DIGITAL TRANSFORMATION AND MARKET PERFORMANCE OF PHARMACEUTICAL MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES IN NAIROBI CITY COUNTY KENYA

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DECLARATION

This Research Project is my original work and has not been presented for a degree or any other award in any other university. No part of this Research Project should be reproduced without authority of the author or/and of Kenyatta University.

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1 confirm that the work reported in this Research Project was carried out by the candidate under my supervision as the appointed university supervisor.

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DEDICATION

I dedicate this work to my children John, Shalom and Stanley for the much-denied opportunity of fun yet well understood. My husband Ajay for keeping me on toes to finish and proceed to the next level, my house manager Dorothy who took up the burden of my children while I got held up in books with patience and encouragements even when I felt worn-out. To my late Dad Mr. S. Githua who kept encouraging me to study and reminding me that knowledge is power. Lastly, to My Mother Mrs Pauline Njoki Githua who is a precious friend and confidant, your prayers, support, inspiration, pressure and constant cue that I should never give up in live, and that I should always be unique and chase my dreams will forever be cherished.

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ACRONYMS AND ABBREVIATIONS

AHP	Analytical Hierarchy Process
ATM	Automated Telephone Machine
DIT	Diffusion Innovation Theory
DT	Digital Transformation
EFT	Electronic Funds Transfer
EP	Electronic Procurement
HR	Human Resource
IT	Information Technology
KNBS	Kenya National Bureau of Standards
MSMEs	Micro Small and Medium Enterprises
NACOSTI	National Commission for Science Technology and Innovation
RBV	Resource Based view
SPSS	Statistical Package for Social Science
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

E-Marketing comprises producing and disseminating content via online channels like social media, email, and mobile apps, among others.

E-Procurement removes the need for manual labour-intensive procurement-related tasks like filling out supplier onboarding questionnaires, exchanging supplier contracts, and conducting eAuctions and eTenders.

E- Payment Electronic payments or e-payments, is a way of paying bills via the online platform or another electronic means with no cash or cheques.

Micro Enterprise refers to a small-scale pharmaceutical business with limited resources, workforce, and market reach, typically employing fewer than 10 people and generating low annual revenue..

Small and Medium Enterprises these are companies that keep their assets, earnings, or workforce below a particular level.

Telemedicine is the utilization of electronic communications and information technology to facilitate and provide health services to participants who are geographically isolated.

ABSTRACT

Pharmaceutical firms in Kenya restructured to source cheaper imports, causing job losses and profitability declines for micro, small, and medium-sized enterprises. Despite 307 Micro Small and Medium Enterprises producing generics, Kenya relies on imports, with only 30% of pharmaceutical expenditure benefiting local firms. Studies on digital transformation in Micro Small and Medium Enterprises focus on Sweden, Norway, and Germany, leaving a gap in understanding its impact on Kenya's pharmaceutical Micro Small and Medium Enterprises. This study explores how digital strategies influence market performance in Nairobi City County's pharmaceutical Micro Small and Medium Enterprises. The study main objective was to investigate the effect of digital transformation on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County. The specific objectives included; To assess the influence of E-procurement on market performance, to examine the result of E-marketing on market performance, to establish the influence of E- payment on market performance and to establish the influence of telemedicine on the market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County. The study utilized the following theories: Resource-based view, Dynamic capability theory, Diffusion of innovation theory. Electronic Marketing theory, social penetration theory and change management theory. A cross-sectional descriptive research design was employed. The target population of the study was 175 Micro Small and Medium Enterprises however; a sample of 122 was selected using proportionate and simple random sampling techniques. The study ensured the questionnaire's validity and reliability through face, content, and construct validity tests, with Cronbach's alpha set at 0.7 for internal consistency. Quantitative data were analyzed using multiple regression and correlation analysis to determine variable relationships. Descriptive statistics, including standard deviations, frequency distributions, mean scores, and percentages, were used. Findings were presented through tables, graphs, and diagrams. The study concluded that e-procurement, e-marketing, e-payment, and telemedicine significantly and positively influenced the market performance of pharmaceutical Micro, Small, and Medium Enterprises in Nairobi City County. The study concludes that e-procurement, as a digital transformation strategy, has numerous positive impacts on the market performance of pharmaceutical Micro Small and Medium Enterprises because it leads to increased efficiency and cost savings that come with automating the procurement process. E-marketing allows pharmaceutical Micro Small and Medium Enterprises to reach a wider audience beyond their local market. Electronic payments streamline transactions by eliminating manual paperwork, reducing processing time, and increasing efficiency. Telemedicine expands the market reach of pharmaceutical Micro, Small, and Medium Enterprises by connecting them with more patients and healthcare providers. To enhance digital transformation, Micro, Small, and Medium Enterprises should adopt advanced e-procurement technologies for a more efficient procurement process. Improving e-marketing requires a user-friendly and visually appealing website to attract customers. Additionally, investing in advanced payment processing technologies enhances electronic payments by enabling faster transactions, reducing fees, and improving security. To optimize telemedicine, pharmaceutical should invest in cutting-edge technology and software solutions to enhance the efficiency of virtual consultations, ultimately improving service delivery and customer engagement in the healthcare sector.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Market performance is a critical metric for assessing how well an industry contributes to socio-economic goals such as innovation, employment, resource efficiency, and equitable wealth distribution (Caves, 2019; Strauss, 2020). The interactions between buyers and sellers, shaped by institutional and regulatory frameworks, determine market performance. However, businesses, particularly Micro, Small, and Medium-sized Enterprises (MSMEs), face significant challenges in achieving optimal market performance due to resource constraints and competitive pressures.

MSMEs play a vital role in economic development, providing employment and fostering innovation. According to Juergensen, Guimón, and Narula (2020), the European Commission defines MSMEs as firms with fewer than 250 employees, generating up to 50 million euros in revenue or holding 43 million euros in assets. These enterprises rely on continuous innovation and adaptability to remain competitive (Narula, 2020). However, due to their informal organizational structures and limited managerial decision-making frameworks, knowledge transfer and strategic business development are often hindered (Ates *et al*., 2013; Richbell *et al*., 2021). In Europe, MSMEs constitute 99.8% of all businesses and employ two-thirds of the workforce (Juergensen, 2020). Despite their economic significance, they lag in digital adoption compared to larger enterprises.

Digital transformation has emerged as a key driver of business performance, influencing operational efficiency, customer engagement, and overall competitiveness. The European Investment Bank (2021) reported that only 63% of European Union (EU)

businesses had integrated at least one digital technology by 2020, compared to 73% in the United States. The digital adoption rate is particularly low among MSMEs, especially those with fewer than 50 employees. Similarly, in Ghana, the slow adoption of e-procurement among MSMEs has hindered their ability to compete effectively in online trade (Alrousan & Jones, 2018). Studies indicate that MSMEs that embrace digital tools, including e-commerce, data analytics, and online marketing, gain a competitive edge by expanding market access and improving market performance (Ledwaba, Pelser, & Fatoki, 2019; Ledwaba, 2019).

In developing economies, digital transformation is increasingly recognized as a critical enabler of economic growth and business sustainability. For instance, Egypt's government has made significant efforts to promote digital initiatives such as e-government, e-business, and e-health. However, despite these efforts, Egypt's E-Government Development Index ranking declined between 2008 and 2018 (Esawe & Elwkeel, 2020). Digital innovations have enhanced business agility and market competitiveness, highlighting the indispensable role of technology in business success (Kamel & Rizk, 2019).

n Kenya, the MSME sector is a significant player in digital transformation, with businesses leveraging technology for electronic procurement, customer engagement, and operational efficiency. E-procurement, which integrates information technology systems for procurement processes such as tracking, negotiations, and post-purchase review, is gaining traction among Kenyan MSMEs (Croom, 2017). Additionally, digital marketing facilitates customer engagement through collaborative technologies, providing businesses with real-time insights into consumer preferences (Brodie et al., 2017). Within the pharmaceutical sector, digital tools such as telemedicine and electronic prescriptions are enhancing service delivery, enabling patients to access

healthcare services seamlessly. Moreover, the adoption of e-payment solutions has revolutionized financial transactions, promoting convenience and financial inclusion (Ndungu, 2023).

Despite these advancements, Kenyan pharmaceutical MSMEs face challenges in fully leveraging digital transformation to enhance market performance. Issues such as limited digital literacy, high implementation costs, and inadequate regulatory frameworks hinder effective digital adoption. This study seeks to examine the relationship between digital transformation and the market performance of pharmaceutical MSMEs in Nairobi City County, Kenya. Specifically, it aims to explore how digital technologies, such as e-commerce, digital marketing, and automated business processes, influence market competitiveness, customer retention, and overall business growth.

1.1.1 Digital Transformation

Given the past intersection of the fresh trend of technological revolution, the profound integration of digital technology and real economy (also known as digital transformation) has emerged as a substantial inclination. Industries using digital technologies to generate more value for the business are experiencing a process known as "digital transformation" (Xie *et al.,* 2022). Many businesses start digital transformation to gain a competitive edge because it can provide them with substantial benefits like improved services, increased profit, and increased agility (Sultana et al., 2021).

All aspects of contemporary business are impacted by digitalization, including the manufacture and delivery of completed goods, building relationships with partners and suppliers, and formulating long-term strategic plans for MSMEs' growth. The problem

of Watanabe's (2021) use of digital responses to change market performance Platforms for engagement and communication are made available by digital transformation, encouraging user participation. Utilizing digital technologies to provide businesses and users with a more convenient means of communication is known as digital transformation. As a result, digital transformation develops channels for knowledge and information sharing, encouraging user involvement (Nambisan et al. 2017).

Online advertising Content creation and distribution via digital channels, including social media, mobile apps, and email, is known as digital marketing. According to Bala and Verma (2018), digital marketing plays a crucial role in helping marketers identify their target audience, set goals, and create the most effective plan for reaching the greatest number of customers. Despite the fact that different researchers may define e-marketing differently, it is evident that e-marketing entails the use of the internet and electronic strategies to help an organization achieve its marketing goals and objectives.

With e-procurement, you can do away with the need to manually complete laborious procurement-related tasks like supplier contract exchanges, eAuctions and eTenders, and supplier onboarding questionnaires. Through the use of a centralized platform, the process links different entities and procedures. Vendor organization is among the e-procurement's vital components. E-tendering, which involves getting information, projects, quotes; e-auctioning, which involves assessing vendors, bargaining, and handling agreements; e-ordering and payment, which involves creating purchase orders and requisitions as well as receiving ordered goods are all components of electronic procurement. This study operationalized e-procurement with e-sourcing, e-tendering, evaluating of suppliers and e-ordering.

E-payments, or electronic payments, are a means of conducting business or pay bills without using cash or checks that are physically written out. E-payments are intended to assist businesses, individuals, and banks alike in mitigating or removing certain issues that arise during the settlement and payment procedures. SMEs in the pharmaceutical industry can settle their debts without physically relocating to the bank's location (Wahab, 2018). In the comfort of their own homes, they might also be able to access the details of their accounts and even move money between them. Checks, debit, credit, and smart cards; electronic purses and wallets; electronically facilitated transactions (EFT); automated teller machines (ATM); Personal computer banking, Mobile Money Transfer, Phone Banking, Electronic Cash methods, Automated E-Cheques, Internets Payments, and Digitised Person's payment (P2P), are the main ways that consumers can make electronic payments (Wahab, 2019). Peer-to-peer (P2P) exchanges frequently contain digital financial instruments, like encoded credit card numbers, E-cheques, or digital currency acknowledged by a bank, an intermediate, or legal tender.

The National Library of Medicine (2021) defines telemedicine as the delivery and support of medical care when participants are geographically separated via usage of automated information and communications technologies. Ballingit (2022) defines telemedicine as the practice of using technology to deliver clinical care remotely. It ensures that someone receives medical care when they need it, especially for those who struggle to get care. Through the use of electronic and communication technologies, telemedicine allows a patient and their doctor to communicate even when they are not in the same space. Medical care can be as simple as texting someone or as complex as remotely operated surgery. Real-time video communication and remote monitoring, which entails reporting, gathering, and assessing health data like blood pressure, cardiac

statistics, oxygen levels, and respiratory rates, are two examples of the various forms of telemedicine. Alternatively, store-and-forward sharing and storing of medical data, including text-based patient data, images, videos, MRIs, X-rays, and CAT scans.

Traditionally, radio has been used to connect emergency medical teams to hospitals, and the phone has been used for patient-to-physician teleconferencing. Telemedicine, on the other hand, is largely an area of research and development, with the most notable examples being telesurgical technology, which allows a surgeon to perform surgery remotely using robotic devices controlled by visual and touch sensors. between these two extremes, there are many data, audio and video transmission technologies and applications. For “real-time” diagnostics and therapeutics, some enable clinicians to observe, listen, explore, ask, and advise remote patients. The comparatively pricey interactive video conferencing system is one such instance. Telemedicine in this study is operationalised by use of text message medicine or consultation, real time video communication, and remote monitoring and Evaluation

1.1.2 Market Performance

Performance is defined as the aim to assess the level of achievement attained by a company, regardless of its size (Akande, 2020). MSMEs can be assessed according to their size, workforce count, working capital, and profitability. Market performance is defined as a company's capability to chnge to the business environment and formulate a sound plan that supports management's ability to foster harmony within the organization and the surrounding environment (Zainudin, 2019). Another definition of organizational performance is a company's capacity to meet its targets and fulfil its objectives through competent leadership, good governance, and constant dedication to accomplishing corporate goals.

Two viewpoints exist when it comes to market performance: judgmental performance and objective performance (Sugoino, 2021). According to Tuan *et al.* (2017), production, finance, and marketing are the three indicators that can be used to measure the multidimensional concept of enterprise performance. Pharmaceutical MSMEs' market performance was evaluated in this study based on their profitability, production market share, efficiency, and customer satisfaction ratings.

1.1.3 Pharmaceutical Micro, Small and Medium Enterprises

According to the Economic Survey by the Kenya National Bureau of Statistics (KNBS, 2022) and the Micro, Small, and Medium Entrepreneurial Resource Center (2022), eighty percent (80%) of Kenyan businesses were Micro, Small, and Medium Enterprises (MSMEs), contributing approximately 60% to the country's GDP. KNBS (2017) indicated that only one-third of MSMEs were situated in urban areas, while nearly two-thirds operated in rural regions. Additionally, the assessment revealed that 16% of Kenyans were employed in Nairobi, the nation's capital, and Mombasa, the country's second-largest city. Within this sector, trade accounted for 70% of MSMEs, engaging in the buying and selling of goods and commodities, while the service sector contributed 15% and the manufacturing sub-sector 13%. Other service providers, including hotels and restaurants, collectively represented only 6% of MSMEs, whereas less than 2% were involved in the construction sector (KNBS, 2012).

Kenya’s pharmaceutical industry comprised local manufacturers, franchise importers managing distribution, international corporations, wholesalers, and retailers, all of which played a crucial role in the national health sector, supporting approximately 4,758 health facilities across the country (Pharmaceutical Society of Kenya, 2018). The pharmaceutical MSMEs in Nairobi consisted of manufacturers, wholesalers, and retailers, which significantly influenced both healthcare accessibility and economic

development. These enterprises relied on digital transformation tools such as E-Procurement for sourcing medical supplies, E-Marketing for reaching customers through online platforms, E-Payment for facilitating digital transactions, and Telemedicine for providing remote healthcare consultations. The integration of these digital solutions enhanced the market performance of pharmaceutical MSMEs by improving operational efficiency, expanding customer reach, and streamlining supply chain processes.

The adoption of digital transformation in pharmaceutical MSMEs played a vital role in ensuring the availability of essential medical products and services. E-Procurement enabled businesses to secure quality pharmaceutical supplies at competitive prices, reducing operational costs and enhancing stock management. E-Marketing, through digital platforms and targeted online campaigns, improved customer engagement and market penetration. E-Payment systems facilitated seamless transactions, enhancing customer convenience and financial efficiency. Telemedicine services expanded healthcare access by connecting patients with medical professionals remotely, thereby increasing service demand and market performance. These digital innovations collectively contributed to the growth and sustainability of pharmaceutical MSMEs in Nairobi.

Given their critical impact on public health and economic development, the government supported the growth of pharmaceutical MSMEs by strengthening institutional frameworks, enhancing regulatory compliance, and promoting research and innovation in health technologies (Kaberia, Bula & Muathe, 2022). Regional and global trends further influenced the sector through advancements in pharmaceutical technology, increased trade participation, and efforts to control and eradicate diseases. These factors shaped investment decisions, human resource development, and the accessibility of

essential medicines. The Kenya National Pharmaceutical Policy sought to fortify the pharmaceutical MSMEs sector by promoting domestic production, encouraging digital transformation, and fostering innovation in health products and technologies (KNBS, 2022).

1.2 Statement of the Problem

In order to supply the local market with goods from more affordable manufacturing regions such as Egypt, South Africa, and India, many pharmaceutical manufacturing companies relocated or restructured their operations. Consequently, numerous manufacturing jobs were lost, leading to disruptions in the pharmaceutical sector (Nyabiage & Kapchanga, 2019). This has resulted in significant challenges for pharmaceutical micro, small, and medium-sized enterprises in Kenya, with many experiencing declining profitability and issuing profit warnings due to an increasingly difficult operating environment (Republic of Kenya, 2021). Data from the World Bank indicates that a volatile business environment has led to stagnation and decline in the profitability of pharmaceutical micro, small, and medium-sized enterprises in Kenya between 2020 and 2021 (World Bank, 2022). In 2021, pharmaceutical micro, small, and medium-sized enterprises contributed only 13.6% to the country's gross domestic product, a decline from the 5.6% growth reported in 2019 (Kenya National Bureau of Statistics, 2022).

Despite the presence of 307 pharmaceutical micro, small, and medium-sized enterprises engaged in generic drug production for both domestic and international markets, Kenya remains heavily dependent on imported medicines to meet its public health needs. In 2020, pharmaceutical imports amounted to $809 million, while donor organizations spent an additional $693 million to procure medications for pandemic-related illnesses such as HIV, tuberculosis, and malaria (World Health Organization, 2021). However,

only 30% of the total pharmaceutical market expenditure from both government and private sector sources was accessible to local pharmaceutical micro, small, and medium-sized enterprises, with minimal contributions from donor-funded purchases.

While numerous studies have examined digital transformation in small and medium-sized enterprises, there remains a gap in understanding its impact on the market performance of pharmaceutical micro, small, and medium-sized enterprises in Kenya. For instance, Kontalaimou (2021) investigated the critical factors influencing digital adoption among micro, small, and medium-sized enterprises in Sweden in response to the COVID-19 crisis, particularly in comparison to large enterprises. The study found that enterprises utilizing flexible human resource practices, such as remote work, and those experiencing supply chain disruptions due to the pandemic were more likely to expand their e-commerce and digital marketing capabilities. However, since the study was conducted in Sweden and focused primarily on human resource practices, it presents both conceptual and contextual gaps.

Similarly, Hole (2021) conducted a study on digitalization in the pharmacological industry, focusing on digital implementation strategies and their feasibility in Norway. While this research provided insights into digitalization in the pharmaceutical industry, it did not specifically address pharmaceutical micro, small, and medium-sized enterprises in Kenya, thereby creating a conceptual gap. Furthermore, Dain, Benhayoun, and Liard (2021) explored the opportunities and challenges of digital servitization for small and medium-sized enterprises in Germany and its impact on smart product-service system business models. Their findings indicated that digital servitization benefits micro, small, and medium-sized enterprises by enhancing digital strategy and ecosystem networks, though it is often constrained by inadequate human capabilities and underdeveloped ecosystem structures. This study remains distinct in

both conceptual and contextual aspects. Given these gaps, there is a need for a study that examines the relationship between digital transformation and market performance within the context of pharmaceutical micro, small, and medium-sized enterprises in Nairobi City County, Kenya. The present study aims to address this gap by investigating how digital transformation strategies influence market performance in this sector

1.3 Objectives of the study

1.3.1 General Objective of the study

The study sought to investigate the effect of digital transformation on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.

1.3.2 Specific Objective

i. To assess the influence of E-procurement on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.
ii. To examine the result of E-marketing on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.
iii. To establish the influence of E- payment on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.
iv. To establish the influence of telemedicine on the market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.

1.4 Research Questions

i. What is the influence of E-procurement on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.
ii. What is the effect of E-marketing on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.

iii. How does E- payment affect market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.

iv. To establish the effect of telemedicine on market performance of pharmaceutical Micro Small and Medium Enterprises in Nairobi City County.

1.5 Significance of the study

Many stakeholders would have found great value in the study's findings. The county government of Nairobi would have benefited by gaining insights into the challenges faced by pharmaceutical MSMEs, enabling it to formulate policies that support their growth and sustainability. The health sector would have gained a better understanding of how digital transformation impacts pharmaceutical MSMEs, potentially improving service delivery and supply chain efficiency.

Owners of pharmaceutical MSMEs would have been able to identify financial practices and digital strategies to enhance their business performance after understanding the challenges affecting their operations. Academics and researchers would have found the study useful as a reference for future research and as a contribution to existing literature on digital transformation and market performance. Potential investors would have gained a clearer picture of the investment opportunities and risks in the pharmaceutical MSME sector. Policymakers in both national and local governments would have benefited by using the findings to develop regulatory frameworks and strategies that support digital transformation in the pharmaceutical industry.

1.6 Scope of the Study

This study set look into how the digital transformation of pharmaceutical MSMEs in Nairobi City County, Kenya, is affecting their market performance. E-procurement, E-marketing, E-payment, and telemedicine on market performance were the research

variables. The study employed a descriptive research approach. The target population for this study was employees of the three MSMEs categories Micro (50), Small (100), and Medium (25) bringing the total to 175. The study used semi-structured forms to gather primary statistics. Three weeks would pass before the data is gathered.

1.7 Limitations of the study

The primary research constraint arose from participants' refusal to complete the questionnaires or their decision to withhold information they deemed confidential. This limitation could have negatively impacted the study's ability to reach a conclusive finding. To mitigate this, the researcher assured participants that the data they provided was used solely for academic purposes. Additionally, the respondents' privacy and confidentiality were guaranteed, which helped increase their confidence in participating. Another limitation was the potential reluctance of participants due to concerns about data security. To address this, the researcher reassured them that their information was handled with strict confidentiality. Furthermore, to enhance credibility and encourage participation, supplementary consent letters from the university and NACOSTI were provided to facilitate the research process.

1.8 Organisation of the Study

This study comprises five chapters. Chapter One provides an outline of the research variables, namely total quality management practices and organizational performance. Within this chapter, the problem statement, research aims, research questions, study importance, study scope, and limits are all addressed. Moving on to Chapter Two, the theoretical review of the literature and the empirical literature review is discussed and summary of the literature reviewed, and identify research openings. Additionally, Chapter Two presents a conceptual framework. Finally, in Chapter three, the research design, study population, sample size and sampling technique, data collection

instruments, validity and reliability of research instruments, data collection process, data analysis, and ethical considerations are all thoroughly examined. The chapter four presents that research findings and discussions. Chapter Five documents the conclusions of the study, recommendations of the study and recommendations for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The literature on market performance and digital transformation from a variety of academics is presented in this chapter. This section discusses relevant theories that support digital transformation and how applying the theories' practical insights can enhance market performance. Additionally, the empirical literature pertinent to the study and its research gaps are reviewed in this section.

2.2 Theoretical Literature Review

Theoretical framework is that which support a research study. Based on this, the study used the following theories namely; Resource based view theory, Dynamic capability theory, and Diffusion of innovation theory. Electronic Marketing theory, Resource dependence theory, Upper Echelons Theory.

2.2.1 Dynamic Capabilities Theory

The Dynamic Capabilities Theory (DCT) provides a relevant theoretical foundation for understanding the relationship between digital transformation and market performance in pharmaceutical Micro, Small, and Medium-Sized Enterprises (MSMEs) in Nairobi City County. Teece et al. (1997) introduced DCT, emphasizing that firms must develop, integrate, and reconfigure internal and external competencies to address rapidly changing environments. In the context of digital transformation, DCT underscores the ability of pharmaceutical MSMEs to adopt and leverage E-procurement, E-marketing, E-payment, and telemedicine as strategic tools to enhance market performance.

The adoption of E-procurement allows firms to streamline supply chain processes, reduce transaction costs, and improve efficiency, enhancing their competitive

advantage (Teece, 2018). Similarly, E-marketing capabilities enable MSMEs to reach a broader customer base, personalize communication, and improve customer engagement, which aligns with the firm's ability to sense and seize market opportunities (Eisenhardt & Martin, 2000). Moreover, E-payment systems facilitate seamless financial transactions, reducing reliance on cash-based operations while enhancing transaction security and efficiency (Teece, Pisano, & Shuen, 1997). Finally, telemedicine represents a crucial dynamic capability that enables pharmaceutical firms to extend healthcare services, improve patient access, and respond to market changes driven by digital healthcare solutions (Helfat & Peteraf, 2009).

Through continuous adaptation and integration of digital technologies, pharmaceutical MSMEs can sustain long-term competitive advantages and improve their market performance. The ability to sense, seize, and transform resources in response to technological advancements positions firms strategically within the pharmaceutical sector, reinforcing the significance of Dynamic Capabilities Theory in explaining digital transformation outcomes (Teece, 2018).

2.2.2 Resource Based View

The Resource-Based View (RBV) theory, developed by Barney (1991), provides a useful framework for understanding the impact of digital transformation on the market performance of pharmaceutical Micro, Small, and Medium-Sized Enterprises (MSMEs) in Nairobi City County, Kenya. RBV posits that an organization’s competitive advantage stems from the effective utilization of its unique resources and capabilities, which are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Wernerfelt, 1984). In the context of digital transformation, RBV suggests that pharmaceutical MSMEs can enhance their market performance by leveraging digital

capabilities such as E-procurement, E-marketing, E-payment, and telemedicine to create sustainable competitive advantages.

E-procurement, which facilitates efficient supplier relationships and cost savings, can be viewed as a valuable internal resource that enhances operational efficiency (Gunasekaran & Ngai, 2008). Similarly, E-marketing, including digital advertising and social media engagement, provides a means to differentiate products and reach a wider customer base, aligning with RBV's emphasis on strategic resource deployment (Chaffey & Ellis-Chadwick, 2019). E-payment systems improve transaction efficiency and customer experience, reinforcing financial performance through secure and convenient payment options (Zhao et al., 2019). Moreover, telemedicine, which allows pharmaceutical MSMEs to extend healthcare services beyond traditional boundaries, represents an innovative capability that enhances accessibility and customer satisfaction (Tavares & Oliveira, 2017).

By integrating these digital resources, pharmaceutical MSMEs can achieve superior market performance by improving operational efficiency, expanding customer reach, and fostering innovation. However, RBV also emphasizes that mere possession of these digital tools is insufficient; firms must develop the requisite capabilities to deploy them effectively, ensuring that they remain difficult for competitors to replicate (Barney, 2001). Therefore, firms that successfully harness digital transformation within the RBV framework can create sustainable competitive advantages, ultimately enhancing their market position in Nairobi City County.

2.2.3 Diffusion of Innovations Theory

The Diffusion of Innovations (DOI) Theory, developed by Everett Rogers (1962), provides a robust theoretical framework for understanding the adoption of digital

transformation in pharmaceutical micro, small, and medium-sized enterprises (MSMEs) in Nairobi City County, Kenya. The theory explains how new technologies and innovations spread within a social system over time, influenced by factors such as relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). In the context of digital transformation, the adoption of e-procurement, e-marketing, e-payment, and telemedicine can be analyzed using the DOI theory, as these innovations impact operational efficiency and market performance.

E-procurement, which enhances supply chain efficiency through automated ordering and supplier integration, aligns with the DOI theory by offering a relative advantage over traditional procurement methods (Tornatzky & Klein, 1982). Similarly, e-marketing leverages digital platforms to enhance customer engagement, an innovation that spreads faster when businesses perceive a significant improvement in market reach and revenue growth (Chong, 2020). E-payment adoption is driven by its compatibility with modern financial systems, reducing transactional barriers for customers (Venkatesh et al., 2003). Meanwhile, telemedicine represents a complex innovation, requiring substantial technological infrastructure and regulatory compliance, but its adoption can be accelerated through pilot testing and trialability (Greenhalgh et al., 2004).

For pharmaceutical MSMEs, digital transformation adoption follows the innovation-decision process outlined in the DOI theory: knowledge, persuasion, decision, implementation, and confirmation (Rogers, 2003). Enterprises first become aware of digital innovations, assess their benefits and feasibility, decide on adoption, integrate them into operations, and finally confirm their sustained use based on performance outcomes. The success of these digital strategies depends on organizational readiness, perceived benefits, and external influences such as customer demand and regulatory

policies (Davis, 1989). Therefore, DOI theory provides a valuable lens for examining how digital transformation shapes market performance in pharmaceutical MSMEs in Nairobi.

2.2.4 Resource Dependence Theory

Resource Dependence Theory (RDT) provides a relevant theoretical foundation for understanding the relationship between digital transformation and the market performance of pharmaceutical micro, small, and medium-sized enterprises (MSMEs) in Nairobi City County, Kenya. RDT posits that organizations must acquire and control critical external resources to enhance their performance and sustain competitiveness (Pfeffer & Salancik, 1978). In the context of pharmaceutical MSMEs, digital transformation initiatives such as e-procurement, e-marketing, e-payment, and telemedicine help firms reduce dependency on traditional, resource-intensive processes and enhance efficiency. For instance, e-procurement enables pharmaceutical businesses to establish seamless supply chain networks, reducing reliance on physical supplier interactions and mitigating procurement risks (Golini et al., 2019).

Similarly, e-marketing expands market reach and minimizes dependency on conventional advertising channels, allowing firms to engage directly with consumers through digital platforms (Tiago & Veríssimo, 2014). Moreover, e-payment systems enhance financial transactions' efficiency, reducing reliance on cash-based systems and improving financial security (Munyoro & Mutsikiwa, 2016). Telemedicine, as an emerging innovation, reduces dependence on in-person consultations, facilitating remote healthcare access and expanding service delivery channels (Dorsey & Topol, 2020). By leveraging digital tools, pharmaceutical MSMEs can effectively navigate resource constraints and improve market performance. Therefore, RDT underscores the

strategic necessity for pharmaceutical MSMEs to adopt digital transformation as a means of managing external dependencies and achieving sustainable growth.

2.2.5 Electronic Marketing Theory (EMT)

Electronic Marketing Theory (EMT) was proposed by Coviello, Milley, and Marcolin in 2001. The theory suggests that electronic marketing (e-marketing) integrates traditional marketing principles with digital technologies, enabling businesses to engage customers through various online platforms effectively (Coviello et al., 2001). EMT highlights the shift from conventional marketing approaches to interactive, relationship-based digital marketing strategies that enhance customer outreach, engagement, and satisfaction. The theory underscores the importance of leveraging digital tools such as social media, search engine optimization (SEO), email marketing, and data analytics to optimize market performance (El-Gohary, 2012).

In the context of this research, EMT plays a critical role in explaining how e-marketing influences the market performance of pharmaceutical Micro, Small, and Medium-sized Enterprises (MSMEs) in Nairobi City County. The theory provides a foundation for understanding how these enterprises utilize digital platforms to enhance brand visibility, engage with customers, and drive sales. E-marketing strategies, such as online advertisements, social media promotions, and digital customer relationship management (CRM) systems, enable pharmaceutical MSMEs to reach a broader customer base and improve competitive advantage. By adopting EMT principles, these enterprises can enhance their market presence, improve customer retention, and optimize their digital marketing strategies to achieve sustainable growth.

2.2.6 Upper Echelon Theory

Hambrick and Mason (1984) developed and published the Upper Echelons Theory, arguing that focusing on the dominant coalition, particularly senior managers, was critical to understanding why organizations operated the way they did. They asserted that the characteristics of upper echelons influenced an organization's strategic decisions, which in turn affected its performance. Consequently, they concluded that organizational performance levels were determined by the interplay of the external environment, upper-echelon traits, and strategic decisions.

The Upper Echelons Theory had several distinctive characteristics. According to Hambrick and Mason (1984), the theory followed a linear paradigm in which the senior management team shaped the organizational environment, which then influenced strategic decisions, ultimately impacting performance (Marimuthu, 2017). They further argued that focusing solely on an individual top executive provided weaker explanations of organizational outcomes compared to considering the attributes of the entire upper management team. As a result, the theory emphasized the interaction of team dynamics and suggested that business enterprises and their market performance reflected the capabilities of their top management.

Despite the extensive research on upper echelons, empirical findings remained inconsistent. Scholars suggested that these contradictions stemmed from the limitations of organizational demography, including the failure to account for cognitive, psychological, and team processes as intermediary factors (Marimuthu, 2017). In this study, the Upper Echelons Theory supported the role of digital transformation in pharmaceutical micro, small, and medium-sized enterprises (MSMEs) by linking managerial characteristics to strategic decision-making processes. Specifically, it provided theoretical grounding for the adoption of telemedicine and other digital

solutions, demonstrating how the traits of top management influenced market performance through digital transformation initiatives.

2.3 Empirical Literature Review

This section is devoted to reviewing other studies that have been conducted by various researchers on subjects related to the study's variables. The studies' findings were shared and any gaps were noted in the review.

2.3.1 E- Procurement and Market Performance

In 2020, Kamotho carried out a study to investigate the effectiveness of e-procurement in state corporations in Kenya. The study focused on two hundred and ten (210) state corporations in Kenya. From this pool, 42 state corporations were selected as a sample for the study. Questionnaires were used in the data collection process. The study's conclusions showed that state corporations have improved their procurement performance by implementing a variety of e-procurement strategies. The findings of the regression analysis showed that state corporations' e-procurement initiatives have had a major impact on their procurement strategies. The study's focus on state corporations' contrasts with the present study's focus on pharmaceutical SMEs in Nairobi City County, Kenya creating a conceptual gap.

Wafula, Okwaro, and Namusonge (2018) looked into how E-Procurement affected public organizations' organizational performance, with a particular emphasis on the Bungoma County Government. Purposive and basic random sampling were used in the investigation. The study's conclusions show that the performance of SMEs is significantly impacted by e-tending, e-ordering, e-purchasing, organizational performance, and use of digital procurement systems. The validity of research instruments was guaranteed by carefully reviewing the test's content and eliminating

any elements that might skew participants' answers. The study has conceptual and contextual gaps because it focused on public organizations rather than pharmaceutical SMEs in Nairobi City County, Kenya, and it was conducted in Bungoma.

The goal of Kioko's (2020) study was to examine how E-procurement affected Kenyan parastatals' operational efficiency. Methodology: A descriptive research design was used for this study. This approach was chosen by the researcher because it permits a thorough examination of the topic. In this study, a census was conducted and questionnaires were distributed to all 187 heads of procurement across all parastatals. According to the study's findings, parastatal performance is positively correlated with e-sourcing, e-informing, e-payments, and tendering. The study comes to the conclusion that e-sourcing, e-informing, e-payment, and e-tendering can all help parastatals perform better. Suggestion for policy: In order to improve their performance, public institutions should adopt e-procurement practices, according to the study's final recommendation. If the same results can be obtained in other public institutions, more research ought to be conducted there. The use of a census created a methodological and conceptual gap because the study was on parastatals in Kenya.

2.3.2 E-Marketing and Market Performance

As part of their 2019 study, Kawira, Mukulu, and Odhiambo examined how e-marketing affected the performance of MSMEs (MSMEs) in Kenya. The study was conducted with adherence to the positivist research philosophy by the researchers. According to the results of the bivariate regression, digital marketing significantly improved MSMEs' performance. According to this study, digital marketing should be adopted by MSMEs' owners and managers in Kenya as a means of achieving higher performance. Due to Kenya's high mobile phone penetration rate, better internet access, and dynamic, user-friendly social media platforms, business owners there should utilize

these tools for marketing. One philosophical gap in the study is that, although the present version does not use positivism theory, the previous one did. The present gap was filled by research questions, whereas the second gap was conceptual in nature and relied on hypotheses. The third gap is contextual; whereas the previous study covered all MSMEs in Kenya, the present one only concentrated on Nairobi County.

A study on complementary e-marketing strategy for small- and medium-sized enterprises in Taiwan that are in the growth stage was carried out by Lin in 2021. The study determined which marketing objectives were critical for the expansion of SMEs and how complementary social media platforms can be leveraged to achieve those objectives. It was discovered that sales potential, online purchases, and brand awareness rank highest among local weights for marketing objectives for SMEs in the growth phase. Facebook, PIXNET, Twitter, Instagram, and YouTube were the global weights in order for complementary social media to meet the aforementioned marketing goals. In order to confirm that the use of the aforementioned complimentary social media met the marketing objectives and might even have increased the survival of SMEs in Taiwan during their growth phase, an MSME from Taiwan was employed as a case study. The study's context differs from the present one because it was carried out in Taiwan whereas the present one took place in Kenya. It was also utilized. To verify the hierarchy of local and global weights for marketing objectives and complementary social media, the analytical hierarchy process (AHP) analysis was performed.

Using a conceptual model of the causes and effects of small business enterprises' use of EM, Eid (2022) investigated the effect of SBEs' use of EM on marketing success. EM budget, EM tools, pre-sales, post-sales, marketing performance, and marketing effectiveness are the constructs that make up the conceptual framework. Additionally, a dozen theories were formulated and examined. It is evident from the results that using

EM tools improves SBEs' pre- and post-sale activities, marketing efficacy, and performance. The study's conclusions have a big impact on the marketing industry because they show how crucial marketing staff members are to using EM in SBEs successfully. This research is conceptually and contextually different from the present one since it focused on small businesses in Florida, USA, whereas the present study focused on SMEs in the pharmaceutical industry in Nairobi County, Kenya.

2.3.3 E-Payment and Market Performance

With a focus on Ghana, Kwabena and Daria (2019) investigated how the performance of MSMEs in developing nations was impacted by digital payment systems. This study looked into the effects of the digital payment system using an organizational, technological, and environmental framework. Data for this study were gathered via a self-administered, closed-ended questionnaire. Information gathered between September and November of 2019. The study's participants comprised of MSMEs' owners and executives. Partial least squares structural equation modeling was used to analyze the data. The study's conclusions highlight the important impacts that technology, organizations, the environment, and the usage of digital payment systems have on MSME performance. The present study investigated the performance of pharmaceutical MSME's in Nairobi City County, whereas the previous study's context was different because it was conducted in Ghana and concentrated on small businesses.

With an emphasis on the banking industry in the United Arab Emirates, Khaled and Taher (2022) examined the relationship and effects of e-payment methods on growth of revenue and the intervening part of online shopping. The survey was created using a 5-point likert scale. Multiple statistical tests were conducted in this study. The Cronbach's Alpha values of the variables ranged from.873 to.855, indicating a very high level of internal consistency. This study showed a strong correlation and direct relationship

between the increase in sales and the increase in online shopping. There is a conceptual gap in this study because online shopping was used as a mediating variable, whereas there isn't one in the present study. Another contextual difference is that it was completed in the United Arab Emirates, whereas the present one was in Nairobi, Kenya.

The study conducted by Awwad (2021) looked at how e-payments can improve financial performance through a case study of the Bank of Palestine. Examining electronic payments—which are regarded as one of the most significant instruments in financial technology—was the goal. Therefore, the Bank of Palestine's financial performance is greatly improved by electronic payments. The findings show that the bank's financial performance, as indicated by the equity and return on assets indicators, is significantly impacted by the use of electronic payment methods, which contribute to lower expenses and higher profits. The present study focused on pharmaceutical MSMEs in Nairobi, Kenya; the previous study was conducted in banks and in Palestine, which creates a contextual gap. Additionally, there is a contextual gap because the present model had only one dependent variable performance while the previous model used three, including ROA, ROE and EPS.

2.3.4 Telemedicine and Market Performance

Samar (2022) examined the factors that impact individuals' decision-making regarding the utilization of telemedicine applications amidst the COVID-19 pandemic. In order to study individual behavior in connection to the adoption of telemedicine applications, the research model integrated the well-established theories of the DeLone and McLean information success model and the extended unified theory of acceptance and use of technology (UTAUT2). The results revealed a robust positive correlation between usage behavior and the intention to embrace telemedicine health applications when perceived severity is elevated. A theoretical gap is highlighted by this study's exclusion

of the DeLone and McLean information success model and the extended unified theory of acceptance and use of technology (UTAUT2).

In a particular subset of public hospitals in Malaysia, Bouchuana's (2020) investigation aimed to examine the elements that influence the reception of telemedicine and how the health culture influences the connection between these determinants and the acceptance of telemedicine. In order to collect data, a questionnaire was administered to physicians and nurses, who constitute the majority of users of telemedicine technology in hospitals where it is presently being utilized. The findings indicated that the acceptance of telemedicine in Malaysian public hospitals is significantly influenced by government policies, senior management support, utility perceptions, and computer self-efficacy. While the preceding study was comparative in nature, this particular one took note of certain aspects. Another contextual limitation of the study lies in the fact that it was conducted in Malaysia, whereas the ongoing one was conducted in Kenya.

In their study, Crowling, Mulcahy, Burn, and Hunter (2018) conducted an examination of the accessibility of care for both Teladoc users and nonusers, as well as the quality of care provided by the prominent direct-to-consumer (DTC) telemedicine company, Teladoc, in comparison to that provided in traditional doctor's offices. The performance of Teladoc was found to be inferior to that of physician offices in the context of the pharyngitis performance measure, specifically the ordering of a strep test (3% versus 50%, $p < 0.01$). However, Teladoc and doctor offices demonstrated similar performance in the back pain measure, particularly in terms of not ordering imaging (88% versus 79%, $p = 0.20$). On the other hand, Teladoc exhibited poorer performance compared to doctor's offices in the bronchitis measure, specifically in not prescribing antibiotics (16.7% versus 27.9%, $p < 0.01$). In terms of the adjusted models, no significant difference was observed in the odds of Teladoc users residing in rural areas (odds ratio

= 1.0, p = 0.10) or areas facing a shortage of healthcare professionals (odds ratio = 1.12, p = 0.10). It is significant to note that unlike the present study, which does not compare large and small businesses, the present study was designed to be comparative in nature.

2.4. Summary of Literature Reviewed and Gaps

The table below presents summary of the research gaps identified in the literature review

Table 2.1: Literature reviewed and research gaps.

Author	Research title	Findings of the study	Research Gaps	Focus of the present study
Kamotho, (2020),	Carried out research on the performance and practices of e-procurement in Kenyan state corporations.	According to the study, state corporations have improved their procurement performance by implementing a variety of e-procurement procurement strategies.	The study's focus on state corporations' contrasts with the present study's focus on pharmaceutical SMEs in Nairobi City County, Kenya, creating a conceptual gap.	The present study concentrated on pharmaceutical SMEs' market performance and e-procurement in Nairobi City County, Kenya.
Wafula, Okwaro, and Namusonge, (2018).	Examined how E-Procurement affected public organizations' organizational performance, with a particular emphasis on Bungoma County Government	The study's conclusions show that the performance of SMEs is significantly impacted by e-tending, e-ordering, e-purchasing, organizational performance, and use of	The study has conceptual and contextual gaps because it focused on public organizations rather than pharmaceutical SMEs in Nairobi City County, Kenya, and it	The present study concentrated on pharmaceutical SMEs' market performance and e-procurement in Nairobi City County, Kenya.

		digital procurement systems.	was conducted in Bungoma.	
Kioko, (2020),	examination of how e-procurement affects Kenyan parastatals' performance	A positive correlation between parastatal performance and electronic payments, e-sourcing, e-informing, and etendering.	According to the study's findings, parastatal performance is positively correlated with e-sourcing, e-informing, e-payments, and etendering.	The present study concentrated on pharmaceutical SMEs' market performance in Nairobi City County, Kenya, and e-procurement.
Mutangili, (2019) study	undertook to evaluate how Kenya's supply chain management performance was affected by e-procurement.	The study discovered a stronger inclination towards market structures, and thin was understood to indicate that the market was big enough to support the business and allowed for the supply of the institution's goods and services.	There are conceptual as well as contextual gaps. Regarding the dependent variable, they diverge contextually.	The topic of this study was e-Procurement and Market performance of Pharmaceutical Small and Medium Enterprises (SMEs) in the city of Nairobi, Kenya.
Lin, (2021) conducted a	analysis of Taiwan's small- and medium-sized businesses in their growth stages regarding complementary e-marketing strategies.	We discovered that sales potential, online purchases, and brand awareness rank highest among local weights for marketing objectives for		The present study concentrated on pharmaceutical SMEs' market performance in Nairobi City County, Kenya, and e-marketing.

		SMEs in the growth phase.		
Eid, (2022)	evaluated how Small Business Enterprises' use of E-marketing affected their marketing performance and created and examined a theoretical model of the reasons behind and consequences of SBEs' EM use.	EM tools have a positive effect on SBEs' pre-sales and after-sales performance, as well as marketing effectiveness.	This research is conceptually and contextually different from the present one since it focused on small businesses in Florida, USA, in contrast, the present study's focus was on SMEs in the pharmaceutical sector	The primary objective of the present research was to examine the field of e-marketing and evaluate the market performance of pharmaceutical small and medium-sized enterprises (SMEs) in Nairobi City County, Kenya.
Kwabena and Daria, (2019)	Digital payment systems and performance of SMEs in developing nations, using Ghana as a case study	The study's conclusions highlight the important impacts that technology, organizations, the environment, and the usage of digital payment systems have on SMEs' performance.	The study's context is different because it focused on small business enterprises and was carried out in Ghana,	Market performance and e-marketing of pharmaceutical SMEs in Nairobi City County, Kenya.
Khaled and Taher (2022)	examined and researched, focusing on the	However, the findings of the correlation	There is a conceptual gap in this study	The present study concentrated

	banking sector in the United Arab Emirates, the connection between the growth of sales and electronic payment methods, as well as the mediating role of online shopping. .	between the rise in e-payments and online shopping confirmed the indirect impact. In this sense, the findings can be used to determine how e-payments affect the growth of online sales and can also be advantageous for this and numerous other organizational studies of a similar nature.	because online shopping was used as a mediating variable, whereas there isn't one in the present study. Another contextual difference is that it was completed in the United Arab Emirates, whereas the present one was in Nairobi, Kenya.	on pharmaceutical SMEs' market performance in Nairobi City County, Kenya, and electronic payments.
Awwad (2021),	investigated at how e-payments can improve financial performance: A Bank of Palestine case study	According to the return on equity and assets indicators, which reduce costs and increase earnings, the results show that the bank's financial performance is significantly impacted by the use of electronic	The present study focused on pharmaceutical SMEs in Nairobi, Kenya; the previous study was conducted in banks and in Palestine, which creates a contextual gap. Additionally, there is a contextual gap because the present model	The present study concentrated on pharmaceutical SMEs' market performance in Nairobi City County, Kenya, and electronic payments.

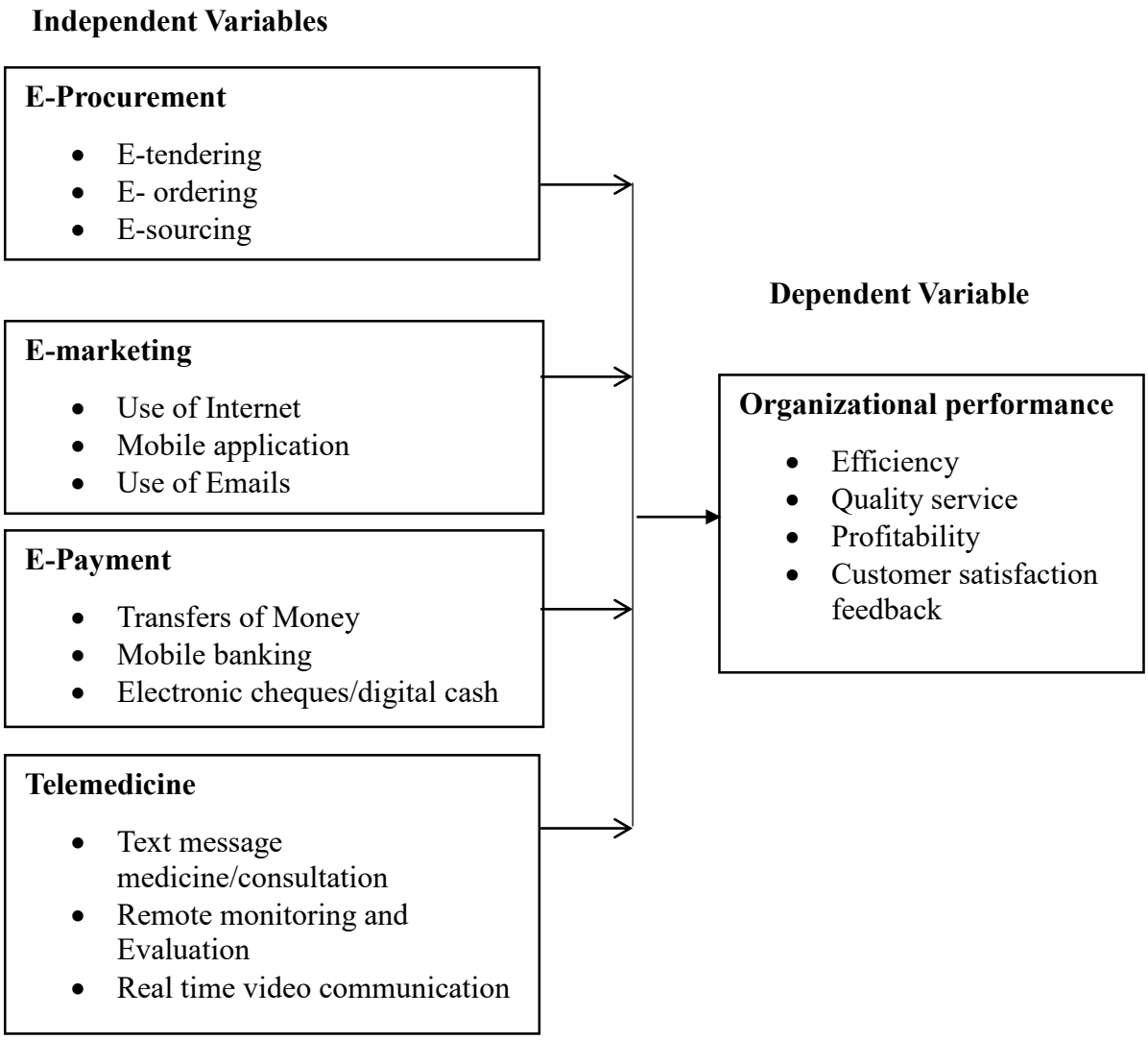
		payment methods.	had only one dependent variable—performance—while the previous model used three, including return on equity, earnings per share, and return on assets.	
Samar, (2022),	investigated the factors influencing people's choices during the COVID-19 pandemic to use telemedicine applications.	Structural equation modeling results showed that the research model's predictive relevance was significant when gauging user behavior for telemedicine adoption applications.	A theoretical gap is created by the study's non-utilization of the DeLone and McLean information success model and the extended unified theory of acceptance and use of technology (UTAUT2).	A theoretical gap is created by the absence of the DeLone and McLean information success model as well as the expanded unified theory of acceptance and use of technology (UTAUT2).
Burn, Hunter, Crowling and Mulcahy (2018) This study	they compared the quality of care provided by the largest direct-to-consumer (DTC) telemedicine provider to that provided by physician	The results showed that 3,043 adults among the enrollments provided There were 4,657 Teladoc visits in total for Teladoc (n = 233,915).	). This is in contrast to the present study, which did not compare large and small businesses.	Market performance and telemedicine of pharmaceutical SMEs served as this study’s primary focus.

	offices and the level of care available to users and nonusers of Teladoc			

Source: Researcher, (2024)

2.5 Conceptual Framework

A written or visual explanation of the main study variables and the presumptive connections between them is called a conceptual framework. The electronic payment, telemedicine, e-procurement, and e-marketing are the independent variables that comprise the conceptual framework. The dependent variable is the market performance of pharmaceutical SMEs.



Source: Researcher (2024)

Figure 2.1 Conceptual Framework

E-procurement, E-marketing, E-payment, and Telemedicine are the independent variables in the above conceptual framework, and the pharmaceutical MSMEs in Nairobi City County, Kenya, are the performance's focus. The pharmaceutical MSMEs performed better through market share, efficiency, customer satisfaction, and profitability—all performance metrics—if they follow the plans in the dependent variable.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter offers a comprehensive outline of the research methodology utilized in this investigation. It covers a range of elements including the study's design, the population under study, the sampling approach, the tools used for data collection, measures of validity and reliability, techniques employed for data analysis, and ethical considerations.

3.2 Research Design

Research designs come in three varieties: exploratory, descriptive, and causal. This study adopted a descriptive cross-sectional design. A descriptive study, as advocated by Mugenda and Mugenda (2009), aimed to gather information about identified problems. This design was selected because it facilitated the collection of detailed and accurate data on respondents' opinions regarding digital transformation and the market performance of pharmaceutical MSMEs in Nairobi City County, Kenya. By using this approach, the study effectively identified a specific research problem and formulated research questions that guided data collection.

3.3 Target Population

According to Bryman (2012), a population refers to the entire set of components from which a sample is drawn. In this study, the target population comprised Micro, Small, and Medium-Sized Enterprises (MSMEs) in the pharmaceutical sector within Nairobi City County, Kenya. The unit of analysis was the business entity (MSMEs), while employees served as the unit of observation. The target population was categorized based on the standard classification of MSMEs, with 100 Micro enterprises, 50 Small

enterprises, and 25 Medium enterprises, bringing the total to 175 businesses. The study focused on these enterprises as they represent the primary actors in the pharmaceutical supply chain, and their adoption of digital transformation was critical in determining market performance. The justification for selecting this population was to analyze how digital transformation strategies influenced business growth, market reach, and competitive positioning within the industry. The following table provides a summary of the target population;

Table 3.1: Target Population

Business type	**Population**	**Percentage**
Micro Enterprises	100	57.1
Small Enterprises	50	28.6
Medium Enterprises	25	14.3
Total	**175**	**100**

Source: Nairobi City County licensing office (2023)

3.4. Sampling Design and Procedure

3.4.1 Sampling Design

The sample population was a subset of the study population intended to represent the entire population. The research employed a proportionate stratified random sampling method to ensure adequate representation of each subgroup within the population. Employees from three pharmaceutical MSME categories Micro, Small, and Medium formed the study's strata. A simple random sampling technique was then used to select participants from each category, ensuring that all subgroups within the target population were proportionally represented.

3.4.2 Sample Size

The sample size needed for employees to take part in the study was estimated using the Yamane (1967) formula.

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

$$n=\frac{175}{1+175(0.05)^2}= 122$$

The sample size was determined using 122 respondents, or 69.7% of the total. Table 3.2 below illustrates how this is distributed proportionately.

Table 3.2: Distribution Sample size

Business type	**Population**	**Percentage**	**Sample Size**
Micro Enterprises	100	69.7%	70
Small Enterprises	50	69.7%	35
Medium Enterprises	25	69.7%	17
Total	**175**	**69.7%**	**122**

Source: Researcher (2024)

3.5 Data Collection Instrument

This study made use of primary data. In order to gather the data, a semi-structured questionnaire was employed. Section A contained the demographic data. Questionnaire items pertaining to the independent and dependent variables, namely employee performance, were found in Sections B through F. A five-point Likert rating scale, from strongly agree to strongly disagree, were used to evaluate the items in sections B through F. The results were used to compute variables.

3.6 Pilot Study

The purpose of a pilot survey is to pre-emptively address some of the issues that are anticipated to surface during the main research project (Cooper & Schindler, 2006). In

the pilot study, ten respondents, or 10% of the research sample, were used to validate the questionnaire. Two of the pharmaceutical MSMEs participated in the pilot study, but in order to prevent bias, this sample was not used in the larger investigation. According to Kombo and Tromp (2009), a pilot test helps identify flaws, restrictions, and weaknesses in the design or data collection tool so that adjustments can be made prior to the main research study.

3.7 Validity and Reliability of Research Instrument

3.7.1 Validity of research Instrument

Validity refers to the extent to which a research instrument measures what it is intended to measure and how accurately the findings represent the concept being studied. There are different types of validity, including content validity, construct validity, criterion validity, and face validity. This study focused on content and construct validity. Content validity assesses whether the instrument covers all relevant aspects of the concept under investigation, while construct validity evaluates whether the measurement tool accurately represents the theoretical construct (Sürücü & Maslakci, 2020). To ensure validity, the questionnaire was reviewed by my supervisor, who assessed each statement's relevance and clarity. Any questions that were not pertinent to the study were removed, and the wording of the statements was refined to enhance accuracy. The instrument’s contents were evaluated to confirm that they effectively measured the intended variables.

3.7.2 Reliability of Research Instrument

According to Bryman (2017), reliability refers to the degree to which a measure consistently produces the same results when applied to the same item under identical conditions. There are several types of reliability, including test-retest reliability, inter-rater reliability, and internal consistency reliability. This study adopted internal

consistency reliability, which was assessed using Cronbach's alpha. Cronbach's alpha, developed by Lee Cronbach in 1951, is a statistical measure that evaluates the internal consistency of a questionnaire on a scale from 0 to 1. A reliability coefficient of 0.7 or higher was considered acceptable, indicating that the instrument was dependable. The results of the reliability tests are presented in Table 3.3.

Table 3.3: Results of Reliability Tests

Variable	**α-value**	**Remarks**
E-procurement	0.811	Reliable
E-marketing	0.852	Reliable
E-payment	0.751	Reliable
Telemedicine	0.795	Reliable
Market performance	0.801	Reliable
Aggregate score	**0.802**	**Reliable**

Source: Pilot Study (2024)

The reliability test results obtained as shown in Table 3.3 shows that the alpha value of E-procurement (0.811) E-marketing (0.852) E-payment (0.751) Telemedicine (0.795) Market performance (0.801) and Aggregate score of 0.802 was higher than 0.7 which demonstrates that the questionnaires had a higher reliability guided by Plomp (2018) that a reliability coefficient of 0.7 is[1] a widely acknowledged[1] guideline[1] that indicate[1] acceptable[1] reliability. Therefore, it can be concluded that the questionnaire was more reliable.

3.8 Data Collection Procedure

The study employed a systematic data collection approach to ensure accuracy and reliability in examining digital transformation and market performance among pharmaceutical MSMEs in Nairobi City County, Kenya. Both primary and secondary

data were utilized. Structured questionnaires were administered to owners, managers, and key decision-makers to capture insights on digital adoption and technological innovations, using a drop-and-pick-later method to enhance response rates. Follow-up calls and reminders were also made. Additionally, key informant interviews with industry experts and regulatory authorities provided qualitative insights on regulatory compliance, digital integration challenges, and best practices. Secondary data was sourced from industry reports and government publications to complement primary data. A pilot study was conducted to refine research instruments, ensuring clarity and relevance. Ethical considerations, including authorization from NACOSTI, were upheld. The collected data was then organized and analyzed to assess the impact of digital transformation on pharmaceutical MSMEs' market performance.

3.9 Data Analysis and Presentation

The data analysis process involved both descriptive and inferential statistical techniques. The collected data was first subjected to data cleaning and coding to ensure accuracy and completeness before analysis. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize the characteristics of the respondents and the variables under study. These statistical measures provided insights into the extent of digital transformation adoption and the market performance trends among pharmaceutical MSMEs.

The findings were presented using tables, charts, and graphs to facilitate easy interpretation and visualization of trends. Qualitative responses from open-ended survey questions and interviews were analyzed thematically to capture detailed insights from business owners and managers regarding their experiences with digital transformation. The results were then discussed in comparison with existing literature

to highlight similarities, differences, and emerging trends. The multiple linear regression model that was employed is summarized in the following: -

$Y= \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$

Where

Y= Market performance

$\beta 0$ = the Y-intercept

$\beta_1 – \beta_4$ = A regression's slope or coefficients of regression

X_1 = E- Procurement

X_2 = E- Marketing

X_3 = E-Payment

X_4=Telemedicine

ε = Error term

3.10 Ethical Considerations

Research ethics, according to Ong'ondo et al. (2019), are the moral precepts that direct a research project from inception to completion and publication. By requesting that their names not appear on the questionnaires, respondents were assured of their anonymity. The investigator accepted personal accountability for the conduct and results of the study by adhering to the scheduled.

CHAPTER FOUR

RESEACRH FINDINGS AND DISCUSSION

4.1 Introduction

The study aimed to investigate the impact of digital transformation on the market performance of pharmaceutical Micro, Small, and Medium-Sized Enterprises (MSMEs) in Nairobi City County, Kenya. Data was collected from respondents using survey questionnaires. As presented in the following sections, descriptive and inferential statistics were employed to analyze the gathered data.

4.2 Response Rate

Response rate examines the number of participants who completed the questionnaire and assesses the representativeness of the sample. A total of 122 questionnaires were administered to respondents from pharmaceutical micro, small, and medium-sized enterprises in Nairobi City County, Kenya. Table 4.1 below presents the findings on the response rate.

Table 4.1: Response Rate

Category	**Questionnaires administered**	**Questionnaires returned**	**Percentage**
Macro enterprises	70	65	92.9
Small enterprises	35	32	91.4
Medium enterprises	17	15	88.2
Total	**122**	**112**	**91.8**

Source: Survey Data (2024)

The results obtained on response and presented in Table 4.1 indicate that the respondents from the macro enterprises had a response rate of 92.9%, small enterprises accounted for 91.4% response rate and those from medium enterprises had a response rate of 88.2%. In addition, the overall response rate was 91.8%. Therefore, the data analysis was conducted by considering the obtained response rate, as suggested by Saunders, Lewis, and Thornhill (2011), who recommended a minimum response rate of 70% to justify the analysis.

4.3 General Information of the Respondent

This section presents the general information of the respondents in terms gender, age bracket, academic qualification, department they worked with, status of employment and number of years in employment. These are presented as follows;

4.3.1 Gender

The respondents' gender distribution is outlined in Figure 4.1, highlighting the proportion of male and female individuals involved in the study.

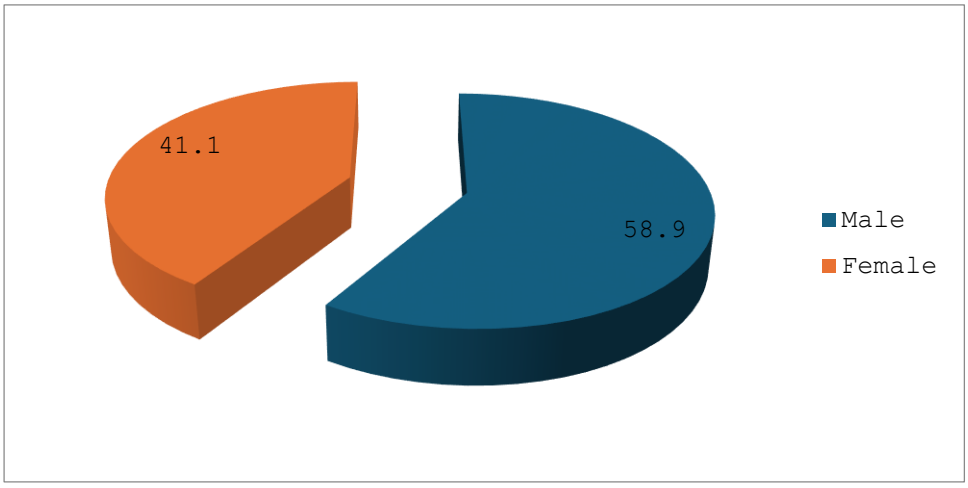


Figure 4.1: Gender

Source: Survey Data (2024)

The findings on gender representation in the study as presented in Figure 4.1 indicate that male respondents accounted majority as represented by 58.9% while female respondents were represented by 41.1%. This breakdown of gender representation allows for an analysis of any potential gender-related patterns or differences that may arise during the research.

4.3.2 Age Bracket

The age range of the participants is presented in Table 4.2 indicating the minimum and maximum ages observed within the sample.

Table 4.2: Age Bracket

Age bracket	Frequency	Percentage
Less than 24 years	11	9.8
24 to 33	38	33.9
34 to 44 years	42	37.5
45 years or more	21	18.8
Total	**112**	**100**

Source: Survey Data (2024)

The findings on age bracket representation in the study as presented in Table 4.2 indicate that most of the respondents' age bracket ranged from 34 to 44 years as represented by 37.5%, 33.9% represented respondents whose age bracket was between 24 years to 33 years, 18.8% aged 45 years and above and 9.8% aged less than 24 years. Determining the age bracket of the respondents was important because the information provides insights into the age diversity of the participants and allows for the identification of any potential age-related trends or variations.

4.3.3 Academic Qualification

The educational background of the respondents is detailed in Figure 4.2, showcasing the various levels of education attained by the individuals involved in the study.

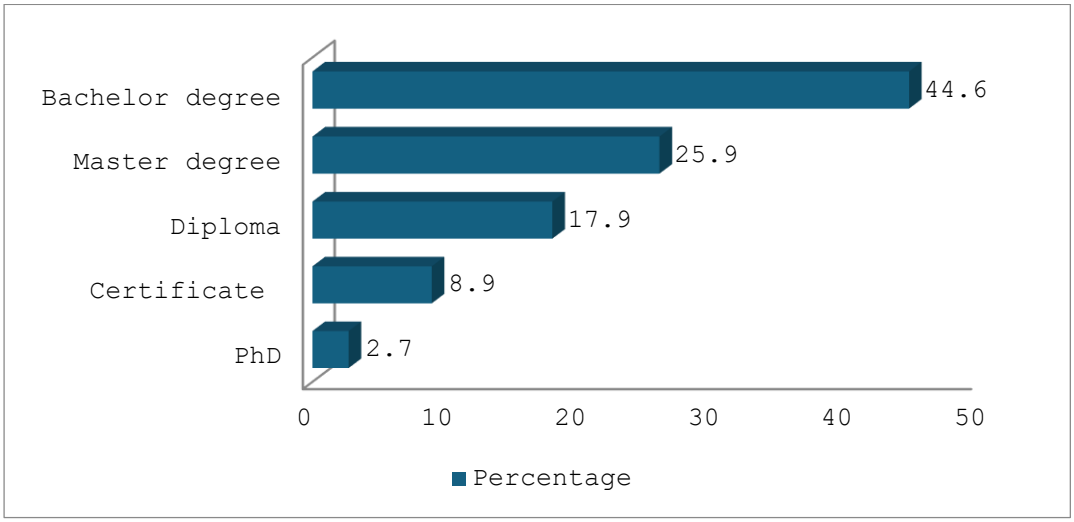


Figure 4.2: Academic Qualification
Source: Survey Data (2024)

The results presented in Figure 4.2 indicate that those respondents who had attained a Bachelor's degree level of education were majority as represented by 44.6%, followed by the respondents with Master degree level of education at 25.9%, 17.9% representing those respondents with diploma, 8.9% had certificate and 2.7% had PhD level of education. Education level is a crucial factor that can significantly influence an individual's understanding, perception, and adoption of digital technologies. In addition, persons having higher levels of education are more likely to hold the essential knowledge and skills to effectively navigate and utilize digital tools and platforms.

4.3.4 Department

The department affiliation of the participants is outlined in Table 4.3, indicating the specific department or area of expertise to which each individual belongs.

Table 4.3: Department

Age bracket	Frequency	Percentage
Production	29	25.9
Sales	18	16.1
Quality control	26	23.2
Operations	24	21.4
Procurement	15	13.4
General clerks	29	25.9
Total	**112**	**100**

Source: Survey Data (2024)

The results presented in Table 4.3 indicate that those respondents obtained from production and general clerks departments were majority at 25.9% respectively, followed by those from quality control department at 23.2%, 21.4% from operations department, 16.1% from sales department and 13.4% from procurement department. This information would help to understand the distribution of participants across different departments and may be relevant for analyzing any department-specific trends or perspectives that may emerge.

4.3.5 Employment Status

The employment status of the participants is then presented Figure 4.3, distinguishing between permanent, contracted, casual and intern.

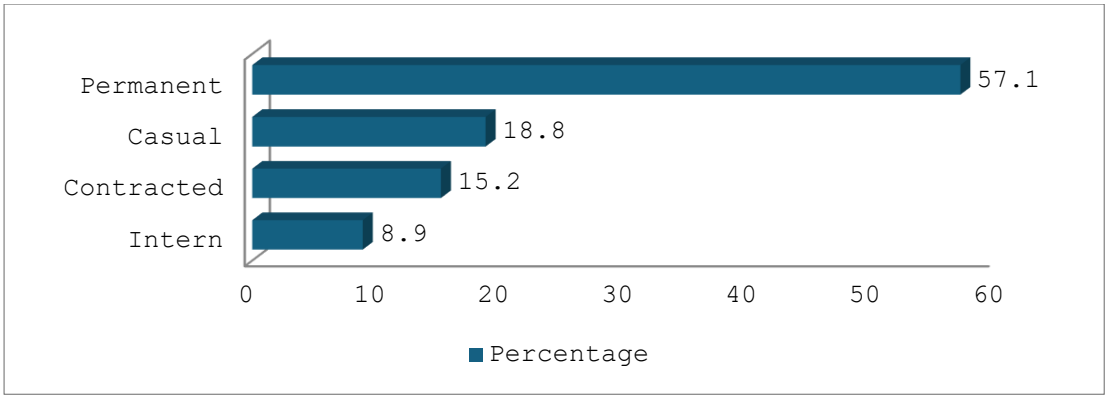


Figure 4.3: Employment Status

Source: Survey Data (2024)

The results presented in Figure 4.3 indicate that permanent employees represented in the study were majority at 57.1%, followed by casual employees at 18.8%, 15.2% were contracted and 8.9% were interns. This information was necessary to the study since the employment status provides crucial information about the participants' level of involvement and experience in the industry. Different employment statuses, such as full-time employees or part-time employees can significantly influence their exposure to digital transformation and their understanding of its impact on market performance.

4.3.6 Length of Work

The length of work the participants is detailed in Table 4.4, indicating the length of years each individual has been associated with the organization under study.

Table 4.4: Length of Work

Length of work	Frequency	Percentage
Below 5 years	8	7.1
6 to 10 years	25	22.3
11 to 15 years	46	41.1
Above 16 years	33	29.6
Total	**112**	**100**

Source: Survey Data (2024)

The results presented in Table 4.4 indicate that majority (41.1%) of the respondents had worked for a period ranging from 11 years to 15 years, surveyed by 29.6% of the respondents who had worked for over 16 years, 22.3% had worked for a period stretching from 6 years to 10 years and 7.1% had worked for a period below 5 years. This information was necessary because it would provide insights into the participants' level of experience and familiarity with the organization, which may influence their perspectives and responses during the research.

4.4 Descriptive Statistics Results

Descriptive statistics were utilized to analyze the quantitative data collected in the study. This involved calculating measures such as mean and std.dev to summarize the data and provide insights into the central tendency and variability of the variables under investigation. The results are presented as follows as per the study variables.

4.4.1 E-procurement

The descriptive results on e-procurement in terms of mean and std.dev are presented in Table 4.5.

Table 4.5: E-procurement

Statement	M	SD
Lower procurement costs are the outcome of the use of e-procurement.	3.58	1.409
Lower procurement costs are the outcome of e-procurement adoption.	4.52	0.478
The application of e-procurement has improved the efficiency of tendering processes.	4.59	0.407
The implementation of e-procurement has led to a rise in employee productivity.	4.14	0.855
The monitoring and evaluation procedures are now more efficient as a result of e-sourcing.	4.45	0.539
The e-ordering system is appropriately utilized by businesses to purchase equipment and services.	4.55	0.448
E-tendering streamlines the procurement process by doing away with needless paper work.	4.53	0.463
Bias and prejudice in supplier selection are eliminated through e-sourcing, which also streamlines the bidder evaluation process.	3.77	1.227
Aggregate mean and std.dev score	**4.27**	**0.728**

Source: Survey Data (2024)

The results in Table 4.5 indicate that the aggregate mean and std.dev score was 4.27 and 0.728 respectively which implies that the respondents agreed that of E-procurement influences the market performance of pharmaceutical MSMEs in NCC based on likert scale. The finding agree with a research was conducted by Kamotho in the year 2020, which focused on examining the efficacy of e-procurement in Kenyan state corporations. The study's conclusions showed that state corporations have improved their procurement performance by implementing a variety of e-procurement strategies.

The statements strongly agreed by the respondents were; the application of e-procurement has improved the efficiency of tendering processes (M=4.59, SD=0.407),

the e-ordering system is appropriately utilized by businesses to purchase equipment and services (M=4.55, SD=0.448), E-tendering streamlines the procurement process by doing away with needless paper work (M=4.53, SD=0.463), lower procurement costs are the outcome of e-procurement adoption (M=4.52, SD=0.478). The finding agree with Wafula, Okwaro, and Namusonge (2018) research which looked into how E-Procurement affected public organizations' organizational performance, with a particular emphasis on the Bungoma County Government. The study's conclusions show that the performance of SMEs is significantly impacted by e-tending, e-ordering, e-purchasing, organizational performance, and use of digital procurement systems.

The statements agreed by the respondents were; the monitoring and evaluation procedures are now more efficient as a result of e-sourcing (M=4.45, SD=0.539), the implementation of e-procurement has led to a rise in employee productivity (M=4.14, SD=0.855), Bias and prejudice in supplier selection are eliminated through e-sourcing, which also streamlines the bidder evaluation process (M=3.77, SD=1.227) and lower procurement costs are the outcome of the use of e-procurement (M=3.58, SD=1.409). The finding agree with the goal of Kioko's (2020) study which was to examine how E-procurement affected Kenyan parastatals' operational efficiency and according to the study's findings, parastatal performance is positively correlated with e-sourcing, e-informing, e-payments, and e-tendering.

4.4.2 E-marketing

The descriptive results on e-marketing in terms of mean and std.dev are presented in Table 4.6.

Table 4.6: E-marketing

Statement	M	SD
Through the use of internet marketing, pharmaceutical MSME sales volumes and profitability have increased.	4.61	0.389
Mobile phones are essential for helping MSME's penetrate new markets.	3.64	1.355
Through marketing, MSME owners who use mobile phones can boost their profitability.	3.23	1.770
Using social media can help MSME's increase their market share.	3.11	0.886
Email is typically used to get feedback on customer satisfaction.	3.91	1.089
MSMEs that use social media sites like Facebook and WhatsApp as marketing tools see increases in sales	4.51	0.489
The internet has increased the sales volume and profitability of pharmaceuticals.	4.58	0.418
Internet-based e-marketing significantly enhances pharmaceutical MSMEs' capacity to draw in and keep clients.	4.42	0.577
Aggregate mean and std.dev score	**4.00**	**0.872**

Source: Survey Data (2024)

The results in Table 4.6 indicate that the aggregate mean and std.dev score was 4.00 and 0.872 respectively which implies that the respondents agreed that of E-marketing influences the market performance of pharmaceutical MSMEs in NCC based on likert scale. The finding agree with Kawira, Mukulu, and Odhiambo (2019) research which examined how e-marketing affected the performance of MSMEs (MSMEs) in Kenya. According to the results of the bivariate regression, digital marketing significantly improved MSMEs' performance.

The statements strongly agreed by the respondents were; through the use of internet marketing, pharmaceutical MSME sales volumes and profitability have increased (M=4.61, SD=0.389), MSMEs that use social media sites like Facebook, the internet has increased the sales volume and profitability of pharmaceuticals (M=4.58,

SD=0.418) and WhatsApp as marketing tools see increases in sales (M=4.51, SD=0.489). The finding concurs with Lin (2021) research on complementary e-marketing strategy for small- and medium-sized enterprises in Taiwan that are in the growth stage which discovered that sales potential, online purchases, and brand awareness rank highest among local weights for marketing objectives for SMEs in the growth phase. Facebook, PIXNET, Twitter, Instagram, and YouTube were the global weights in order for complementary social media to meet the aforementioned marketing goals.

The statements agreed by the respondents were; Internet-based e-marketing significantly enhances pharmaceutical MSMEs' capacity to draw in and keep clients (M=4.42, SD=0.577), Email is typically used to get feedback on customer satisfaction (M=3.91, SD=1.089), mobile phones are essential for helping MSME's penetrate new markets (M=3.64, SD=1.355). The finding concurs with Bala and Verma (2018) research which observed that digital marketing plays a crucial role in helping marketers identify their target audience, set goals, and create the most effective plan for reaching the greatest number of customers.

The statements moderately agreed by the respondents were; through marketing, MSME owners who use mobile phones can boost their profitability (M=3.23, SD=1.770) and using social media can help MSME’s increase their market share (M=3.11, SD=0.886). The findings are contrary to Khaled and Taher (2022) research which examined the relationship and effects of electronic payment methods on sales growth and the mediating role of online shopping with an emphasis on the banking industry in the United Arab Emirates. This study showed a strong correlation and direct relationship between the increase in sales and the increase in online shopping.

4.4.3 E-payment

The descriptive results on e-payment in terms of mean and std.dev are presented in Table 4.7.

Table 4.7: E-payment

Statement	M	SD
Since e-payments are more difficult to falsify, pharmaceutical MSMEs experience fewer financial irregularities.	4.53	0.469
Pharmaceutical MSMEs can save money on procurement costs by using electronic payments.	3.55	1.448
The pharmaceutical MSMEs' use of electronic payments has made it easier to settle their debts for supplies.	4.52	0.480
The business has started accepting digital currency as payment for some of its goods.	3.90	1.090
The company processed its financial transactions primarily through mobile banking.	4.58	0.419
Aggregate mean and std.dev score	**4.22**	**0.781**

Source: Survey Data (2024)

The results in Table 4.7 indicate that the aggregate mean and std.dev score was 4.22 and 0.781 respectively which implies that the respondents agreed that of e-payment influences the market performance of pharmaceutical MSMEs in NCC based on likert scale. The finding agree with Kwabena and Daria (2019) research which investigated how the performance of MSMEs in developing nations was impacted by digital payment systems with a focus on Ghana. The study's conclusions highlight the important impacts that technology, organizations, the environment, and the usage of digital payment systems have on MSME performance.

The statements strongly agreed by the respondents were; the company processed its financial transactions primarily through mobile banking (M=4.58, SD=0.419), since e-

payments are more difficult to falsify, pharmaceutical MSMEs experience fewer financial irregularities (M=4.53, SD=0.469) and the pharmaceutical MSMEs' use of electronic payments has made it easier to settle their debts for supplies (M=4.52, SD=0.480). The finding concurs with Khaled and Taher (2022) research which examined the relationship and effects of electronic payment methods on sales growth and the mediating role of online shopping with an emphasis on the banking industry in the United Arab Emirates. This study showed a strong correlation and direct relationship between the increase in sales and the increase in online shopping.

The statements agreed by the respondents were; the business has started accepting digital currency as payment for some of its goods (M=3.90, SD=1.090) and pharmaceutical MSMEs can save money on procurement costs by using electronic payments (M=3.55, SD=1.448). The finding concur with the study conducted by Awwad (2021) which looked at how e-payments can improve financial performance through a case study of the Bank of Palestine. The findings show that the bank's financial performance, as indicated by the equity and return on assets indicators, is significantly impacted by the use of electronic payment methods, which contribute to lower expenses and higher profits.

4.4.4 Telemedicine

The descriptive results on telemedicine in terms of mean and std.dev are presented in Table 4.8.

Table 4.8: Telemedicine

Statement	M	SD
The effectiveness of healthcare at the pharmaceuticals is significantly impacted by telemedicine. MSMEs	3.67	1.329
Telemedicine in pharmaceutical MSMEs is simple and practical.	4.01	0.899
Telemedicine enhances performance and speed, making text messaging more effective.	4.50	0.500
Telemedicine raises the standard of care.	4.56	0.438
Telemedicine provides relief from the shortage of doctors.	4.09	0.887
Video communication and performance surgery are made possible by telemedicine.	4.57	0.428
Video communication is used for patient monitoring and assessment.	4.22	0.776
Aggregate mean and std.dev score	**4.23**	**0.751**

Source: Survey Data (2024)

The results in Table 4.8 indicate that the aggregate mean and std.dev score was 4.23 and 0.751 respectively which implies that the respondents agreed that of telemedicine influences the market performance of pharmaceutical MSMEs in NCC based on likert scale. The finding agrees with Samar (2022) research which examined the factors that impact individuals' decision-making regarding the utilization of telemedicine applications amidst the COVID-19 pandemic. The results revealed a robust positive correlation between usage behaviour and the intention to embrace telemedicine health applications when perceived severity is elevated.

The statements that were strongly agreed by the respondents were; telemedicine raises the standard of care (M=4.56, SD=0.438), video communication and performance surgery are made possible by telemedicine (M=4.57, SD=0.438), telemedicine enhances performance and speed, making text messaging more effective (M=4.50, SD=0.500). The finding agree with Bouchuana's (2020) research which investigated the

determinants that affect the acceptance of telemedicine and how the health culture influences the connection between these determinants and the acceptance of telemedicine in a particular subset of public hospitals in Malaysia. The results showed that the government policies, senior management support, utility perceptions, and computer self-efficacy has positively and significantly influenced telemedicine adoption in Malaysian public hospitals.

The statements that were agreed by the respondents were; Video communication is used for patient monitoring and assessment (M=4.22, SD=0.776), telemedicine provides relief from the shortage of doctors (M=4.09, SD=0.887), telemedicine in pharmaceutical MSMEs is simple and practical (M=4.01, SD=0.899) and the effectiveness of healthcare at the pharmaceuticals is significantly impacted by telemedicine. MSMEs (M=3.67, SD=1.329). The finding agree with Crowling, Mulcahy, Burn, and Hunter (2018) research that focused on an examination of the accessibility of care for both Teladoc users and nonusers, as well as the quality of care provided by the prominent direct-to-consumer (DTC) telemedicine company, Teladoc, in comparison to that provided in traditional doctor's offices. The performance of Teladoc was found to be inferior to that of physician offices in the context of the pharyngitis performance measure.

4.4.5 Market Performance

The descriptive results on market performance in terms of mean and std.dev are presented in Table 4.9.

Table 4.9: Market Performance

Statement	M	SD
E-marketing techniques, such as the internet, social media, and emails, are used to increase market share.	4.22	0.780
Staff productivity has increased in pharmaceutical MSMEs as a result of e-procurement.	4.16	0.836
E-payments have increased procurement payments' accountability and, consequently, their profitability.	3.94	1.060
Telemedicine raises the standard of care.	3.87	1.135
Customer feedback indicates that telemedicine is advantageous for pharmaceutical MSME.	4.11	0.809
By implementing e-procurement, MSMEs can boost their revenue and profitability.	4.09	0.809

Source: Survey Data (2024)

The results in Table 4.9 indicate that the respondents agreed on statements that; E-marketing techniques, such as the internet, social media, and emails, are used to increase market share (M=4.22, SD=0.780), staff productivity has increased in pharmaceutical MSMEs as a result of e-procurement (M=4.16, SD=0.836), customer feedback indicates that telemedicine is advantageous for pharmaceutical MSME (M=4.11, SD=0.809), by implementing e-procurement, MSMEs can boost their revenue and profitability (M=4.09, SD=0.809), e-payments have increased procurement payments' accountability and, consequently, their profitability (M=3.94, SD=1.060) and telemedicine raises the standard of care (M=3.87, SD=1.135). According to Zainudin (2019) MSMEs can be assessed according to their size, workforce count, working capital, and profitability. Market performance is defined as a company's capacity to adjust to the business environment and formulate a sound plan that supports management's ability to foster harmony within the organization and the surrounding environment.

4.5 Inferential Statistics Results

The inferential statistics were conducted using correlation analysis and multiple regressions analysis. The findings are presented as follows;

4.5.1 Correlation Analysis

Table 4.10: Correlation Analysis

		E-procurement	E-marketing	E-payment	Telemedicine	Market performance
E-procurement	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	112				
E-marketing	Pearson Correlation	.118	1			
	Sig. (2-tailed)	.207				
	N	112	112			
E-payment	Pearson Correlation	.381	.442	1		
	Sig. (2-tailed)	.213	.211			
	N	112	112	112		
Telemedicine	Pearson Correlation	.406	.304	.293	1	
	Correlation	.334	.107	.103		
	Sig. (2-tailed)	112	112	112	112	
	N					
Market performance	Pearson Correlation	.770	.816	.709	.799	1
	Sig. (2-tailed)	.002	.000	.001	.001	
	N	112	112	112	112	112

Source: Survey Data (2024)

The correlation analysis results presented in Table 4.10 indicate that the Pearson r value for e-procurement, e-marketing, e-payment and telemedicine against market performance is 0.770, 0.816, 0.709 and 0.799 respectively. These values are closer to 1 which signifies a perfect positive relationship between the independent variables and dependent variable. Therefore, e-procurement, e-marketing, e-payment and telemedicine were strongly correlated with market performance.

4.5.2 Multiple Regression Analysis

Regression analysis was done to estimate the relationship between dependent variable and independent variables. The results are presented in Table 4.11, 4.12 and 4.13.

Table 4.11: Model Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901[a]	.812	.795	0.0542

Source: Survey Data (2024)

The results in Table 4.12 show that the value of adjusted R square is 0.795 (79.5%) which is the extent which the market performance of pharmaceutical MSMEs in NCC varied due to the influence of e-procurement, e-marketing, e-payment and telemedicine. Therefore, the remaining 20.5% represents other variables not studied.

Table 4.12: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.023	4	29.756	39.736	.001
	Residual	80.125	107	0.7488		
	Total	199.148	111			

Source: Survey Data (2024)

The results as presented in Table 4.12 show that the statistical F value was 39.736 greater than the statistical mean value of 29.756. In addition, the significance value was at 0.001 which was less than the level of significance at 0.05. Thus, confirming the significance of the model.

Table 4.13: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.701	.125		5.608	.001
	E-procurement	.811	.217	.0521	3.737	.000
	E-marketing	.726	.310	.4016	2.342	.001
	E-payment	.770	.229	.3304	3.362	.001
	Telemedicine	.701	.330	.2160	2.124	.002

Source: Survey Data (2024)

The results presented in Table 4.13 show that when e-procurement, e-marketing, e-payment and telemedicine are held constant, the market performance of pharmaceutical MSMEs in NCC would be 0.701. The regression coefficients obtained for each individual variable indicate that by improving e-procurement, e-marketing, e-payment and telemedicine would improve the market performance of pharmaceutical MSMEs in NCC by 0.811, 0.726, 0.770 and 0.701 respectively. Therefore, the regression equations would be as presented below;

Market performance = 0.701 + 0.811(e-procurement) + 0.726(e-marketing) + 0.770(e-payment) + 0.701(telemedicine)

The study found that there was a positive considerable connection between e-procurement and the market performance of pharmaceutical MSMEs in NCC based on β-value obtained (β=0.0521, p=0.000). The finding agree with Wafula, Okwaro, and Namusonge (2018) research which looked into how E-Procurement affected public organizations' organizational performance, with a particular emphasis on the Bungoma County Government. The study's conclusions show that the performance of SMEs is significantly impacted by e-tending, e-ordering, e-purchasing, organizational performance, and use of digital procurement systems.

The study revealed that there was a positive considerable connection between e-marketing and the market performance of pharmaceutical MSMEs in NCC based on β-value obtained (β=0.4016, p=0.001). The finding agree with Kawira, Mukulu, and Odhiambo (2019) research which examined how e-marketing affected the performance of MSMEs (MSMEs) in Kenya. According to the results of the bivariate regression, digital marketing significantly improved MSMEs' performance.

The study established that that there was a positive considerable connection between e-payment and the market performance of pharmaceutical MSMEs in NCC based on β-value obtained (β=0.3304, p=0.001). The finding concurs with Khaled and Taher (2022) research which examined the relationship and effects of electronic payment methods on sales growth and the mediating role of online shopping with an emphasis on the banking industry in the United Arab Emirates. This study showed a strong correlation and direct relationship between the increase in sales and the increase in online shopping.

The study found that that there was a positive considerable connection between telemedicine and the market performance of pharmaceutical MSMEs in NCC based on β-value obtained (β=0.2160, p=0.002). The finding agrees with Samar (2022) research

which examined the factors that impact individuals' decision-making regarding the utilization of telemedicine applications amidst the COVID-19 pandemic. The results revealed a robust positive correlation between usage behavior and the intention to embrace telemedicine health applications when perceived severity is elevated.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter consolidates key findings from the study, offering a conclusion and practical recommendations based on identified gaps. It suggests focusing on enhancing E-procurement, E-marketing, E-payment and telemedicine to improve market performance of pharmaceutical micro, small and medium-sized enterprises in Nairobi city county Kenya.

5.2 Summary

The first research objective sought to determine the effect of E-procurement on market performance of pharmaceutical MSMEs in Nairobi City County. The study found that e-procurement had a positive significant influence on market performance of pharmaceutical MSMEs in NCC. The application of e-procurement has improved the efficiency of tendering processes, the e-ordering system is appropriately utilized by businesses to purchase equipment and services, e-tendering streamlines the procurement process by doing away with needless paper work lower procurement costs are the outcome of e-procurement adoption and the monitoring and evaluation procedures are now more efficient as a result of e-sourcing.

The second research objective sought to determine the effect of E-marketing on market performance of pharmaceutical MSMEs in NCC. The study found that e-marketing had a positive significant influence on market performance of pharmaceutical MSMEs in NCC. Through the use of internet marketing, pharmaceutical MSME sales volumes and profitability have increased, MSMEs that use social media sites like Facebook, The internet has increased the sales volume and profitability of pharmaceuticals, WhatsApp

as marketing tools see increases in sales and internet-based e-marketing significantly enhances pharmaceutical MSMEs' capacity to draw in and keep clients.

The third aim sought to assess the influence of E-payment on market performance of pharmaceutical MSMEs in NCC. The study revealed that e-payment had a positive significant influence on market performance of pharmaceutical MSMEs in NCC. The company processed its financial transactions primarily through mobile banking, since e-payments are more difficult to falsify, pharmaceutical MSMEs experience fewer financial irregularities, the pharmaceutical MSMEs' use of electronic payments has made it easier to settle their debts for suppliers and the business has started accepting digital currency as payment for some of its goods.

The fourth aim sought to assess the outcome of telemedicine on market performance of pharmaceutical MSMEs in NCC. The study established that telemedicine had a positive significant influence on market performance of pharmaceutical MSMEs in NCC. Telemedicine raises the standard of care, video communication and performance surgery are made possible by telemedicine, telemedicine enhances performance and speed, making text messaging more effective and video communication is used for patient monitoring and assessment.

5.3 Conclusions of the Study

The study concludes that E-procurement significantly enhances the market performance of pharmaceutical Micro, Small, and Medium Enterprises (MSMEs) in Nairobi City County. The adoption of digital procurement systems streamlines the supply chain, reduces procurement costs, and minimizes stockouts, leading to improved efficiency and customer satisfaction. By integrating E-procurement platforms, pharmaceutical MSMEs can access a wider range of suppliers, negotiate better prices,

and ensure timely restocking, ultimately strengthening their competitive position in the market.

The study further concludes that E-marketing plays a vital role in improving the market performance of pharmaceutical MSMEs. Digital marketing strategies, including social media engagement, search engine optimization, and online advertising, enhance brand visibility and customer outreach. The ability to offer personalized promotions and interact with customers in real-time fosters brand loyalty and increased sales. Additionally, E-marketing facilitates market expansion beyond physical locations, allowing pharmaceutical MSMEs to tap into a broader customer base, thereby improving overall performance.

Regarding E-payment, the study concludes that the adoption of digital payment solutions positively influences market performance by enhancing transaction efficiency and customer convenience. Mobile money, online banking, and card payments streamline financial transactions, reducing reliance on cash and minimizing the risks associated with handling physical money. E-payment systems also improve financial record-keeping, enabling better business decision-making and fostering trust among customers who prefer seamless and secure payment options.

The study concludes that telemedicine significantly impacts the market performance of pharmaceutical MSMEs by expanding healthcare access and creating new business opportunities. Through telemedicine platforms, these enterprises can offer virtual consultations, digital prescriptions, and remote healthcare services, thereby increasing customer engagement and trust. The integration of telemedicine into pharmaceutical services enhances customer retention and differentiates MSMEs from competitors,

positioning them as innovative and customer-centric businesses in the evolving healthcare landscape.

5.4 Recommendations of the Study

To enhance the market performance of pharmaceutical Micro, Small, and Medium Enterprises (MSMEs) in Nairobi City County, this study recommends that businesses adopt and optimize E-procurement systems. Pharmaceutical MSMEs should invest in digital procurement platforms that streamline supplier selection, reduce operational costs, and improve supply chain efficiency. By integrating automated inventory management and supplier relationship management tools, firms can ensure a steady supply of essential drugs while minimizing procurement errors and delays, ultimately boosting their market competitiveness.

Regarding E-marketing, pharmaceutical MSMEs should leverage digital marketing strategies such as search engine optimization (SEO), social media advertising, and content marketing to expand their customer reach. Establishing a strong online presence through e-commerce platforms and digital campaigns can enhance brand visibility, improve customer engagement, and drive sales. Additionally, firms should adopt data analytics tools to track consumer preferences and tailor marketing strategies accordingly, ensuring a more targeted and cost-effective approach to market expansion.

To maximize the benefits of E-payment systems, pharmaceutical MSMEs should integrate secure and diverse digital payment options, including mobile money, credit card payments, and online banking. Embracing digital financial transactions enhances convenience for customers, reduces cash handling risks, and improves financial record-keeping. Furthermore, businesses should ensure compliance with financial security

standards to build customer trust and minimize cybersecurity threats associated with online transactions.

The growing demand for telemedicine, pharmaceutical MSMEs should incorporate virtual consultation services to complement their product offerings. By collaborating with healthcare professionals and integrating telehealth platforms, these enterprises can expand their service delivery beyond physical store locations. This strategy can improve accessibility to medical advice, enhance patient care, and create new revenue streams, thereby strengthening the overall market performance of pharmaceutical MSMEs in Nairobi City County.

5.5 Suggestions for Further Study

There remained a 20.5% variance, based on the regression model results, that was attributed to digital transformation aspects not studied. Therefore, the study suggested that a similar study be conducted focusing on those other aspects not considered to fill the conceptual gap. The study was conducted within the context of pharmaceutical MSMEs in Nairobi City County. Therefore, a similar study could be undertaken focusing on pharmaceutical MSMEs in other county governments in Kenya. This research generated new knowledge by identifying the extent to which digital transformation influences market performance and highlighting unexplored aspects that contribute to the conceptual gap in this field.

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APPENDICES

APPENDIX I: Letter Of Introduction

Martha Njeri Githua

Dear Respondent,

RE: Collection of Data

I am a Kenyatta University student who is working towards a Master of Business Administration.

I have to do research in my field of study as part of my coursework. To that end, I am conducting research on **EFFECT OF DIGITAL TRANSFORMATION AND PERFORMANCE OF PHARMACEUTICAL MEDIUM AND SMALL ENTERPRISES IN NCC.**

Please complete the attached questionnaire so that I can finish the study. Please be aware that all provided information will be handled in strict confidence, in compliance with academic research ethics, and exclusively for the purposes of this study. We appreciate your cooperation and the time you invested in answering the questionnaire.

Yours sincerely,

MARTHA NJERI GITHUA

REG: D53/PT/20910/2020

APPENDIX II: Questionnaire

The purpose of this questionnaire is to gather information about Nairobi City County, Kenya's medium- and small-sized businesses' market performance and digital transformation. All collected data will be kept confidential and utilized exclusively for educational purpose.

SECTION A: GENERAL RESPONDENT INFORMATION

Gender	Male	Female
Age	less 24	24 to 33
	34 to 44	45 or more
Academic qualification	Certificate	Diploma
	Bachelor degree	Master degree
	PhD	Other (specify)……
Department	Production Department	Sales Department
	Quality control Department	Operations Department
	Procurement Department	General Clerks Department
Status of employment	Permanent	Contracted
	Casual	Casual
	Intern	
Length of work	Below 5	6 to 10
	11 to 15	Above 16

SECTION B. LIKERT SCALE ON VARIABLES

Please use a Likert scale to indicate the relationship between market performance and e-procurement, e-marketing, e-payment and in pharmaceutical MSMEs in Nairobi City County, Kenya.

(1) strongly disagree [2] Disagree [3] Neutral [4] Agree [5] Strongly agree

	E- Procurement and Market Performance	1	2	3	4	5
6.	Lower procurement costs are the outcome of the use of e-procurement.					
7.	Lower procurement costs are the outcome of e-procurement adoption.					
8.	The application of e-procurement has improved the efficiency of tendering processes.					
9.	The implementation of e-procurement has led to a rise in employee productivity.					
10.	The monitoring and evaluation procedures are now more efficient as a result of e-sourcing.					

11.	The e-ordering system is appropriately utilized by businesses to purchase equipment and services.					
12.	E-tendering streamlines the procurement process by doing away with needless paper work.					
13.	Bias and prejudice in supplier selection are eliminated through e-sourcing, which also streamlines the bidder evaluation process.					
14.						
	E- Marketing and Market Performance	1	2	3	4	5
15.	Through the use of internet marketing, pharmaceutical MSME sales volumes and profitability have increased.					
16.	Mobile phones are essential for helping MSME's penetrate new markets.					

17.	Through marketing, MSME owners who use mobile phones can boost their profitability.					
17.	Using social media can help MSME's increase their market share.					
19.	Email is typically used to get feedback on customer satisfaction.					
20.	MSMEs that use social media sites like Facebook and WhatsApp as marketing tools see increases in sales					
21.	The internet has increased the sales volume and profitability of pharmaceuticals.					
22.	Internet-based e-marketing significantly enhances pharmaceutical MSMEs' capacity to draw in and keep clients.					
	E- Payment and Market Performance	1	2	3	4	5
23.	Since e-payments are more difficult to falsify,					

	pharmaceutical MSMEs experience fewer financial irregularities.					
24.	Pharmaceutical MSMEs can save money on procurement costs by using electronic payments.					
24.	The pharmaceutical MSMEs' use of electronic payments has made it easier to settle their debts for supplies.					
26.	The business has started accepting digital currency as payment for some of its goods.					
27.	The company processed its financial transactions primarily through mobile banking.					
	Telemedicine and Market Performance	1	2	3	4	5
28.	The effectiveness of healthcare at the pharmaceuticals is significantly impacted by telemedicine. MSMEs					

28.	Telemedicine in pharmaceutical MSMEs is simple and practical.					
30.	Telemedicine enhances performance and speed, making text messaging more effective.					
31.	Telemedicine raises the standard of care.					
32.	Telemedicine provides relief from the shortage of doctors.					
33.	Video communication and performance surgery are made possible by telemedicine.					
34.	Video communication is used for patient monitoring and assessment.					
	Market Performance and Market Performance	1	2	3	4	5
35.	E-marketing techniques, such as the internet, social media, and emails, are used to increase market share.					

36.	Staff productivity has increased in pharmaceutical MSMEs as a result of e-procurement.					
37.	E-payments have increased procurement payments' accountability and, consequently, their profitability.					
38.	Telemedicine raises the standard of care.					
39.	Customer feedback indicates that telemedicine is advantageous for pharmaceutical MSME.					
40	By implementing e-procurement, MSMEs can boost their revenue and profitability.					

APPENDIX III: Research Approval Letters from Kenyatta University

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke P.O.Box 43844,00100

NAIROBI,KENYA
Website: www.ku.ac.ke
Tel.810901 Ext.4150

Internal Memo

FROM: Executive Dean,Graduate School DATE: 23rd May, 2024

TO: Martha Njeri Githua REF:D53/PT/20910/2020
C/o Business Administration Dept.

SUBJECT:APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 15th May, 2024 approved your Research Project Proposal for the M.B.A Degree Entitled, " **Digital Innovations and Market Performance of Pharmaceutical Micro,Small and Medium-Sized Enterprises I Nairobi City County Kenya."**

You may now proceed with your Data Collection,Subject to Clearance with Director General,National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and progress report Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Also,please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ANNFELD MWANIKI
FOR: EXECUTIVE DEAN,GRADUATE SCHOOL

C.C. Chairman,Business Administration.

Supervisors:

1. Dr.Stephen Muathe C/o Department of Business Administration
Kenyatta University

AM/mo

APPENDIX IV: Research Permit NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 293269

Date of Issue: 31/May/2024

RESEARCH LICENSE

This is to Certify that Ms.. MARTHA NJERI GITHUA of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: DIGITAL INNOVATIONS AND MARKET PERFORMANCE OF PHARMACEUTICAL MICRO, SMALL AND MEDIUM-SIZED ENTERPRISES IN NAIROBI CITY COUNTY KENYA for the period ending : 31/May/2025.

License No: NACOSTI/P/24/36509

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Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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