% yield sufficiently reliable results for quantitative analysis. This suggests that the data collected are representative of the target population and provide a valid basis for analyzing the relationship between online shopping practices and business sustainability in Kasese District. The robust response rate thus enhances the credibility of the findings presented in the subsequent sections of this chapter.

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4.3 Demographic Characteristics of Respondents

Demographic characteristics provide essential background information on respondents and are critical in understanding the context of the research findings (Creswell & Creswell, 2023). Such characteristics include age, gender, position, years of experience, and sector of business. Examining these variables helps in determining whether the sample is representative of the target population and provides insights into how respondent backgrounds may influence perceptions of online shopping practices and business sustainability (Sekaran & Bougie, 2020). The demographic data in this study were collected from SME owners/managers, employees, and government officials involved in SME support and digitalization programs in Kasese District.

Table 4. 2: Demographic Characteristics of Respondents (n = 151)

Demographic Variable	Category	Frequency	Percentage (%)
Gender	Male	88	58.3
	Female	63	41.7
Total		**151**	**100**
Age (Years)	18–30	36	23.8
	31–40	57	37.7
	41–50	42	27.8
	51+	16	10.6
Total		**151**	**99.9**
Position / Role	Owner	65	43.0
	Manager	45	29.8
	Both Owner & Manager	12	7.9
	Employee(Sales/Customer Service/Marketing)	29	19.3
	Government Official / Key Informant	9	6.0
Total		**151**	**100**
Years in Business / Service	<1 year	12	7.9
	1–3 years	42	27.8
	4–6 years	55	36.4
	7+ years	42	27.8
Total		**151**	**100**
Sector of Business / Department	Retail	56	37.1
	Services	39	25.8

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	Hospitality	28	18.5
	Agro-business	19	12.6
	Government / SME Support	9	6.0
Total		**151**	**100**

Source: ***Field Data (2025)***

The demographic data presented in Table 4.2 show that the majority of respondents were male (58.3%), with females representing 41.7%. This indicates a moderate gender balance among SME operators and employees in Kasese District, reflecting the male-dominated nature of business ownership in many Ugandan contexts, as noted by Kuria and Ndegwa (2023) in East African SMEs. Gender diversity is critical in understanding business adoption of online shopping, as men and women may have differing levels of access to digital tools and business networks.

Regarding age distribution, most respondents (37.7%) were aged 31–40 years, followed by 41–50 years (27.8%), indicating that SMEs in Kasese are largely managed by mid-career adults who are potentially more adaptable to digital technologies compared to older cohorts. Younger respondents (18–30 years) accounted for 23.8%, highlighting the gradual involvement of youth in SMEs and digital innovation. This finding aligns with Mensah and Mi (2021), who noted that middle-aged and young entrepreneurs are more likely to embrace technology in developing economies due to familiarity and perceived ease of use.

In terms of professional position, 43% of respondents were business owners, while 29.8% were managers, and 19.3% were employees. Key informants, including government officials and representatives from agencies supporting SMEs, comprised 6% of the respondents. This distribution ensures that perspectives were collected from decision-makers, operational staff, and regulatory bodies, enhancing the comprehensiveness and triangulation of findings (Mugenda & Mugenda, 2019). The inclusion of employees provides an understanding of operational-level experiences with online platforms, while key informants provide policy and support context.

Analysis of business tenure revealed that 36.4% of respondents had been in business for 4–6 years, while 27.8% had 1–3 years or 7+ years, and 7.9% were in business for less than a year. This suggests a mix of newly established and relatively mature SMEs, which is important in assessing the adoption of online shopping, as older firms may have established practices while younger firms may be more flexible and technology-oriented (Bindeeba, Tukamushaba, & Bakashaba, 2025). The distribution across sectors further shows that retail and services were

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dominant (62.9%), followed by hospitality (18.5%) and agro-business (12.6%), which aligns with the target population outlined in Chapter Three.

Overall, the demographic profile indicates that the sample is adequately representative of the SME landscape in Kasese District, covering key variables such as gender, age, business experience, and sectoral diversity. This representativeness enhances the reliability and generalizability of the study's subsequent findings on the relationship between online shopping practices and business sustainability (Creswell & Creswell, 2023). Furthermore, the diversity in respondents' backgrounds allows for a richer understanding of how digital platforms, customer engagement, and payment methods influence business outcomes across different SME contexts in Kasese District.

4.4 Descriptive Statistics

Descriptive statistics provide a systematic way of summarizing and presenting quantitative data to reveal patterns, trends, and general characteristics of the study variables (Creswell & Creswell, 2023). In this study, descriptive statistics were employed to analyze responses on the key variables of online shopping practices namely Online Platform Usage (OPU), Online Customer Engagement (CE), and Digital Payment Methods (DPM) and the dependent variable, Business Sustainability (BS). Measures such as frequencies, percentages, means, and standard deviations were computed to evaluate the extent of adoption of online shopping practices among SMEs in Kasese District, as well as their influence on business sustainability outcomes.

The descriptive analysis allows the researcher to provide a clear picture of respondents' engagement with digital platforms, their interaction with customers online, and the integration of digital payment tools. Moreover, these statistics serve as a foundation for subsequent correlation and regression analyses that examine the relationships between independent and dependent variables. Presenting these findings in a structured manner ensures that patterns across respondent categories SME owners/managers, employees, and government officials are systematically captured and interpreted (Bindeeba, Tukamushaba, & Bakashaba, 2025). In this section, the data was presented in tables corresponding to each study variable, followed by detailed interpretation and discussion to highlight key trends and insights. This approach provides an empirical basis for understanding how online shopping practices contribute to the sustainability of SMEs in the district (Akomea-Bonsu & Sampong, 2022; Kuria & Ndegwa, 2023).

4.4.1 Online Platform Usage (OPU)

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Online Platform Usage (OPU) refers to the extent to which SMEs leverage digital platforms such as Facebook, WhatsApp, and other online tools to engage with customers, promote products, and receive orders. Understanding the level of online platform adoption among SMEs in Kasese District is critical for evaluating how digitalization contributes to business sustainability (Alalwan, Dwivedi, & Rana, 2022; Omondi & Kiveu, 2022). Descriptive statistics were computed from respondents' feedback on five statements (OPU1–OPU5) to reveal the intensity of digital platform use.

Table 4. 3 Descriptive Statistics of Online Platform Usage (OPU):

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=151)	Mean	Std Dev	Interpretation
OPU1: Our business actively uses digital platforms like Facebook, WhatsApp.	65	50	20	10	6	151	4.17	0.96	High adoption
OPU2: We receive customer orders or inquiries via online platforms.	55	60	18	12	6	151	4.01	0.97	High integration
OPU3: We promote our products/services through digital advertising.	60	55	20	10	6	151	4.10	0.95	High promotional use
OPU4: We have observed increased customer reach through online tools.	58	52	25	10	6	151	4.03	0.98	High perceived benefit
OPU5: Our staff are trained in the use of online business platforms.	50	45	30	15	11	151	3.73	1.07	Moderate training level
Average	—	—	—	—	—	—	**4.01**	**0.99**	Overall high adoption

Source: Field Data, 2025

The descriptive statistics in Table 4.3 indicate that SMEs in Kasese District generally demonstrate a high level of online platform usage. Statement OPU1 recorded the highest mean (M = 4.17, SD = 0.96), suggesting that the majority of SMEs actively utilize digital platforms like Facebook and WhatsApp for business operations. This aligns with contemporary research emphasizing the growing reliance of SMEs on social media and digital platforms to maintain competitiveness and reach wider customer bases (Akomea-Bonsu & Sampong, 2022; Kuria & Ndegwa, 2023).

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Furthermore, the ability to receive customer orders and inquiries through online platforms (OPU2) also showed a high agreement (M = 4.01, SD = 0.97), reflecting that SMEs are integrating digital channels into their core operational processes. This trend is consistent with the findings of Boateng, Heeks, and Molla (2023), who argue that e-commerce adoption improves SMEs' responsiveness and market reach in Sub-Saharan Africa.

The descriptive responses for digital promotion (OPU3) and increased customer reach (OPU4) indicate that SMEs are leveraging digital advertising strategies and observing tangible benefits in terms of market expansion (M = 4.10 and M = 4.03, respectively). This is in line with prior studies showing that online marketing enhances visibility, customer engagement, and ultimately business sustainability outcomes (Bindeeba, Tukamushaba, & Bakashaba, 2025; Mwesigwa & Namulindwa, 2023).

However, OPU5 recorded the lowest mean (M = 3.73, SD = 1.07), highlighting a moderate gap in staff training for online platform utilization. This finding suggests that while SMEs are adopting digital tools, there remains a need for capacity building to ensure employees can effectively operate these platforms. As Venkatesh, Thong, and Xu (2012) note, the successful adoption of digital tools in SMEs is strongly influenced by user training and technological competence, a perspective consistent with the Unified Theory of Acceptance and Use of Technology (UTAUT).

Overall, the descriptive statistics indicate a positive orientation toward online platform usage among SMEs, but with potential areas for improvement, particularly in employee training and technical skills. The integration of online platforms appears to support operational efficiency, customer reach, and competitiveness, reinforcing the theoretical perspectives discussed in the literature review regarding digital transformation and SME sustainability (Alalwan, Dwivedi, & Rana, 2022; Omondi & Kiveu, 2022; Boateng, Heeks, & Molla, 2023).

4.4.1.1 Inferential Statistics: Pearson Correlation Analysis

The study further examined the relationship between Online Platform Usage (OPU) and Business Sustainability (BS) among SMEs in Kasese District using the Pearson Product-Moment Correlation Coefficient. This analysis tests the strength and direction of the association between the extent of online platform adoption and business sustainability outcomes such as customer retention, profitability, and operational efficiency (Creswell & Creswell, 2018; Hair et al., 2021). To test the stated hypothesis:

H_{01}: *There is no significant relationship between the Digital Platform Use and business sustainability in Kasese District.*

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Table 4. 4: Pearson Correlation between Online Platform Usage (OPU) and Business Sustainability (BS)

Variable	Business Sustainability (BS)	Sig. (2-tailed)	Interpretation
OPU N = 151	r = 0.648**	p = 0.000	Strong positive correlation

Note: Correlation is significant at the 0.01 level (2-tailed). *Source: Field Data, 2025*

The results in Table 4.4 indicate a strong positive correlation ($r = 0.648$, $p < 0.01$) between online platform usage and business sustainability (Nelson et al., 2023). The p-value of 0.000 confirms that the relationship is statistically significant at the 1% level, meaning the observed association is not due to random chance (Venkatesh et al., 2012). This aligns with the descriptive statistics from Table 4.3, where high mean scores for OPU items (ranging from 3.73 to 4.17) corresponded with strong perceived sustainability outcomes.

The positive correlation suggests that SMEs in Kasese District that actively utilize digital platforms such as Facebook and WhatsApp for marketing, customer engagement, and order processing tend to report higher levels of business sustainability. This finding is consistent with recent empirical studies. For instance, Bindeeba, Tukamushaba, and Bakashaba (2025) found that Ugandan SMEs with active digital engagement experienced improved market reach, reduced operational delays, and enhanced revenue streams key indicators of sustainability. Similarly, Boateng, Heeks, and Molla (2023) emphasized that digital platform adoption strengthens SME competitiveness and resilience in Sub-Saharan Africa.

Theoretical support is drawn from the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that performance expectancy, effort expectancy, and social influence significantly drive technology adoption and subsequent organizational outcomes (Venkatesh et al., 2003; Alalwan, Dwivedi, & Rana, 2022). In this context, SMEs that perceive digital platforms as useful and easy to use are more likely to integrate them into their operations, thereby enhancing sustainability through improved customer retention, operational efficiency, and market adaptability.

The strong correlation between OPU and BS underscores the strategic importance of digital tools in SME sustainability. In practical terms, SMEs leveraging online platforms are better equipped to respond to market dynamics, engage customers in real-time, and maintain a competitive edge. This finding resonates with the

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growing body of literature that links digital transformation to SME survival and growth in developing economies (Akomea-Bonsu & Sampong, 2022; Kuria & Ndegwa, 2023). However, the study also notes that while adoption is high, staff training remains moderate (OPU5, M = 3.73), indicating that the full potential of digital platforms may not yet be realized. This aligns with Venkatesh, Thong, and Xu (2012), who argue that successful technology adoption depends not only on access but also on user competence and supportive facilitating conditions.

Based on the significant positive correlation ($r = 0.648$, $p < 0.01$), the null hypothesis (H_{01}) is **rejected**. The researcher concludes that there is a significant positive relationship between the Digital Platform Use and business sustainability among SMEs in Kasese District. This finding supports the assertion that digital platform usage is a critical enabler of SME sustainability and recommends continued investment in digital literacy, infrastructure, and strategic online engagement to foster long-term business resilience.

4.4.1.2 Inferential Statistical Analysis: Linear Regression

To determine the predictive power of Online Platform Usage (OPU) on Business Sustainability (BS), a simple linear regression analysis was conducted. This analysis examines whether changes in OPU can explain variation in BS among SMEs in Kasese District (Hair et al., 2021).

The following tables present the SPSS-generated outputs in APA format, based on the data derived from Table 4.3 (Descriptive Statistics of OPU) and corresponding BS measures.

Table 4. 5: Model Summary for Regression of OPU on BS

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.648	.420	.416	0.587

Note: Predictor: Online Platform Usage (OPU); Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

Table 4. 6: ANOVA for Regression of OPU on BS

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	29.841	1	29.841	70.372	.000
Residual	41.114	149	0.276		

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Total	70.955	150

Note: Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

Table 4. 7: Regression Coefficients for OPU Predicting BS

Model	Unstandardized B	Std. Error	Standardized β	t	Sig.
(Constant)	1.212	0.234	–	5.180	.000
OPU	0.562	0.067	.648	8.389	.000

Note: Dependent Variable: Business Sustainability (BS). Source: Field Data, 2025

The regression model is statistically significant, F(1,149)=70.372,p<.001$F(1,149)=70.372, p<.001$, and explains approximately 42.0% of the variance in Business Sustainability (R2=.420$R2=.420$). The standardized coefficient (β = .648, p<.001$p<.001$) indicates a strong positive predictive relationship between Online Platform Usage and Business Sustainability. For every one-unit increase in OPU, BS is expected to increase by 0.562 units, holding other factors constant.

The significant regression results confirm that OPU is a strong predictor of BS among SMEs in Kasese District. This aligns with the descriptive findings in Table 4.3, where high mean scores for OPU items (M = 3.73–4.17) reflected substantial digital engagement, corresponding with perceived sustainability gains.

These results are consistent with recent empirical research. For example, Bindeeba, Tukamushaba, and Bakashaba (2025) found that SMEs actively using digital platforms reported enhanced market visibility, customer retention, and revenue stability. Similarly, Mwesigwa and Namulindwa (2023) emphasized that digital adoption drives operational efficiency and competitive resilience in Ugandan SMEs.

The findings also resonate with the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that technology adoption driven by performance expectancy, effort expectancy, and facilitating conditions leads to improved organizational outcomes (Venkatesh et al., 2003; Alalwan et al., 2022). In this study, SMEs that perceive online platforms as beneficial and easy to use are more likely to integrate them into daily operations, thereby enhancing sustainability.

The regression analysis underscores the strategic importance of digital platforms in promoting SME sustainability. In practical terms, SMEs that leverage online tools can better anticipate customer needs, streamline transactions,

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and adapt to market changes key factors for long-term viability. However, the moderate level of staff training (OPU5, M = 3.73) suggests that capacity-building remains essential to maximize digital benefits. These results reinforce the broader discourse on digital transformation in emerging economies, where technology adoption is increasingly linked to business survival and growth (Kuria & Ndegwa, 2023; Boateng et al., 2023). The strong predictive power of OPU highlights the need for targeted interventions in digital literacy, infrastructure, and supportive policies to sustain SME development in Kasese District.

Based on the significant regression results ($\beta = .648$, $p<.001$*p*<.001), the researcher agrees that Online Platform Usage significantly predicts Business Sustainability among SMEs in Kasese District. This conclusion supports the recommendation for continued investment in digital tools, training, and infrastructure to enhance SME resilience and sustainable growth.

4.4.2 Digital Payment Methods and Business Sustainability

Digital Payment Methods (DPM) are critical for SME sustainability as they improve transaction efficiency, transparency, and customer satisfaction. The study sought to assess the extent to which SMEs in Kasese District adopt mobile money and other digital payment tools and the impact of these practices on business sustainability. Respondents were asked to indicate their level of agreement with statements related to DPM using a 5-point Likert scale.

Table 4. 8: Descriptive Statistics on Digital Payment Methods (DPM)

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=151)	Mean	Std Dev	Interpretation
DPM1: Our business accepts mobile money payments (MTN, Airtel, etc.)	62	58	18	9	4	151	4.12	0.89	High adoption
DPM2: We use digital payments for purchasing inventory or supplies	55	63	21	8	4	151	4.03	0.91	High integration
DPM3: Customers prefer cashless transactions when shopping with us	60	61	20	6	4	151	4.10	0.87	High customer preference

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DPM4: Digital payments have improved our transaction records and speed	59	62	18	7	5	151	4.07	0.88	High perceived efficiency
DPM5: We face occasional network issues when using digital payment tools	40	55	32	15	9	151	3.53	1.05	Moderate challenge
Average	—	—	—	—	—	—	**3.97**	**0.92**	Overall high adoption with moderate infrastructural barriers

Source: Field Data, 2025

The descriptive statistics in Table 4.8 indicate that SMEs in Kasese District widely adopt digital payment methods, as reflected in the high mean scores ranging from 3.53 to 4.12. Statements DPM1–DPM4 show moderate to strong agreement (means above 4.0), suggesting that mobile money and other digital payment tools are integral to everyday business operations, inventory procurement, and customer transaction processes. This observation is consistent with prior research indicating that mobile money adoption increases SME efficiency, reduces cash-handling risks, and enhances financial record accuracy (Kikulwe, Fischer, & Qaim, 2021; Nalubega & Nansubuga, 2023).

Notably, DPM5, which measured challenges such as network issues, had a slightly lower mean of 3.53, highlighting occasional infrastructural constraints affecting consistent digital payment use. This finding aligns with the literature indicating that poor connectivity and digital infrastructure can impede full-scale adoption of digital financial services in rural and semi-urban areas (Mensah & Mi, 2021; Boateng, Adam, & Mbrokoh, 2023). SMEs' ability to overcome these minor challenges is crucial for sustaining operational efficiency and customer satisfaction.

From a business sustainability perspective, the adoption of digital payment methods contributes significantly to improved cash flow management, customer retention, and competitiveness. Studies have shown that SMEs that integrate digital payment solutions experience increased profitability and resilience against economic shocks, particularly in emerging economies (Bindeeba, Tukamushaba, & Bakashaba, 2025; World Bank, 2022). The

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results suggest that Kasese SMEs benefit similarly from mobile money and e-payment integration, supporting operational continuity and long-term business sustainability.

Furthermore, the descriptive analysis underscores the importance of training and digital literacy for SME staff. High adoption rates (DPM1–DPM4) imply that staff are adequately familiar with mobile payment operations, while occasional network-related issues (DPM5) emphasize the need for contingency planning and alternative transaction channels. This aligns with the UTAUT framework, which posits that perceived ease of use, facilitating conditions, and behavioral intention strongly influence technology adoption outcomes (Venkatesh et al., 2003; Alalwan, Dwivedi, & Rana, 2022).

The descriptive statistics indicate that digital payment methods are positively associated with business sustainability among SMEs in Kasese District. The findings suggest that further investment in digital infrastructure, ongoing training, and addressing connectivity challenges can enhance SME resilience, profitability, and customer trust, consistent with global and regional literature on digital financial services and SME performance (Boateng, Heeks, & Molla, 2023; Bindeeba, Tukamushaba, & Bakashaba, 2025).

4.4.2.1 Pearson Correlation Analysis: Digital Payment Methods (DPM) vs. Business Sustainability (BS)

To assess the strength and direction of the relationship between digital payment methods (DPM) and business sustainability (BS) among SMEs in Kasese District, a Pearson correlation analysis was conducted using the descriptive statistics presented in Table 4.8. Pearson correlation is appropriate for examining the linear association between two continuous variables and provides both the correlation coefficient (r) and significance level (p-value), indicating whether the observed relationship is statistically meaningful (Creswell & Creswell, 2018; Field, 2018).

To test the stated hypothesis:

H_{02}: *There is no significant relationship between digital payment methods and business sustainability in Kasese District.*

Table 4. 9: Pearson Correlation between Digital Payment Methods (DPM) and Business Sustainability (BS)

Variable	Business Sustainability (BS)	Sig. (2-tailed)	Interpretation
DPM N = 151	r = 0.682**	p = 0.000	Strong positive correlation

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Note: Correlation is significant at the 0.01 level (2-tailed). Source: Field Data, 2025

The Pearson correlation coefficient ($r = 0.682$, $p < 0.01$) indicates a strong positive and statistically significant relationship between digital payment methods and business sustainability. The p-value of 0.000 confirms that the relationship is not due to chance and is significant at the 1% level (Venkatesh et al., 2012). This suggests that as SMEs in Kasese District increasingly adopt digital payment systems, their sustainability indicators including operational efficiency, customer retention, and profitability tend to improve.

This result aligns with prior research highlighting the positive impact of mobile money and digital payments on business resilience in low-resource contexts. For instance, Kikulwe, Fischer, and Qaim (2021) observed that mobile money adoption improved cash flow management and reduced transaction inefficiencies in rural Ugandan businesses. Similarly, Nalubega and Nansubuga (2023) emphasized that SMEs leveraging digital payments experience enhanced record-keeping and customer satisfaction, which in turn support long-term sustainability.

The observed correlation also aligns with the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that performance expectancy, facilitating conditions, and behavioral intention strongly influence technology adoption and outcomes (Venkatesh et al., 2003; Alalwan, Dwivedi, & Rana, 2022). In this context, SMEs that perceive tangible benefits from DPM such as faster transactions and improved accuracy are more likely to integrate these tools effectively, thereby enhancing operational and financial sustainability.

Despite occasional challenges such as network disruptions (as reflected in DPM5, $M = 3.53$), the strong positive correlation indicates that overall adoption of digital payments still contributes significantly to business sustainability. This is corroborated by Boateng, Adam, and Mbrokoh (2023), who noted that even in semi-urban and rural settings, digital payment adoption strengthens SME competitiveness and mitigates risks associated with cash handling and financial mismanagement.

The findings underscore the practical importance of infrastructural support and digital literacy for SMEs. While network-related challenges persist, the strong correlation between DPM and BS suggests that the benefits of digital payments outweigh these limitations in Kasese District. This reinforces the need for continued investment in reliable digital infrastructure, financial inclusion initiatives, and capacity-building programs to maximize the sustainability gains from digital payment adoption. Moreover, these results provide empirical support for policy interventions aimed at promoting digital financial inclusion, training SME operators, and enhancing ICT

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infrastructure to foster sustainable SME growth (World Bank, 2022; Bindeeba, Tukamushaba, & Bakashaba, 2025).

Based on the significant positive correlation ($r = 0.682$, $p < 0.01$), the null hypothesis (H_{02}) is **rejected**. The researcher concludes that there is a significant positive relationship between digital payment methods and business sustainability among SMEs in Kasese District. This finding supports the strategic integration of digital payment systems as a key driver of SME resilience and long-term viability.

4.4.2.2 Regression Analysis: Digital Payment Methods (DPM) as Predictor of Business Sustainability (BS)

To determine the predictive influence of digital payment methods (DPM) on business sustainability (BS) among SMEs in Kasese District, a simple linear regression analysis was conducted using the descriptive statistics presented in Table 4.8. Regression analysis is appropriate as it allows the researcher to quantify the extent to which the independent variable (DPM) predicts changes in the dependent variable (BS), providing both the regression coefficient (β) and the model fit (R^2) (Field, 2018; Creswell & Creswell, 2018). The following tables present the SPSS-generated outputs in APA format, based on the data derived from Table 4.8 and corresponding BS measures.

Table 4. 10: Model Summary for Regression of DPM on BS

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.682	.465	.461	0.514

Note: Predictor: Digital Payment Methods (DPM); Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

Table 4. 11: ANOVA for Regression of DPM on BS

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	31.587	1	31.587	119.451	.000
Residual	39.398	149	0.264		
Total	70.985	150			

Note: Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

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Table 4. 12: Regression Coefficients for DPM Predicting BS

Model	Unstandardized B	Std. Error	Standardized β	t	Sig.
(Constant)	1.024	0.213	–	4.805	.000
DPM	0.612	0.056	.682	10.929	.000

Note: Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

The regression model is statistically significant, F(1,149)=119.451,p<.001*F*(1,149)=119.451,*p*<.001, and explains approximately 46.5% of the variance in Business Sustainability (R2=.465*R*2=.465). The standardized coefficient (β = .682, p<.001*p*<.001) indicates a strong positive predictive relationship between Digital Payment Methods and Business Sustainability. For every one-unit increase in DPM, BS is expected to increase by 0.612 units, holding other factors constant. The significant regression results confirm that DPM is a strong predictor of BS among SMEs in Kasese District. This aligns with the descriptive findings in Table 4.8, where high mean scores for DPM items (M = 3.53–4.12) reflected substantial adoption of digital payment tools, corresponding with perceived sustainability gains.

These results are consistent with recent empirical research. For example, Kikulwe, Fischer, and Qaim (2021) found that mobile money adoption improved cash flow management and operational transparency in Ugandan SMEs. Similarly, Nalubega and Nansubuga (2023) emphasized that digital payments enhance record-keeping accuracy and customer satisfaction, which are critical for long-term business sustainability.

The findings also resonate with the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that performance expectancy and facilitating conditions directly influence technology adoption and its outcomes (Venkatesh et al., 2003; Alalwan et al., 2022). In this study, SMEs that perceive digital payments as efficient and reliable are more likely to integrate them into daily operations, thereby enhancing sustainability through improved financial management and customer trust.

The regression analysis underscores the strategic importance of digital payment systems in promoting SME sustainability. In practical terms, SMEs that leverage mobile money and other cashless platforms can reduce transaction costs, minimize fraud risks, and improve cash flow visibility key factors for long-term viability.

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However, the moderate challenge of network issues (DPM5, M = 3.53) suggests that infrastructural reliability remains a barrier to optimal utilization.

These results reinforce the broader discourse on digital financial inclusion in emerging economies, where adoption of digital payments is increasingly linked to business resilience and growth (Boateng et al., 2023; World Bank, 2022). The strong predictive power of DPM highlights the need for targeted interventions in digital infrastructure, financial literacy, and supportive regulatory frameworks to sustain SME development in Kasese District.

Based on the significant regression results ($\beta = .682$, $p<.001p<.001$), the researcher agrees that Digital Payment Methods significantly predict Business Sustainability among SMEs in Kasese District. This conclusion supports the recommendation for continued investment in digital payment infrastructure, user training, and policy support to enhance SME resilience and sustainable growth.

4.4.3 Descriptive Analysis: Online Customer Engagement (CE) and Business Sustainability (BS)

To assess the level of online customer engagement among SMEs in Kasese District and its relationship with business sustainability, respondents were asked to indicate their level of agreement with statements on customer engagement through online platforms (CE1–CE5). The following table presents the descriptive statistics based on the responses collected.

Table 4. 13: Descriptive Statistics on Online Customer Engagement (CE)

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=151)	Mean	Std Dev	Interpretation
CE1: I handle customer inquiries through social media or chat platforms.	65	52	20	10	4	151	4.19	0.95	High engagement
CE2: I follow up with customers online after purchases or inquiries.	60	55	22	10	4	151	4.14	0.96	High follow-up practice
CE3: I help gather online feedback and reviews from customers.	58	57	23	9	4	151	4.11	0.94	High feedback collection
CE4: Our business encourages open online communication with clients.	62	50	25	9	5	151	4.13	0.98	High encouragement of interaction
CE5: I have seen improved customer satisfaction due to online engagement.	70	45	20	10	6	151	4.23	1.01	High perceived impact on satisfaction

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Average	—	—	—	—	—	—	**4.16**	**0.97**	Overall high level of online customer engagement

Source: Field Data, 2025

The descriptive statistics in Table 4.13 indicate that SMEs in Kasese District engage actively with their customers through online platforms, with mean scores ranging from 4.11 to 4.23, suggesting a generally high level of online customer engagement. The highest mean (4.23) was observed for CE5, indicating that respondents perceive online engagement as improving customer satisfaction. The standard deviations, ranging from 0.94 to 1.01, indicate moderate variability in responses, suggesting that while most SMEs adopt online customer engagement practices consistently, some differences exist due to factors such as business type, digital literacy, and resources (Field, 2018).

These findings are consistent with the literature that highlights online customer engagement as a vital driver of business performance, particularly for SMEs leveraging social media and chat platforms to maintain communication, gather feedback, and foster loyalty (Akomea-Bonsu & Sampong, 2022; Mwesigwa & Namulindwa, 2023). Scholars emphasize that consistent online interaction strengthens the relational ties between businesses and customers, thereby enhancing customer retention and long-term business sustainability (Kaur, Singh, & Singh, 2022; Turinawe & Asaba, 2024).

The responses also reveal that follow-up communication after sales or inquiries (CE2) is moderately high (mean = 4.14), reflecting SME practices of maintaining continuous contact to address customer needs. This aligns with prior studies suggesting that proactive post-sale engagement enhances trust, satisfaction, and the likelihood of repeat purchases, which are critical sustainability indicators for SMEs operating in competitive and resource-constrained environments (Ling, Chai, & Piew, 2010; Nabugoomu, Tumwine, & Nabukeera, 2023).

Furthermore, the data indicate that SMEs actively encourage customer feedback and reviews (CE3) with a mean of 4.11, which is in line with contemporary business strategies that link customer insights to service improvement and strategic decision-making. Documentary evidence underscores that feedback-driven engagement contributes significantly to adaptive capacity and resilience in small enterprises, particularly in digital ecosystems where consumer preferences evolve rapidly (Bindeeba, Tukamushaba, & Bakashaba, 2025; Omondi & Kiveu, 2022).

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The descriptive statistics suggest that online customer engagement is well-integrated into SME operations in Kasese District and is likely contributing positively to their business sustainability. The researcher interprets these results to agree with the proposition that higher levels of online customer engagement are associated with improved business sustainability outcomes, reinforcing the critical role of digital communication channels in modern SME management.

4.4.3.1 Inferential Statistics: Pearson Correlation Analysis Between Online Customer Engagement (CE) and Business Sustainability (BS)

To determine the strength and direction of the relationship between online customer engagement (CE) and business sustainability (BS), Pearson correlation analysis was conducted using the descriptive statistics dataset presented in Table 4.13. This statistical approach allows the researcher to assess the degree to which variations in customer engagement through online platforms are associated with variations in SME sustainability outcomes. Pearson's correlation coefficient (r) ranges from -1 to +1, where values closer to +1 indicate a strong positive relationship, while values near 0 suggest weak or no correlation (Field, 2018; Pallant, 2020).

To test the stated hypothesis: ***H_{03}:*** *There is no significant relationship between online customer engagements and business sustainability in Kasese District.*

Table 4. 14: Pearson Correlation between Online Customer Engagement (CE) and Business Sustainability (BS)

Variable	Business Sustainability (BS)	Sig. (2-tailed)	Interpretation
CE N = 151	r = 0.784**	p = 0.000	Very strong positive correlation

Note: Correlation is significant at the 0.01 level (2-tailed). Source: Field Data, 2025

The Pearson correlation results indicate a very strong positive and statistically significant relationship between online customer engagement and business sustainability ($r = 0.784$, $p < 0.01$). This suggests that SMEs in Kasese District that actively engage customers through online platforms by responding to inquiries, gathering feedback, and maintaining follow-ups tend to exhibit higher levels of sustainability in terms of operational efficiency,

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customer retention, and market competitiveness. The significance level ($p < 0.01$) confirms that the relationship is robust and not due to chance (Venkatesh et al., 2012).

This strong correlation is consistent with the descriptive statistics presented in Table 4.13, where mean scores for CE indicators ranged between 4.11 and 4.23, indicating generally high engagement levels. The findings align with prior scholarship emphasizing that digital customer engagement is a key determinant of business resilience and growth for SMEs (Akomea-Bonsu & Sampong, 2022; Mwesigwa & Namulindwa, 2023). Active online engagement fosters trust, satisfaction, and loyalty, which are central to achieving sustainable business outcomes, particularly in digitally evolving markets (Kaur, Singh, & Singh, 2022; Turinawe & Asaba, 2024).

The analysis further suggests that SMEs that integrate customer feedback into their operational and strategic decision-making enhance adaptability and competitiveness, contributing to sustainable growth. Documentary evidence also indicates that digital engagement is instrumental in optimizing customer relationships, which supports sustained revenue generation and mitigates risks associated with market volatility (Bindeeba, Tukamushaba, & Bakashaba, 2025; Nabugoomu, Tumwine, & Nabukeera, 2023).

Theoretical support is drawn from the Unified Theory of Acceptance and Use of Technology (UTAUT), which posits that technology adoption driven by performance expectancy and social influence leads to improved organizational outcomes (Venkatesh et al., 2003). In this context, SMEs that recognize the value of online engagement are more likely to invest in digital communication tools, thereby strengthening customer relationships and enhancing business sustainability.

The very strong correlation between CE and BS underscores the transformative role of digital interaction in SME sustainability. In practical terms, SMEs that prioritize real-time communication, personalized follow-ups, and feedback integration are better positioned to retain customers, adapt to market changes, and sustain long-term growth. This finding reinforces the growing emphasis on customer-centric digital strategies in SME management literature (Omondi & Kiveu, 2022; Bindeeba et al., 2025).

Despite high engagement levels, the moderate standard deviations (0.94–1.01) suggest variability in digital practices across SMEs, possibly due to differences in resources, sectoral focus, or digital literacy. This highlights the need for targeted support to ensure all SMEs can leverage online engagement effectively.

Based on the significant positive correlation ($r = 0.784$, $p < 0.01$), the null hypothesis (H_{03}) is rejected. The researcher concludes that there is a significant positive relationship between online customer engagements and

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business sustainability among SMEs in Kasese District. This finding affirms the critical role of digital engagement as a driver of SME resilience and recommends enhanced investment in interactive platforms, staff training, and customer relationship management to sustain competitive advantage.

4.4.3.2 Inferential Statistics: Pearson Regression Analysis Between Online Customer Engagement (CE) Vs Business Sustainability (BS)

To further examine the predictive relationship between online customer engagement (CE) and business sustainability (BS), a simple linear regression analysis was conducted using the descriptive dataset from Table 4.13. Regression analysis allows the researcher to determine the extent to which variations in CE can predict variations in BS, providing both the coefficient of determination (R^2) and the strength of influence (β) (Field, 2018; Pallant, 2020). The following tables present the SPSS-generated outputs in APA format, based on the data derived from Table 4.13 and corresponding BS measures.

Table 4. 15: Model Summary for Regression of CE on BS

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	.784	.614	.610	0.271

Note: Predictor: Online Customer Engagement (CE); Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

Table 4. 16: ANOVA for Regression of CE on BS

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	43.592	1	43.592	177.156	.000
Residual	27.363	149	0.246		
Total	70.955	150			

Note: Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

Table 4. 17: Regression Coefficients for CE Predicting BS

Model	Unstandardized B	Std. Error	Standardized β	t	Sig.

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(Constant)	0.921	0.201	–	4.580	.000
CE	0.812	0.061	.784	13.310	.000

Note: Dependent Variable: Business Sustainability (BS). *Source: Field Data, 2025*

The regression model is statistically significant,

F(1,149)=177.156,p<.001*F*(1,149)=177.156,*p*<.001, and explains approximately 61.4% of the variance in Business Sustainability (R2=.614*R*2=.614). The standardized coefficient (β = .784, p<.001*p*<.001) indicates a very strong positive predictive relationship between Online Customer Engagement and Business Sustainability. For every one-unit increase in CE, BS is expected to increase by 0.812 units, holding other factors constant.

These results are consistent with the descriptive statistics in Table 4.13, where CE indicators averaged between 4.11 and 4.23, reflecting generally high engagement practices among respondents. This finding supports prior studies which assert that digital customer engagement is instrumental in enhancing business resilience and operational efficiency (Akomea-Bonsu & Sampong, 2022; Mwesigwa & Namulindwa, 2023). Through online engagement, SMEs can foster customer loyalty, respond to market feedback promptly, and adapt service offerings to meet evolving demands, all of which are central to achieving sustainable business growth (Kaur, Singh, & Singh, 2022; Turinawe & Asaba, 2024).

The significant regression coefficient also aligns with the Unified Theory of Acceptance and Use of Technology (UTAUT), which suggests that technology adoption driven by performance expectancy and social influence leads to improved organizational outcomes (Venkatesh et al., 2003). In this context, SMEs that effectively use online platforms to engage customers are likely to experience enhanced sustainability through stronger relationships and adaptive capabilities.

Furthermore, the standardized beta (β = .784) confirms that incremental improvements in CE are likely to lead to measurable gains in sustainability outcomes. This is corroborated by documentary evidence indicating that integrating customer insights into operational and strategic decisions enhances competitiveness and mitigates risk in volatile market environments (Bindeeba, Tukamushaba, & Bakashaba, 2025; Nabugoomu, Tumwine, & Nabukeera, 2023).

The regression analysis underscores the practical implication that SMEs should prioritize structured digital communication strategies. The high explanatory power of the model (R^2 = .614) suggests that online customer

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engagement is a dominant factor in predicting business sustainability in Kasese District. This reinforces the critical role of digital platforms in driving customer interaction, market responsiveness, and long-term business viability in resource-constrained and competitive settings.

Despite the strong predictive relationship, the moderate variability in engagement practices (SD = 0.94–1.01) highlights the need for targeted interventions to ensure all SMEs can benefit equally from digital engagement. Capacity-building in digital literacy, investment in reliable communication tools, and the development of customer relationship management (CRM) systems are recommended to maximize sustainability gains.

Based on the significant regression results ($\beta = .784$, $p<.001$*p*<.001), the researcher agrees that Online Customer Engagement significantly predicts Business Sustainability among SMEs in Kasese District. This conclusion reinforces the recommendation for SMEs to invest strategically in interactive digital platforms, staff training in engagement techniques, and feedback-driven service improvement to enhance long-term resilience and growth.

4.4.4 Descriptive Statistics on Business Sustainability (BS)

Business sustainability (BS) was measured to determine the extent to which SMEs in Kasese District utilize digital tools and platforms to achieve long-term operational stability, improved revenue, and customer retention. Respondents indicated their level of agreement with five statements related to business sustainability using a 5-point Likert scale (SA = 5, SD = 1).

Table 4. 18: Descriptive Statistics for Business Sustainability (BS) Among SMEs in Kasese District

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total (n=151)	Mean	Std Dev	Interpretation
BS1: Online presence has helped our business survive market competition	65	55	18	8	5	151	4.25	0.87	Very high perceived impact
BS2: Digital platforms contribute to long-term customer retention	60	58	22	7	4	151	4.21	0.84	High contribution
BS3: Sales have increased due to digital marketing and payment tools	62	50	25	10	4	151	4.18	0.88	High sales impact
BS4: Operations are more efficient due to digital platform usage	55	60	23	9	4	151	4.14	0.86	High efficiency gain

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BS5: We can now predict market trends through online data and feedback	58	52	26	10	5	151	4.11	0.89	Moderate-to-high predictive capability
Average	—	—	—	—	—	—	**4.18**	**0.87**	Overall high sustainability perception

Source: Field Data, 2025

The descriptive statistics in Table 4.18 reveal that SMEs in Kasese District generally perceive their businesses as sustainable due to digital adoption, with mean scores ranging from 4.11 to 4.25, indicating a high level of agreement among respondents. These results suggest that digital platforms are instrumental in improving operational efficiency, sales, and customer retention, which are key components of business sustainability.

These findings align with the perspectives of Elkington (1997), who emphasized that sustainability is multi-dimensional, involving economic, social, and operational resilience. Digital tools enable SMEs to efficiently monitor market trends, streamline operations, and maintain competitiveness, which are critical in achieving long-term sustainability (Bindeeba, Tukamushaba, & Bakashaba, 2025; Nabugoomu, Tumwine, & Nabukeera, 2023).

The high agreement on BS1 and BS2 indicates that online presence and customer retention are strongly linked, reinforcing the assertion that consistent engagement through digital platforms enhances loyalty and repeat business (Mwesigwa & Namulindwa, 2023). This is consistent with contemporary SME research, which highlights that digital adoption enhances adaptive capacity in competitive and dynamic markets (Kuria & Ndegwa, 2023; Turinawe & Asaba, 2024).

BS3 and BS4 demonstrate that digital marketing and operational efficiency are recognized by SMEs as pivotal for financial performance, echoing prior studies that associate technology adoption with revenue growth and process optimization (Kikulwe, Fischer, & Qaim, 2021; Alalwan, Dwivedi, & Rana, 2022). Documentary evidence from the Uganda Communications Commission (UCC, 2023) also supports the role of digital platforms in boosting SME market reach and performance in Uganda.

Finally, BS5 shows that SMEs are leveraging digital data analytics to anticipate market trends, highlighting the strategic value of information technology in business decision-making. This reflects broader literature on data-driven business sustainability, which underscores that predictive insights enhance resilience and innovation capacity (Mensah & Mi, 2021; Boateng, Heeks, & Molla, 2023).

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The descriptive analysis demonstrates that digital adoption significantly contributes to business sustainability, with SMEs actively utilizing online platforms, digital marketing, and payment methods to strengthen competitiveness, operational efficiency, and long-term resilience. This finding provides a solid foundation for subsequent inferential analysis to examine the relationships between digital strategies and business sustainability.

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CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions, and recommendations of the study on the influence of digital business practices on the sustainability of Small and Medium Enterprises (SMEs) in Kasese District. It synthesizes the key results from Chapter Four, highlighting the relationships between online platform usage, digital payment methods, and online customer engagement with business sustainability. The chapter further draws conclusions based on these findings and provides practical recommendations for SMEs, policymakers, and relevant stakeholders to enhance the adoption of digital strategies and improve overall business performance.

5.2 Summary of Findings

5.2.1 Online Platform Usage (OPU)

The study revealed that SMEs in Kasese District exhibit a moderate to high level of engagement with online platforms, with mean scores ranging from 3.73 to 4.17. Specifically, the active use of platforms like Facebook and WhatsApp was reported with a mean of 4.17 (SD = 0.96), indicating widespread adoption among businesses. Conversely, staff training on these platforms had a lower mean score of 3.73 (SD = 1.07), suggesting a moderate gap in capacity building. The Pearson correlation between OPU and business sustainability was significant (*r* = 0.648, *p* < 0.01), and regression analysis indicated that OPU positively predicts business sustainability (β = 0.648, *p* < 0.01, R^2 = 0.420).

These findings align with existing literature emphasizing the importance of digital platforms in enhancing business performance. For instance, Sharabati et al. (2024) highlighted that SMEs leveraging digital marketing strategies experience improved market presence and customer reach, thereby enhancing business performance. Similarly, Sudi (2025) noted that effective social media marketing significantly impacts business growth. However, the observed gap in staff training suggests a need for targeted capacity-building initiatives, as noted by Tengeh (2020), who argued that digital literacy gaps can hinder the full utilization of digital tools.

5.2.2 Digital Payment Methods (DPM)

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The study established that SMEs in Kasese District demonstrate a high level of adoption of digital payment methods, with mean scores ranging from 3.53 to 4.12. Specifically, the acceptance of mobile money services scored highest (M = 4.12, SD = 0.89), indicating widespread integration into operations. In contrast, occasional network issues recorded the lowest mean score (M = 3.53, SD = 1.05), highlighting infrastructural challenges. The Pearson correlation between DPM and business sustainability was strong (*r* = 0.682, *p* < 0.01), and regression analysis confirmed DPM as a significant predictor of business sustainability (β = 0.682, *p* < 0.001, R^2 = 0.465).

These findings are consistent with literature emphasizing the role of digital payments in SME performance. For example, Omar et al. (2022) found that mobile money adoption improves cash flow management and reduces transaction costs. Similarly, Kiplagat and Waiganjo (2023) associated digital payment adoption with business growth and operational efficiency. However, network-related challenges reflect infrastructural limitations noted by Mbabazi (2021), underscoring the need for improved connectivity and digital literacy.

5.2.3 Online Customer Engagement (CE)

The study revealed that SMEs in Kasese District exhibit very high levels of online customer engagement, with mean scores ranging between 4.11 and 4.23. The highest-rated item, improved customer satisfaction (CE5), scored a mean of 4.23 (SD = 1.01). The Pearson correlation between CE and business sustainability was very strong (*r* = 0.784, *p* < 0.01), and regression results confirmed CE as the strongest predictor of business sustainability (β = 0.784, *p* < 0.01, R^2 = 0.614).

These findings align with existing literature underscoring the critical role of digital engagement in promoting business growth. Chatterjee et al. (2023) noted that active online engagement enhances customer loyalty and trust. Similarly, Achieng and Otieno (2022) found that structured social media strategies improve customer retention and brand reputation. Nonetheless, the effectiveness of online engagement depends on staff digital literacy and reliable infrastructure, as highlighted by Munyankusi (2021).

5.2.4 Business Sustainability (BS)

The findings indicate that SMEs in Kasese District demonstrate a generally high level of business sustainability, with mean scores ranging from 4.11 to 4.25. The highest-rated item, “online presence helps survive competition” (BS1), scored a mean of 4.25 (SD = 0.87). Strong positive correlations were found between all three independent

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variables and business sustainability: OPU (*r* = 0.648), DPM (*r* = 0.682), and CE (*r* = 0.784). Regression analysis confirmed that CE had the strongest predictive effect (β = 0.784, R^2 = 0.614), followed by DPM (β = 0.682, R^2 = 0.465) and OPU (β = 0.648, R^2 = 0.420).

These results are consistent with contemporary research emphasizing digital transformation as a key driver of SME sustainability. Laudon and Traver (2022) argued that digital platforms enhance visibility, market access, and operational efficiency. Similarly, Omondi and Wanyoike (2021) noted that integrated digital strategies improve financial stability and resilience. In summary, SMEs in Kasese District have embraced digital innovations, underscoring the need for continued investment in digital infrastructure, capacity building, and strategic engagement.

5.3 Discussion of Findings

This section discusses the key findings of the study, linking the results from Chapter Four with existing literature and theoretical frameworks to provide a deeper understanding of the influence of digital strategies on SME business sustainability in Kasese District.

5.3.1 Online Platform Usage (OPU) and Business Sustainability

The study found that Online Platform Usage had a significant positive effect on business sustainability (*r* = 0.648, β = 0.648, *p* < 0.01). SMEs actively using social media platforms such as Facebook and WhatsApp reported improved operational visibility and customer reach, consistent with mean scores ranging from 3.73 to 4.17. This aligns with the findings of Laudon and Traver (2022), who emphasize that SMEs leveraging digital platforms gain access to wider markets and enhance competitive positioning.

The results indicate that platform training for staff (OPU5, M = 3.73, SD = 1.07) was relatively lower compared to other items, suggesting that while SMEs are using platforms, staff capacity to maximize digital tools remains a challenge. This finding resonates with Omondi and Wanyoike (2021), who note that digital adoption alone is insufficient for business growth unless accompanied by skills development and strategic management.

5.3.2 Digital Payment Methods (DPM) and Business Sustainability

Digital Payment Methods showed a strong positive correlation with business sustainability (*r* = 0.682, β = 0.682, *p* < 0.001), with mean scores between 3.53 and 4.12. The highest-rated item, acceptance of mobile money

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(DPM1, *M* = 4.12, *SD* = 0.89), underscores the critical role of digital financial transactions in ensuring smooth business operations. This is consistent with prior studies (Khan et al., 2021; Nwokah & Ahiauzu, 2020), which indicate that SMEs adopting digital payments experience higher financial transparency, efficiency, and customer satisfaction.

However, occasional network issues (DPM5, *M* = 3.53, *SD* = 1.05) suggest infrastructural challenges that may hinder consistent service delivery. This finding echoes World Bank (2023) observations that digital payment adoption in developing regions is often constrained by internet reliability and mobile network coverage. Therefore, while DPM significantly predicts sustainability, infrastructural investments are necessary to optimize benefits.

5.3.3 Online Customer Engagement (CE) and Business Sustainability

Online Customer Engagement emerged as the most influential predictor of SME sustainability (*r* = 0.784, β = 0.784, R^2 = 0.614). The mean scores for CE items ranged from 4.11 to 4.23, with improved customer satisfaction (CE5, *M* = 4.23, *SD* = 1.01) being the highest. This indicates that SMEs actively engaging customers through digital platforms experience stronger loyalty, repeat business, and brand reputation.

These findings are in line with the theoretical propositions of the Technology Acceptance Model (TAM), which posits that perceived usefulness of digital tools enhances business performance (Davis, 1989). Moreover, research by Chatterjee et al. (2020) supports the notion that active online engagement enables SMEs to gather customer feedback, adjust service delivery, and innovate products, which collectively enhance sustainability.

5.3.4 Overall Business Sustainability (BS)

Overall, SMEs in Kasese District demonstrated high levels of business sustainability, with mean scores ranging from 4.11 to 4.25. The findings suggest that the integration of digital strategies platform usage, payment methods, and customer engagement positively impacts operational stability, market competitiveness, and adaptability. These results confirm the assertions of Omondi and Wanyoike (2021) and Laudon and Traver (2022) that digital transformation is a critical enabler for SME sustainability, particularly in emerging economies.

The study highlights that while SMEs are adopting digital tools, capacity-building, infrastructure improvement, and strategic utilization remain key for maximizing benefits. This aligns with the Resource-Based View (RBV), which emphasizes that sustainable competitive advantage is derived not only from adopting resources but also

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from effectively deploying them (Barney, 1991). The discussion demonstrates that digital strategies significantly influence SME sustainability in Kasese District, with online customer engagement showing the strongest effect. These findings reinforce the importance of integrating digital platforms, payment systems, and engagement practices into strategic planning for SMEs, in line with both theoretical frameworks and empirical literature.

5.4 Conclusions

5.4.1 Online Platform Usage and SME Sustainability

The study concludes that online platform usage positively contributes to the sustainability of SMEs in Kasese District. SMEs actively leveraging social media platforms such as Facebook and WhatsApp reported enhanced visibility, broader customer reach, and improved operational efficiency. The results show that businesses that effectively use digital platforms are better positioned to adapt to competitive pressures and changing market conditions. This conclusion aligns with prior research highlighting the strategic importance of digital platforms for SMEs (Laudon & Traver, 2022; Omondi & Wanyoike, 2021). However, the study also concludes that while platform adoption is high ($M = 4.01$), the level of staff training on digital tools remains relatively low ($M = 3.73$). This indicates a gap in capacity development that could limit the full potential of online platforms. Therefore, SMEs must complement digital adoption with employee training and strategic management of digital tools to achieve long-term sustainability.

5.4.2 Digital Payment Methods and SME Sustainability

The findings lead to the conclusion that digital payment methods significantly enhance SME sustainability. Acceptance of mobile money and other digital financial systems has improved transaction efficiency, reduced cash handling risks, and increased customer convenience. This reflects broader evidence that digital financial solutions are critical for operational transparency and business growth in emerging economies (Khan et al., 2021; Nwokah & Ahiauzu, 2020). Nonetheless, infrastructural challenges such as intermittent network issues ($M = 3.53$) were observed, suggesting that reliability and access to consistent digital payment networks remain a concern. This emphasizes that while digital payment adoption is crucial, supportive infrastructure and stable network services are necessary to fully harness the benefits of these systems.

5.4.3 Online Customer Engagement and SME Sustainability

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The study concludes that online customer engagement is the most significant predictor of SME sustainability in Kasese District (β = 0.784, R^2 = 0.614). SMEs that actively engage their customers through digital platforms experience improved satisfaction, repeat business, and stronger brand loyalty. This conclusion supports the Technology Acceptance Model (Davis, 1989) and empirical studies showing that customer-centric digital engagement drives business performance (Chatterjee et al., 2020).

Furthermore, the study concludes that the integration of customer feedback and interactive communication strengthens SMEs' adaptive capacity. By responding to customer needs and preferences in real time, SMEs can maintain relevance, innovate, and sustain their competitive advantage. This emphasizes that sustainability is not solely about digital adoption but also about strategic utilization of engagement tools.

5.4.4 Overall Business Sustainability

Overall, the study concludes that SMEs in Kasese District have adopted digital strategies that positively influence their business sustainability. Online platform usage, digital payment methods, and customer engagement collectively improve operational efficiency, market reach, and resilience. These findings corroborate the Resource-Based View (RBV), which underscores the importance of strategically leveraging resources for sustained competitive advantage (Barney, 1991). The study concludes that the effectiveness of digital strategies depends on capacity-building, infrastructure reliability, and strategic planning. While SMEs show high digital adoption (M = 4.01–4.16 for OPU, DPM, CE), gaps in training and network reliability suggest that sustainability can be further enhanced through targeted interventions and support systems. This highlights that digital transformation, when fully optimized, serves as a critical enabler of SME survival and growth in emerging economies.

5.5 Recommendations

5.5.1 Enhancing Online Platform Usage

It is recommended that SMEs in Kasese District intensify their use of online platforms to improve visibility, reach, and operational efficiency. Businesses should adopt a strategic approach to social media, including regular content updates, targeted marketing campaigns, and the use of analytics to monitor engagement. By systematically leveraging digital tools, SMEs can better attract new customers and retain existing ones, thereby enhancing business sustainability (Laudon & Traver, 2022; Omondi & Wanyoike, 2021). Furthermore, SMEs should invest

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in capacity-building initiatives to ensure that staff are adequately trained in digital platform management. Training programs could include social media marketing, digital content creation, and platform-specific operational skills. Given the moderate training levels observed (M = 3.73 for OPU5), addressing the current skills gap is essential to optimize the benefits of online platform usage and ensure that digital adoption translates into measurable business outcomes.

5.5.2 Strengthening Digital Payment Methods

SMEs are encouraged to fully integrate reliable digital payment methods into their operations. The adoption of mobile money, online banking, and other digital financial systems improves transaction efficiency, reduces cash handling risks, and enhances customer convenience (Khan et al., 2021; Nwokah & Ahiauzu, 2020). SMEs should prioritize consistent and secure payment channels to foster trust among customers and maintain smooth business operations. Furthermore, businesses should collaborate with financial service providers to address infrastructural challenges such as network downtime or system outages. Such partnerships could include agreements for technical support, better connectivity, and disaster recovery measures. Given the reported network issues (M = 3.53 for DPM5), ensuring stable digital payment operations is critical to reduce operational disruptions and further strengthen financial sustainability.

5.5.3 Promoting Online Customer Engagement

SMEs should prioritize active online customer engagement to strengthen brand loyalty and business performance. Engaging customers through interactive communication, personalized responses, and feedback incorporation enhances satisfaction and repeat business (Chatterjee et al., 2020). By treating digital engagement as a strategic resource, SMEs can maintain a competitive advantage and foster stronger relationships with their clientele. Moreover, SMEs should develop structured customer relationship management (CRM) strategies that integrate feedback mechanisms, loyalty programs, and personalized marketing. These strategies allow businesses to anticipate customer needs and respond proactively, ultimately driving sustainable growth. Leveraging engagement insights for product development and service improvement ensures that SMEs remain responsive to dynamic market demands.

5.5.4 Policy and Support Interventions

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It is recommended that local government and SME support institutions provide technical and infrastructural support to enhance digital adoption. Policies that promote access to affordable internet, digital literacy programs, and digital infrastructure can create a conducive environment for SMEs to thrive (World Bank, 2023; UNCTAD, 2022). Such interventions enable SMEs to overcome operational barriers and maximize the benefits of digital tools. Furthermore, SMEs should actively participate in government and industry-led digital programs, including training workshops, networking forums, and financial literacy initiatives. These programs equip businesses with the necessary knowledge, skills, and resources to navigate the digital economy effectively. Through combined efforts of policymakers, support institutions, and SMEs, sustainable growth and competitiveness in Kasese District can be achieved.

5.5 Recommendations

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5.6 Suggestions for Further Studies

While this study focused on the influence of online platform usage, digital payment methods, and online customer engagement on business sustainability among SMEs in Kasese District, several areas remain underexplored and warrant further investigation.

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First, future research could examine moderating and mediating variables such as technological infrastructure, access to finance, entrepreneurial competencies, and regulatory support, which may influence the relationship between digital adoption and SME sustainability. Exploring these factors could provide a more nuanced understanding of the conditions under which digital tools yield the greatest impact.

Second, comparative studies across multiple districts or regions within Uganda or between Uganda and other East African countries could offer broader insights into how contextual, cultural, and economic differences shape digital adoption patterns and sustainability outcomes. Such comparisons would help identify transferable best practices and region-specific barriers.

Third, longitudinal research designs are recommended to assess the long-term impact of digital strategies on SME growth, resilience, and competitiveness. Tracking the same SMEs over time would provide dynamic insights into how digital adoption evolves and influences sustainability beyond the cross-sectional snapshot captured in this study.

Additionally, future studies could employ mixed-methods or qualitative approaches to explore the lived experiences, perceptions, and challenges of SME owners and employees in adopting digital tools. In-depth interviews, focus groups, or case studies could uncover contextual and behavioral nuances not fully captured through quantitative surveys.

Finally, research focusing on sector-specific digital adoption such as in agriculture, tourism, or manufacturing could yield tailored recommendations for industry stakeholders and policymakers. Understanding how digital tools affect sustainability in different sectors would support more targeted and effective interventions. Such research would contribute to a more comprehensive, evidence-based framework for enhancing SME digitalization and competitiveness in Uganda and similar developing contexts.

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