THE IMPACT OF DIGITAL TRANSFORMATION ON BUSINESS PERFORMANCE IN MICRO, SMALL, AND MEDIUM ENTERPRISES (MSMES) IN BENIN CITY

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A RESEARCH PROJECT WRITTEN AND SUBMITTED TO THE DEPARTMENT OF BUSINESS ADMINISTRATION, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN, BENIN CITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN BUSINESS ADMINISTRATION

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DECLARATION

I, **Rahimat ISMAIL,** a student of the Department of Business Administration, with Matriculation Number **MGS2104831**, hereby declare that this project titled **"**The Impact Of Digital Transformation On Business Performance In Micro, Small, And Medium Enterprises (Msmes) In Benin City**"** is my original work. It has been carried out under the supervision of Dr S.O. Omigie and has not been submitted previously in whole or in part for any degree or certification at any other institution. All sources of information used in this research have been duly acknowledged.

ISMAIL RAHIMAT _____

MGS2104831 (Signature and Date)

CERTIFICATION

This is to certify that this project work titled "The Impact Of Digital Transformation On Business Performance In Micro, Small, And Medium Enterprises (MSMES) In Benin City" was carried out by I, **ISMAIL RAHIMAT**, with matriculation number **MGS2104831**. It meets the requirements for the award of the Bachelor of Business Administration (BBA) Degree in the Department of Business Administration, University of Benin, Benin City, Edo State, Nigeria.

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DEDICATION

This work is dedicated to the Almighty God for His guidance, wisdom, and strength throughout this journey.

I also dedicate this research to my beloved parents, whose unwavering support, encouragement, and sacrifices have been instrumental in my academic pursuit.

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Abstract

This study investigated the impact of digital transformation on business performance among Micro, Small, and Medium Enterprises (MSMEs) in Benin City, Edo State, Nigeria. The research focused on four dimensions of digital transformation: operational transformation, customer experience transformation, organisational culture and workforce transformation, and product and service innovation. A structured questionnaire was administered to 290 MSMEs, of which 267 valid responses were analysed using descriptive and inferential statistics through SPSS version 22. The findings revealed that operational transformation and customer experience transformation had significant positive effects on business performance, indicating that MSMEs that digitise internal processes and customer engagement platforms experience enhanced productivity and competitiveness. Conversely, organisational culture and workforce transformation, as well as product and service innovation, showed no statistically significant impact on business performance. Based on these findings, the study recommends that MSMEs in Benin City increase investment in workforce digital upskilling, cultivate innovation-friendly organisational cultures, and strategically prioritise digital innovation in product and service delivery. The research contributes to the body of knowledge by providing empirical evidence on how various aspects of digital transformation influence MSME performance in an emerging market context.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In today's rapidly evolving digital era, the integration of digital technologies has become a critical enabler of business growth and competitiveness. Digital transformation refers to the comprehensive integration of digital technology into all areas of a business, fundamentally changing how organisations operate and deliver value to customers (Vial, 2021). While this trend has become widespread among large corporations, Micro, Small and Medium Enterprises (MSMEs) are increasingly recognising the need to embrace digital solutions to enhance efficiency, customer engagement, and market adaptability (Adeniran & Umeh, 2020).

MSMEs constitute a significant segment of most economies, especially in developing countries like Nigeria. According to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2022), MSMEs account for over 96% of businesses and contribute significantly to employment and GDP in the country. Despite their economic relevance, MSMEs often struggle with structural and operational inefficiencies, limited market reach, and resource constraints. Digital transformation presents a strategic opportunity for MSMEs to overcome these challenges by streamlining operations, enhancing customer experience, and fostering innovation (Chigada & Madzinga, 2021).

In Benin City, MSMEs span various sectors including retail, manufacturing, hospitality, and professional services. However, many of these enterprises still rely on traditional business models, characterised by manual processes and limited technological integration. With increasing digital penetration and consumer expectations, MSMEs in Benin City are under pressure to transform their operations, customer interactions, and internal cultures to stay competitive (Ezenwafor & Okoli, 2021).

Operational transformation, through the adoption of digital tools such as enterprise resource planning (ERP) systems, point-of-sale (POS) solutions, and automation software, can significantly improve efficiency and decision-making in MSMEs (Odoom et al., 2021). Moreover, transforming customer experience using digital platforms such as e-commerce, social media, and customer relationship management (CRM) tools can enhance customer satisfaction and loyalty (Adeyeye et al., 2020). Organisational culture and workforce transformation, including digital upskilling and agile work structures, are equally critical in fostering a digital-first mindset among employees (Iweanya & Bakare, 2021). Lastly, digital transformation also facilitates product and service innovation, allowing MSMEs to tailor offerings to changing customer needs and emerging market trends (Ukpere & Iwu, 2022).

1.2 Statement of the Research Problem

Micro, Small and Medium Enterprises (MSMEs) play a pivotal role in economic development, job creation, and poverty alleviation in Nigeria. Despite their significance, many MSMEs

continue to struggle with inefficiencies, low productivity, limited market access, and poor customer engagement, especially in fast-evolving digital economies (Ezenwafor & Okoli, 2021). In Benin City, where MSMEs dominate the commercial landscape, these issues are further compounded by infrastructural challenges, inconsistent policy support, and limited digital capabilities (SMEDAN, 2022).

Digital transformation has emerged as a potential solution to many of these business challenges, offering opportunities for operational efficiency, improved customer experience, workforce empowerment, and innovation (Ezenwafor & Okoli, 2021). However, while digitalisation has gained momentum in larger firms, there is a noticeable gap in adoption, integration, and impact assessment among MSMEs, particularly at the local level in cities like Benin City (Chigada & Madzinga, 2021).

Existing studies such as Adeyeye et al. (2020), which investigated ICT adoption among SMEs in Lagos, revealed that computerisation of record keeping improved operational efficiency but offered limited insights into customer engagement or innovation outcomes. Similarly, Iweanya and Bakare (2021) explored the use of mobile technologies by small businesses in Abuja and found that while digital tools enhanced communication and payment processes, they did not examine workforce transformation or cultural change. Apulu and Latham (2021) also reported that Nigerian SMEs primarily adopt ICT for basic functions such as data storage and transaction processing, often neglecting broader digital strategies like customer experience transformation or service innovation. These studies indicate that much of the existing literature concentrates

on general technology adoption or ICT use, without holistically addressing how specific dimensions of digital transformation, such as operational restructuring, digital customer engagement, workforce and cultural shifts, and product/service innovation, affect overall business performance.

This lack of localised understanding hinders the ability of stakeholders, including policymakers, business owners, and support institutions, to craft effective digital transformation strategies that enhance MSME competitiveness and sustainability. Without data-driven insights, MSMEs risk falling behind in an increasingly digital marketplace, further widening the performance gap between technologically advanced businesses and traditional ones (Chigada & Madzinga, 2021).

Therefore, this study seeks to fill this knowledge gap by examining the impact of digital transformation, across its operational, customer, workforce, and innovation dimensions, on the business performance of MSMEs in Benin City. It aims to provide actionable insights into how MSMEs can leverage digital tools not only to survive but also to thrive in the digital age.

1.3 Research Questions

1. What is the impact of operational transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City?
2. What is the influence of customer experience transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City?

3. What is the impact of organizational culture and workforce transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City?
4. What is the effect of product and service innovation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City?

1.4 Research Objectives

1. To examine the impact of operational transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.
2. To assess the influence of customer experience transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.
3. To evaluate the impact of organizational culture and workforce transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.
4. To analyze the effect of product and service innovation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

1.5 Research Hypotheses

1. There is no significant relationship between operational transformation and business performance in micro, small, and medium enterprises (MSMEs) in Benin City.
2. There is no significant relationship between customer experience transformation and business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

3. There is no significant impact of organizational culture and workforce transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.
4. There is no significant impact of product and service innovation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

1.6 Scope of the Study

This study is focused on assessing the impact of digital transformation on business performance among Micro, Small, and Medium Enterprises (MSMEs) operating in Benin City, Edo State, Nigeria. The research is confined to enterprises formally registered and actively operating within the city's metropolitan area, across various sectors including retail, services, manufacturing, hospitality, and technology.

The study specifically investigates four key dimensions of digital transformation: operational transformation, customer experience transformation, organisational culture and workforce transformation, and product and service innovation. These dimensions are analysed in relation to business performance indicators such as efficiency, customer satisfaction, market competitiveness, revenue growth, and adaptability to change. Both qualitative and quantitative data are utilised to ensure a comprehensive understanding of the research problem.

It is important to note that this research does not cover large corporations or unregistered informal businesses, nor does it assess the technical intricacies of specific digital tools or

platforms. Instead, the focus remains on the strategic and performance-related outcomes of digital transformation initiatives within MSMEs in the specified location.

1.7 Significance of the Study

This study is significant as it contributes to the growing body of knowledge on digital transformation within the context of Micro, Small, and Medium Enterprises (MSMEs) in Nigeria, particularly in Benin City. Given the strategic role that MSMEs play in driving economic growth, job creation, and innovation, understanding how digital transformation affects their business performance is both timely and essential.

Firstly, the study provides empirical insights into how different dimensions of digital transformation - namely operational transformation, customer experience, organisational culture and workforce development, and product/service innovation - individually and collectively influence business outcomes. This offers a holistic view that goes beyond mere technology adoption to address the broader organisational changes required for successful transformation.

Secondly, the findings will serve as a valuable guide for MSME owners and managers in Benin City who are considering or currently undergoing digital transformation. By identifying which areas of digital adoption yield the most significant performance improvements, business leaders can make informed investment and strategic decisions that align with their goals and resource constraints.

Thirdly, the study will be of practical relevance to policymakers, development agencies, and support organisations such as SMEDAN and NITDA. The insights gained can inform targeted interventions, capacity-building programmes, and supportive regulatory frameworks that promote digital inclusion and sustainability among MSMEs.

Lastly, the research offers a foundation for future academic studies, particularly in the Nigerian or sub-Saharan African context, where literature on localised digital transformation and its outcomes in MSMEs remains limited. It encourages further exploration into sector-specific, regional, and comparative studies that deepen understanding of digital change in emerging economies.

By bridging this knowledge and practice gap, the study seeks to support the long-term competitiveness, resilience, and scalability of MSMEs in an increasingly digital global economy.

1.8 Limitations of the Study

While this study aims to provide comprehensive insights into the impact of digital transformation on the business performance of MSMEs in Benin City, certain limitations are acknowledged.

Firstly, the research is geographically restricted to Benin City, which may limit the generalisability of the findings to other cities or regions in Nigeria with different economic conditions, technological infrastructure, or business cultures.

Secondly, the study relies on self-reported data from MSME owners and managers, which may be subject to response bias or inaccuracies due to overestimation or underreporting of digital transformation practices and performance outcomes.

Thirdly, the scope of digital transformation in this study is confined to four dimensions; operational transformation, customer experience transformation, organisational culture and workforce transformation, and product/service innovation. Other potentially relevant factors such as supply chain digitisation or advanced data analytics adoption are not examined in depth.

Additionally, the study adopts a cross-sectional research design, which captures the state of digital transformation and business performance at a single point in time. This limits the ability to draw strong causal inferences or assess long-term changes and trends over time.

Lastly, resource and time constraints may have influenced the size and diversity of the sample, potentially affecting the statistical robustness of the results. Nonetheless, the study has been designed to ensure that these limitations do not significantly undermine the validity and reliability of its findings.

1.9 Definition of Terms

Business Performance: Business performance refers to the extent to which an organisation achieves its objectives in terms of profitability, market share, customer satisfaction, and operational efficiency. It encompasses both financial and non-financial outcomes of organisational activities (Richard et al., 2021).

Customer Experience Transformation: Customer experience transformation is the process of leveraging digital tools, processes, and data to enhance customer interactions, satisfaction, and loyalty across multiple touchpoints (Lemon & Verhoef, 2021).

Digital Adoption: Digital adoption refers to the process by which individuals or organisations embrace and integrate digital tools and technologies into their daily activities to achieve desired outcomes (Clohessy et al., 2021).

Digital Transformation: Digital transformation is the holistic integration of digital technologies into all aspects of an organisation's operations, leading to fundamental changes in how value is delivered to customers and how the business operates (Vial, 2021).

Innovation Capability: Innovation capability is the organisation's ability to continuously develop and implement new ideas, products, services, or processes to gain competitive advantage (Saunila, 2020).

Micro, Small and Medium Enterprises (MSMEs): MSMEs are businesses whose workforce size, revenue, or assets fall below certain thresholds defined by law or policy. In Nigeria, micro enterprises have fewer than 10 employees, small enterprises employ between 10 and 49 people, while medium enterprises employ between 50 and 199 people (SMEDAN, 2022).

Operational Transformation: Operational transformation refers to the adoption of digital systems, automation, and process re-engineering to improve efficiency, reduce costs, and enhance decision-making in business operations (Bharadwaj et al., 2021).

Organisational Agility: Organisational agility is the ability of a business to rapidly sense and respond to changes in its environment to remain competitive and innovative (Teece et al., 2021).

Organisational Culture and Workforce Transformation: Organisational culture and workforce transformation involves reshaping employee skills, attitudes, and workplace practices to align with digital strategies, fostering agility, innovation, and collaboration (Schein, 2021).

Product and Service Innovation: Product and service innovation is the development and implementation of new or significantly improved goods and services that meet emerging market needs or create new demand (OECD, 2021).

Technology Adoption Readiness: Technology adoption readiness refers to the extent to which an organisation possesses the skills, infrastructure, and mindset necessary to effectively implement and use new technologies (Raimo et al., 2023).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The rapid advancement of digital technologies has reshaped the global business environment, compelling organisations of all sizes to embrace digital transformation as a strategic imperative. While large corporations have been at the forefront of adopting advanced technologies, Micro, Small, and Medium Enterprises (MSMEs) are increasingly recognising the potential of digital tools to enhance efficiency, improve customer engagement, and drive innovation (Reis et al., 2020). For MSMEs in developing economies such as Nigeria, digital transformation presents both opportunities and challenges, especially given infrastructural limitations, financial constraints, and varying levels of digital literacy (Ukpere & Iwu, 2022).

Literature on digital transformation highlights its multidimensional nature, encompassing not only the adoption of technologies but also changes in processes, organisational culture, customer relationships, and business models (Vial, 2020). Scholars have argued that digital transformation goes beyond the automation of tasks; it represents a holistic reconfiguration of business operations and strategies aimed at creating sustainable competitive advantage (Susanti et al., 2023). In this regard, the relevance of digital transformation to MSMEs cannot be overstated, as these enterprises contribute significantly to employment, innovation, and GDP growth in emerging economies (SMEDAN, 2022).

Recent studies also indicate that the COVID-19 pandemic accelerated digital adoption among businesses, compelling MSMEs to leverage e-commerce, digital payments, remote collaboration tools, and social media marketing to sustain operations and maintain customer relationships (Eze et al., 2021). However, despite these developments, empirical evidence suggests that MSMEs in Nigeria, particularly in Benin City, still lag behind in fully exploiting the benefits of digitalisation due to inadequate resources, lack of supportive policies, and resistance to change (Cappa et al., 2021).

This chapter provides a review of existing literature relevant to the study. It is organised into the following sections: the conceptual review, which clarifies the key concepts underpinning the study; the theoretical review, which examines the theoretical frameworks guiding the research; and the empirical review, which evaluates past studies on digital transformation and business performance, highlighting gaps that this study seeks to address. The literature review thus lays the foundation for understanding the relationship between digital transformation and business performance in MSMEs, with specific reference to Benin City.

2.2 Conceptual Review

2.2.1 Concept of Micro, Small, and Medium Enterprises (MSMEs)

Micro, Small, and Medium Enterprises (MSMEs) are widely recognised as the backbone of economic development due to their contributions to employment generation, poverty reduction, and innovation. Globally, MSMEs account for more than 90% of businesses and over 50% of

employment, underscoring their critical role in fostering inclusive growth (World Bank, 2020). In developing countries, their significance is even more pronounced, as they often provide the majority of non-agricultural employment and serve as drivers of entrepreneurship and industrialisation (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2020).

In Nigeria, the definition of MSMEs is guided by criteria established by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN). According to SMEDAN (2022), micro enterprises are businesses with fewer than 10 employees, small enterprises employ between 10 and 49 people, and medium enterprises employ between 50 and 199 people. Beyond workforce size, classification may also include factors such as annual turnover and asset value. This categorisation ensures a clear policy framework for providing support to businesses of varying sizes and capacities.

MSMEs in Nigeria, including those in Benin City, span across diverse sectors such as retail, hospitality, manufacturing, professional services, and technology. They play a significant role in job creation and poverty alleviation but face persistent challenges such as inadequate access to finance, infrastructural deficits, weak institutional support, and limited access to markets (Ezenwafor & Okoli, 2020). In recent years, digital transformation has been recognised as a pathway to overcome many of these structural barriers, allowing MSMEs to enhance operational efficiency, engage wider markets, and adapt more effectively to environmental changes (Ukpere & Iwu, 2022).

However, despite the strategic importance of MSMEs, their survival and growth rates remain fragile. Research indicates that a significant percentage of Nigerian MSMEs struggle to survive beyond their first five years due to issues such as poor management, lack of innovation, and failure to integrate digital tools into their operations (Adeniran & Johnston, 2020). This highlights the necessity of exploring how digital transformation impacts MSME performance, especially in Benin City, where economic activities are vibrant yet constrained by infrastructural and institutional challenges.

2.2.2 Concept of Business Performance

Business performance is a multidimensional construct that reflects the extent to which an organisation achieves its strategic and operational objectives. In the context of Micro, Small, and Medium Enterprises (MSMEs), business performance is often viewed not only in terms of financial outcomes but also in relation to market competitiveness, customer satisfaction, innovation, and long-term sustainability (Mikalef, Pappas, Krogstie, & Giannakos 2020). Scholars argue that assessing performance solely from a financial standpoint does not fully capture the realities of smaller firms, especially those operating in dynamic environments such as Benin City, where resource limitations and digital adoption challenges are prevalent (Ghobakhloo & Ching, 2020).

From a financial perspective, business performance is commonly measured by indicators such as sales growth, profitability, and return on investment. These metrics provide a tangible reflection of a firm's economic health and efficiency (Al-Dmour, Al-Dmour, & Masa'deh,

2021). However, non-financial measures such as customer loyalty, employee productivity, innovation capability, and adaptability to market changes have gained increasing importance, especially in digitally transforming economies (Parida, Karjaluoto, & Töllinen, 2020). For MSMEs, the integration of digital technologies such as e-commerce platforms, social media, digital payment systems, and cloud computing, has expanded the scope of performance evaluation by introducing new ways to track efficiency, market reach, and service delivery (Kraus, Schiavone, Pluzhnikova, & Invernizzi, 2021).

Furthermore, business performance is also understood through the lens of sustainability and resilience. According to Cappa, Oriani, and Pinelli, (2021), in rapidly changing business environments, especially in developing economies, resilience to disruptions, such as economic shocks or technological shifts, has become an essential component of performance. For MSMEs in Benin City, the ability to sustain operations despite infrastructural challenges, regulatory bottlenecks, and competitive pressures is a crucial performance indicator.

Scholars also highlight that performance outcomes in MSMEs are strongly influenced by the adoption and utilisation of digital transformation initiatives. Digital tools enable businesses to streamline operations, enhance customer experiences, and leverage data-driven insights to improve decision-making (Santoro, Mazzoleni, Quaglia, & Solima, 2020). Thus, digital adoption is no longer a mere enhancer of efficiency but a central determinant of competitiveness and survival in the contemporary business landscape (Ghobakhloo, 2020).

In summary, business performance is a complex and multi-layered concept encompassing financial, operational, market, and sustainability dimensions. In the case of MSMEs in Benin City, assessing performance requires considering both traditional financial indicators and non-financial factors linked to digital transformation, innovation, and resilience. This holistic perspective ensures a more accurate reflection of the realities these enterprises face in their journey towards competitiveness and growth.

2.2.3 Concept of Digital Transformation

Digital transformation (DT) refers to the integration of digital technologies into all aspects of an organisation's operations, fundamentally changing the way businesses deliver value to customers and achieve performance goals (Vial, 2020). It goes beyond the mere adoption of digital tools, encompassing a holistic change in business processes, customer engagement, organisational culture, and value creation (Susanti, Effendi, & Fauzi, 2023). In MSMEs, digital transformation often involves leveraging affordable and scalable digital solutions such as cloud computing, mobile applications, social media platforms, and data analytics to improve competitiveness and performance.

Scholars argue that digital transformation is not just about technology adoption but also about organisational change and strategic alignment (Jonathan & Kuika Watat, 2020). For instance, Westerman, Bonnet, and McAfee, (2019) describe it as a process of using digital capabilities to reinvent business models and operational processes, while also enabling improved customer experience. Similarly, Reis, Amorim and Melão (2020) stress that digital transformation

enables firms to adapt to market disruptions, innovate products and services, and strengthen long-term sustainability.

For MSMEs in developing economies such as Nigeria, digital transformation is particularly critical as it enables resource-constrained firms to overcome infrastructural limitations and expand their market reach (Nwankpa & Datta, 2020). By embracing digitalisation, MSMEs can enhance efficiency, reduce costs, and create new avenues for innovation and growth (Mahraz, Benabbou & Berrado, 2020). Moreover, the post-COVID-19 has further accelerated the adoption of digital tools, making digital transformation a key determinant of survival and competitiveness among MSMEs (Priyono, Moin & Putri, 2020).

In essence, digital transformation represents both a challenge and an opportunity for MSMEs. While limited resources, digital skills, and infrastructure may hinder its adoption, the benefits of improved performance, resilience, and innovation make it an indispensable strategy in today's business environment (Susanti et al., 2023). We'll now discuss the forms of digital transformation below.

2.2.3.1 Operational Transformation

Operational transformation refers to the redesign and digitisation of internal business processes to improve efficiency, productivity, and cost-effectiveness. It involves leveraging digital technologies such as automation, artificial intelligence, cloud computing, and data analytics to streamline workflows, eliminate redundancies, and enable faster decision-making (Westerman, Bonnet, & McAfee, 2020). For micro, small, and medium enterprises (MSMEs), operational

transformation is particularly critical because these businesses often face resource constraints and require innovative ways to maximise efficiency.

In MSMEs, operational transformation includes the adoption of digital tools such as accounting software, enterprise resource planning (ERP) systems, e-commerce platforms, and digital supply chain management solutions. These tools enable businesses to reduce manual errors, track inventory in real-time, and respond more quickly to market demands (Ghosh, 2020). For instance, automated point-of-sale systems and mobile banking platforms have revolutionised the way MSMEs in emerging economies like Nigeria conduct financial transactions and manage customer records (Okundaye, Fan, & Dwyer, 2019).

Moreover, operational transformation allows MSMEs to become more resilient in a rapidly changing business environment. By digitising processes, firms can adapt more easily to disruptions, such as the COVID-19 pandemic, which highlighted the need for flexible and technology-enabled operations (Papadopoulos, Baltas, & Balta, 2020). For example, businesses that had already implemented digital payment systems and online order processing were able to continue operations despite restrictions on physical interactions.

However, the extent of operational transformation in MSMEs depends on factors such as financial resources, digital literacy, and infrastructural availability. Many MSMEs in Benin City still face challenges related to poor internet connectivity, high costs of technology adoption, and limited awareness of digital opportunities (Eze, Chinedu-Eze, & Bello, 2021). Despite these barriers, evidence suggests that operational transformation significantly

improves business performance by reducing costs, enhancing productivity, and supporting long-term growth (Almeida, Santos, & Monteiro, 2020).

Therefore, operational transformation can be considered a foundational element of digital transformation in MSMEs, as it not only improves internal efficiency but also serves as a prerequisite for other aspects of transformation, such as customer experience, workforce management, and innovation.

2.2.3.2 Customer Experience Transformation

Customer experience transformation refers to the use of digital technologies to enhance how businesses interact with, engage, and deliver value to their customers. It focuses on creating seamless, personalised, and convenient customer journeys across both physical and digital touchpoints (Lemon & Verhoef, 2021). In today's highly competitive environment, customer experience is no longer limited to product or service quality but extends to how easily and effectively customers can interact with a business through digital platforms.

For micro, small, and medium enterprises (MSMEs), customer experience transformation is vital for building loyalty, retaining customers, and differentiating themselves from competitors. Digital tools such as social media platforms, customer relationship management (CRM) systems, chatbots, and e-commerce platforms allow MSMEs to interact with customers in real time, respond to queries promptly, and offer personalised recommendations (McLean & Wilson, 2019). For example, MSMEs in Benin City increasingly use WhatsApp, Instagram,

and Facebook to showcase products, engage with customers, and process sales, thereby improving convenience and customer satisfaction.

Customer experience transformation also involves creating an omnichannel presence, where businesses provide a consistent and integrated experience across multiple platforms whether in-store, online, or mobile (Verhoef et al., 2021). For MSMEs, adopting such strategies ensures that customers can choose the most convenient channel while still enjoying a coherent brand experience. This integration is crucial in a digital-first economy where customer expectations are constantly rising.

Furthermore, data analytics plays an important role in customer experience transformation. By collecting and analysing customer data, MSMEs can gain insights into preferences, behaviours, and purchasing patterns, which can be used to design personalised offers and targeted marketing campaigns (Chatterjee, Rana, & Dwivedi, 2020). Such approaches not only improve sales but also strengthen customer trust and loyalty.

However, MSMEs in developing economies often face obstacles to achieving customer experience transformation. Issues such as poor digital infrastructure, limited access to CRM technologies, and lack of technical expertise constrain the ability of small businesses to deliver seamless experiences (Eze et al., 2021). Despite these challenges, evidence indicates that MSMEs who prioritise customer experience through digital means report higher levels of customer satisfaction, retention, and overall business performance (Klaus, 2020).

In essence, customer experience transformation goes beyond customer service; it reflects a strategic shift towards customer-centricity enabled by digital technologies. For MSMEs in Benin City, embracing this transformation is critical for survival and growth in an increasingly competitive marketplace.

2.2.3.3 Organizational Culture

Organizational culture represents the shared values, beliefs, norms, and practices that shape how employees interact and work within an organization (Singh & Hess, 2020). Culture serves as a critical enabler or barrier to successful adoption of new technologies. A strong digital culture fosters innovation, openness to change, and collaboration across departments, while a rigid or hierarchical culture often resists transformation and stifles creativity (Westerman, 2020).

Digital transformation requires a shift in mindset where employees and managers alike embrace experimentation, data-driven decision-making, and customer-centricity. According to Kraus et al. (2021), SMEs with an adaptive and learning-oriented culture are more likely to integrate digital technologies effectively, as such cultures encourage risk-taking and continuous improvement. Similarly, Hess (2019) found that organisational culture moderates the relationship between digital capability and firm performance, suggesting that even advanced technologies yield limited results in organizations with poor cultural alignment.

A study by Neely (2021) emphasized that digital transformation is not solely a technological endeavour but a cultural one, requiring leaders to model digital behaviours, communicate

strategic visions, and reward innovation. Spanos et al., (2021) further argued that the cultural dimension of transformation extends to knowledge sharing, empowerment, and the redefinition of traditional roles, which collectively enhance organisational agility and competitiveness.

For MSMEs, particularly in developing economies, cultural barriers such as resistance to change, lack of digital literacy, and hierarchical management structures often limit transformation efforts (Eze et al., 2021). To overcome these challenges, leadership must cultivate a culture of openness, experimentation, and trust. Santoro et al. (2020) noted that organisations that foster an innovation-friendly culture experience smoother transitions during digital adoption and achieve higher levels of employee engagement and customer satisfaction. Therefore, organizational culture acts as the invisible infrastructure supporting digital transformation initiatives. When aligned with strategic digital goals, it enhances employee adaptability, promotes continuous learning, and sustains competitive advantage in an increasingly digital economy.

2.2.3.4 Workforce Transformation

Workforce transformation refers to the process of reshaping the skills, roles, and ways employees work through the integration of digital technologies, new business models, and evolving customer expectations. It emphasizes equipping employees with the digital skills, tools, and flexible work arrangements needed to thrive in a rapidly changing business environment (Schallmo, Williams, & Boardman, 2020).

For micro, small, and medium enterprises (MSMEs), workforce transformation is especially important because employees often multitask and perform diverse roles. Adopting digital solutions such as cloud collaboration tools, digital communication platforms, and e-learning opportunities enhances productivity and ensures that workers can adapt to new operational demands (Bondarouk & Brewster, 2020). For instance, MSMEs in Benin City that adopt platforms like Google Workspace, Slack, or Zoom are able to streamline internal communication, support remote work, and foster greater efficiency (Vial 2020).

A major component of workforce transformation is digital skills development. Employees must possess the ability to navigate social media marketing, data analytics, e-commerce platforms, and digital financial tools (Brennen & Kreiss, 2020). MSMEs that invest in training and upskilling employees are better positioned to leverage technology for growth. For example, training sales staff in digital payment systems or online advertising directly enhances the firm's capacity to attract and retain customers.

Workforce transformation also includes fostering a culture of innovation and adaptability. With rapid technological shifts, MSMEs must encourage employees to embrace change, experiment with digital tools, and continuously improve processes (Hess, Matt, Benlian, & Wiesböck 2020). Flexible work practices, such as hybrid or remote work, further reflect how digital transformation is redefining the modern workforce.

However, challenges persist for MSMEs. Limited resources often constrain investment in workforce development, and many small businesses struggle to retain digitally skilled

employees, who may be attracted to larger firms offering better incentives (Eze et al., 2021). Additionally, resistance to change among employees may slow digital adoption. Despite these barriers, studies show that MSMEs that prioritise workforce transformation experience improved operational efficiency, stronger innovation capacity, and higher employee satisfaction (Sousa & Rocha, 2020).

In conclusion, workforce transformation is a crucial element of digital transformation, enabling MSMEs to remain competitive in a digital-first economy. By investing in digital skills, flexible work models, and collaborative technologies, MSMEs in Benin City can not only improve productivity but also foster a resilient workforce capable of driving long-term growth.

2.2.3.5 Product and Service Innovation Transformation

Product and service innovation refers to the development and introduction of new or significantly improved goods and services that meet emerging customer needs, enhance efficiency, or create new market opportunities (OECD, 2020). For MSMEs, innovation is a critical pathway to remaining competitive, especially in dynamic business environments where consumer preferences and technological trends change rapidly. Unlike large corporations with substantial research and development budgets, MSMEs often rely on incremental innovations, customer feedback, and digital tools to enhance their offerings (Troise, Hooper, & Chikweche 2022).

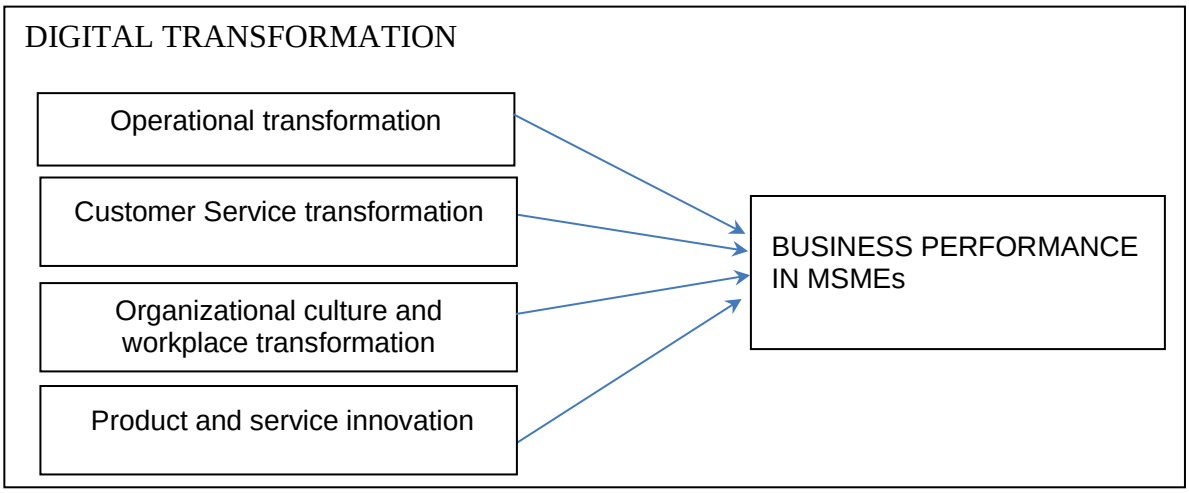
Digital transformation has significantly shaped the way MSMEs in developing economies approach product and service innovation. Technologies such as artificial intelligence, e-

commerce platforms, and digital payment systems have provided MSMEs with opportunities to create unique value propositions, personalise services, and expand beyond local markets (Bouwman, Nikou, Molina-Castillo, & de Reuver 2020). For instance, product innovation in MSMEs often involves leveraging digital platforms to offer online versions of physical services, while service innovation might entail the adoption of chatbots or cloud-based support systems to improve customer responsiveness.

In Benin City, MSMEs operate in sectors such as retail, hospitality, agriculture, and services, where innovation is increasingly tied to digital adoption. The shift towards mobile-based commerce and digital marketing has enabled small enterprises to reach broader audiences and differentiate themselves from competitors. Product and service innovation not only drives revenue growth but also fosters adaptability, helping businesses sustain performance in volatile markets (Spanos, Prastacos, & Poulymenakou, 2021).

Overall, the ability of MSMEs to embrace digital-driven innovation directly affects their competitiveness and long-term performance. By integrating customer insights, technological opportunities, and agile processes, MSMEs can transform their traditional products and services into scalable and innovative offerings that align with modern consumer demands (Santoro, Thrassou, Bresciani, & Del Giudice, 2023).

Figure 2.1 Conceptual Diagram



Source: Researcher's Conceptual Framework (2025).

2.3 Theoretical Review

This section examines relevant theories that explains the impact of digital transformation on business performance in MSMEs. The integration of digital transformation into business performance has been widely studied under different theoretical lenses, each offering distinct insights into understanding how technology adoption, innovation, and organisational capabilities influence competitiveness, efficiency, and overall business outcomes.

2.3.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), proposed by Davis (1989), is one of the most widely used models for explaining user adoption of technology. It suggests that an individual's decision to use a new technology is determined by two key factors: perceived usefulness (the

degree to which the person believes the technology will improve performance) and perceived ease of use (the degree to which the person believes it will be free of effort).

In the context of MSMEs, TAM explains how business owners and employees decide whether to embrace digital tools such as e-commerce platforms, social media, or cloud-based systems (Eze et al., 2021). The theory assumes that users are rational decision-makers who evaluate technology based on expected performance outcomes.

However, a major criticism of TAM is its limited consideration of external factors such as organisational culture, environmental pressure, and resource availability (Mikalef et al., 2019). Therefore, while TAM helps explain behavioural acceptance of technology at the individual level, it provides limited insight into the broader organisational and strategic implications of digital transformation.

2.3.2 Resource-Based View (RBV)

The Resource-Based View (RBV), developed by Barney (1991), posits that a firm's competitive advantage stems from the possession and effective utilisation of valuable, rare, inimitable, and non-substitutable (VRIN) resources. Within digital transformation, RBV emphasises the role of both tangible and intangible assets such as digital infrastructure, data, knowledge, and skills in enhancing business performance (Spanos et al., 2021).

For MSMEs, RBV highlights how digital resources and competencies can be leveraged to achieve efficiency, innovation, and customer satisfaction. The assumption of RBV is that firms

differ in their resource endowments, and those that develop unique digital capabilities are more likely to outperform competitors.

Nonetheless, the theory has been criticised for being static and overlooking the dynamic nature of technological change (Kraus et al., 2021). It focuses more on resource possession than on the processes by which firms adapt those resources to changing environments.

2.3.3 Dynamic Capabilities Theory (DCT)

The Dynamic Capabilities Theory (DCT), introduced by Teece, Pisano, and Shuen (1997), extends the RBV by explaining how firms *reconfigure, integrate, and renew* their resources to respond to technological and environmental changes. The theory assumes that in a fast-changing environment, organisational success depends not merely on possessing valuable resources but on continuously transforming them through innovation, learning, and strategic flexibility (Teece, 2020).

In MSMEs, DCT is particularly relevant because it explains how small businesses, with limited resources, can achieve superior performance through agility, creativity, and adaptation (Mikalef et al., 2019; Kraus et al., 2021). For example, MSMEs that develop dynamic digital capabilities such as rapid technological adoption, workforce upskilling, and process innovation are better positioned to enhance customer experience and competitiveness.

However, critics argue that DCT lacks precise measurement and can be abstract in empirical application (Santoro et al., 2025). Despite this, it remains one of the most practical frameworks for analysing digital transformation because it bridges technology, strategy, and performance.

Given its alignment with the objectives of this study, the Dynamic Capabilities Theory serves as the main theoretical foundation, as it best captures how MSMEs in Benin City can adapt and reconfigure digital resources to achieve improved business performance.

2.3.4 Diffusion of Innovation (DOI) Theory

The Diffusion of Innovation (DOI) Theory, proposed by Rogers (2003), explains how new technologies and ideas spread within a social system over time. The theory identifies five attributes that influence the adoption rate of innovation: relative advantage, compatibility, complexity, trialability, and observability.

In digital transformation, DOI helps explain why some MSMEs quickly adopt technologies such as digital payment systems or e-commerce, while others are hesitant (Cappa et al., 2021). The assumption is that innovations perceived as easy to use and beneficial are more likely to be adopted.

A major limitation of DOI is that it focuses on individual and social factors of adoption, without adequately addressing organisational resources or environmental constraints (Westerman et al., 2019). As such, it complements but does not replace theories like DCT and RBV that focus on internal firm capabilities.

2.3.5 Socio-Technical Systems (STS) Theory

The Socio-Technical Systems (STS) Theory, introduced by Trist and Emery (1951), posits that organisations are composed of social (people, structure, culture) and technical (tools, systems, processes) subsystems that must be jointly optimised for high performance. In the digital

transformation era, the STS theory underscores the need to align technology implementation with human behaviour, organisational learning, and cultural readiness (Bouwman et al., 2019). For MSMEs, this means that technological investment alone cannot guarantee performance improvement; employees must also be trained, motivated, and empowered to use digital tools effectively. Santoro et al. (2025) emphasised that alignment between people and technology enhances innovation, efficiency, and business resilience.

However, the STS theory is often criticised for being conceptually broad and lacking specific variables for empirical measurement (Hess et al., 2016). Still, it remains important in highlighting the human and cultural dimensions of digital transformation.

2.4 Theoretical Framework

This study is anchored on the Dynamic Capabilities Theory (DCT), while drawing supporting insights from the Technology Acceptance Model (TAM), Resource-Based View (RBV), Diffusion of Innovation (DOI) Theory, and Socio-Technical Systems (STS) Theory. Each of these theories provides a unique lens for understanding how digital transformation influences business performance, particularly among micro, small, and medium enterprises (MSMEs).

The Dynamic Capabilities Theory, proposed by Teece, Pisano, and Shuen (1997), extends the Resource-Based View (RBV) by emphasizing the firm's ability to integrate, build, and reconfigure internal and external competences in response to rapidly changing environments. It highlights three major components, sensing, seizing, and transforming, which enable

organizations to identify opportunities, mobilize resources, and continuously adapt to technological and market shifts (Teece, 2020).

The DCT provides a robust framework for understanding how MSMEs can develop the capabilities needed to adopt and sustain digital technologies. Sensing relates to identifying new technological trends such as automation, e-commerce, or artificial intelligence that can enhance operations. Seizing involves mobilizing resources, financial, human, and technical to adopt and implement these technologies. Transforming refers to reconfiguring processes, structures, and culture to sustain digital adoption and maintain competitive advantage.

Digital transformation requires more than acquiring technology, it demands the continuous adaptation of processes, employee skills, and customer engagement systems. This aligns strongly with DCT's emphasis on agility, learning, and responsiveness to change. For MSMEs in Benin City, the theory underscores how building dynamic capabilities such as digital literacy, technological integration, and innovation culture can significantly improve business performance outcomes such as productivity, customer satisfaction, and profitability.

The assumptions of the DCT are that:

1. The business environment is dynamic and constantly changing.
2. Firms must possess the capability to adapt, renew, and reconfigure their resources to remain competitive.
3. Sustained performance is dependent on the ability to sense opportunities, seize them, and transform internal processes effectively.

However, the DCT has been criticized for being abstract and lacking clear measurement criteria for identifying and evaluating dynamic capabilities (Eisenhardt & Martin, 2020). Some scholars argue that it overlaps with the RBV, making empirical operationalization challenging. Nonetheless, its emphasis on strategic agility and adaptability makes it particularly relevant to studies of digital transformation.

The relevance of DCT to this study lies in its ability to explain how MSMEs can survive and grow in a digitally evolving environment. As small firms often face constraints in resources, the development of dynamic capabilities allows them to adapt their business models, restructure operations, and leverage technology to compete effectively. Through the DCT lens, digital transformation is viewed not merely as technology adoption but as a strategic process involving the reconfiguration of organizational resources, culture, and customer engagement systems for improved business performance.

Thus, this research is based on the Dynamic Capabilities Theory (DCT) as its primary theoretical foundation. It provides the conceptual grounding to explain how MSMEs in Benin City can leverage digital transformation through operational restructuring, digital customer experience, innovative practices, and supportive organisational culture to enhance their business performance in an increasingly dynamic and technology-driven environment.

2.5 Empirical Review

Empirical studies on digital transformation and business performance have grown considerably in recent years as researchers and practitioners seek to understand how micro, small, and medium enterprises (MSMEs) adopt digital technologies and the effects on their operations. Akpan, Soopramanien, and Kwak (2020), in their study "Cutting-Edge Digital Adoption and SME Performance in Emerging Economies" published in Technological Forecasting and Social Change, examined Nigerian SMEs using a mixed-methods approach and found that the integration of enterprise resource planning (ERP) systems, digital supply chains, and cloud-based solutions enhanced efficiency, reduced costs, and improved overall productivity.

Iddris (2020), in the study "Adoption of Digital Business Models by SMEs in Ghana" published in the Journal of Small Business and Enterprise Development, focused on Ghanaian SMEs using a survey methodology and reported that firms that digitised their operations experienced faster turnaround times and improved delivery performance, thereby underscoring the operational benefits of digital transformation in African contexts.

Chatterjee, Rana, and Dwivedi (2021), in their article "Examining the Impact of Digital Platforms on Customer Engagement" published in the International Journal of Information Management, studied Indian SMEs through a quantitative survey and revealed that the adoption of digital platforms such as social media, mobile applications, and customer relationship

management (CRM) systems significantly improved customer engagement, loyalty, and retention.

Similarly, Eze, Chinedu-Eze, and Bello (2020), in their study "Digital Customer Service and SME Performance in Nigeria" published in the Journal of Enterprise Information Management, found that digitally enabled customer service platforms allowed Nigerian MSMEs to meet consumer expectations more effectively, resulting in higher sales performance and enhanced brand trust.

Workforce transformation has also been highlighted as a critical factor in business performance. Margherita and Braccini (2022), in their work "Workforce Digital Competencies and Organisational Outcomes" published in the Journal of Business Research, employed a case study methodology on European organisations and found that firms investing in employee upskilling and fostering cultures that embraced digital innovation achieved stronger financial and non-financial performance outcomes. In contrast, Adeniran and Johnston (2020), in their study "Barriers to Digital Adoption in Nigerian SMEs" published in Information Systems Management, revealed that a lack of digital literacy among employees posed a major obstacle to growth, while targeted training initiatives significantly improved adaptation to new technologies.

Product and service innovation driven by digitalisation has also emerged as a determinant of SME competitiveness. Kraus, Schiavone, Pluzhnikova, and Invernizzi (2021), in their study "Digital Transformation and MSME Innovation in Europe" published in the Journal of

Business Research, employed a cross-sectional survey of European MSMEs and found that digital technologies encouraged firms to innovate, creating new product lines and service models that increased revenue and market share.

In Nigeria, Onikoyi and Awolusi (2022), in their work “E-commerce Platforms and MSME Growth” published in the African Journal of Economic and Management Studies, found that MSMEs leveraging e-commerce and digital product designs achieved superior performance compared to those relying on traditional methods.

In Edo State, Uchenna and Eromosele (2021), in their study “Digital Adoption among SMEs during COVID-19” published in the Nigerian Journal of Management Studies, examined MSMEs using survey data and found that enterprises that embraced digital payment systems, online marketing, and mobile business solutions recorded improved financial outcomes and operational resilience during the pandemic. Their findings indicate that even in localised contexts, digital transformation is becoming an indispensable driver of MSME performance.

Overall, existing empirical evidence demonstrates that digital transformation positively impacts MSME performance across multiple contexts, with the extent of this impact mediated by employee digital literacy, organisational readiness, resource availability, and customer receptivity.

2.6 Summary of Literature Review

The review of relevant literature has provided a comprehensive understanding of the relationship between digital transformation and business performance in Micro, Small and Medium Enterprises (MSMEs). The conceptual review clarified the meaning of key terms such as digital transformation, business performance, and MSMEs, showing that the adoption of digital tools is not limited to technological infrastructure but also encompasses organisational processes, culture, and customer engagement (Vial, 2020; Singh & Hess, 2020). Business performance was conceptualised as a multidimensional construct that extends beyond financial indicators to include customer satisfaction, operational efficiency, innovation, and long-term competitiveness (Neely, 2021).

The theoretical review demonstrated that different frameworks - such as the Technology Acceptance Model (TAM), Resource-Based View (RBV), and Dynamic Capability Theory - explain how MSMEs adopt, utilise, and benefit from digital transformation initiatives. These theories collectively emphasise the role of technological readiness, resource endowments, and adaptive capabilities in shaping the outcomes of digital adoption for small businesses (Davis, 2020; Barney, 2020; Teece, 2020).

The empirical review revealed that digital transformation has been empirically linked to improved business outcomes such as increased market reach, customer satisfaction, process efficiency, and profitability (Olanrewaju et al., 2020; Chatterjee et al., 2021). Studies within

Nigeria and other emerging economies highlighted that while MSMEs benefit from digitalisation, challenges such as infrastructural deficits, high costs of technology adoption, limited digital skills, and regulatory constraints persist (Oduro, 2020; Adeola & Evans, 2022). These findings underscore the dual reality of opportunities and challenges for MSMEs engaging in digital transformation, particularly in places with infrastructural and resource limitations like Benin City.

In conclusion, the reviewed literature establishes that digital transformation is a crucial driver of MSME performance, but its effectiveness depends on contextual factors such as resources, institutional frameworks, and owner-manager capabilities. However, there remains a gap in empirical studies that specifically investigate the impact of digital transformation on MSMEs in Benin City, Nigeria. This gap provides a strong justification for the present study, which seeks to assess the extent to which digital transformation influences business performance in this local context.

CHAPTER THREE

METHODOLOGY

This chapter discusses the method used for carrying out the study. It is organized under the following;

3.1 Introduction

Research methodology refers to the systematic procedures and techniques employed to identify, select, process, and analyse information relevant to a research problem. This section outlines the adopted research design, study population, and sampling techniques, as well as the operationalisation and measurement of variables, research instruments, procedures for establishing validity and reliability, data sources, methods of data analysis, and model specification.

3.2 Research Design

This study adopts a descriptive survey research design, which is appropriate as it facilitates the collection of quantitative data from a defined population. The descriptive approach is particularly useful for examining digital transformation and how it impacts business performance (Creswell & Creswell, 2020).

3.3 The Population of the Study

The population of a study refers to the entire set of individuals, organisations, or entities that share common characteristics relevant to a particular research inquiry (Sekaran & Bougie, 2020). For this study, the population comprises Micro, Small and Medium Enterprises (MSMEs) operating within Benin City, Edo State, Nigeria, that currently engage in or have the potential to engage in digital transformation activities.

Benin City serves as a major commercial hub in Nigeria's South-South region, accommodating a diverse range of MSMEs across sectors such as retail, hospitality, education, fashion, and services. According to the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2021), Available data indicates several thousand registered MSMEs operate in Edo State; for example, 1,681 enterprises benefited from the EdoJobs MSME Fund in February 2023, and other studies report registered-owner populations of 2,677 and 2,995. A significant share of the state's MSME activity is concentrated in Benin City, the state capital, due to its urban character and relative infrastructural advantages.

Although no official public record specifies the exact number of MSMEs currently operating in Benin City, available indicators confirm that the sector is both active and expanding within the region. The target population for this research includes MSME owners, marketing managers, and business development officers who possess practical knowledge of, or are directly involved in, implementing digital transformation strategies.

3.4 Sample Size and Sampling Techniques

Since the population is unknown, hence, a sample size of 270, was conveniently chosen for the study.

3.5 Sources of Data Collection

The study relies primarily on primary data, which will be obtained through the administration of structured questionnaires distributed to owners of MSMEs in Benin City.

3.6 Operationalization and Measurement of Variables

The study will examine the causal relationship between the dependent variable; business performance and its explanatory variable digital transformation. The preliminary data analysis will be carried out using descriptive statistics. The survey items will be presented in statement form, and participants will provide their responses by choosing from predetermined answer options. The responses will be done using a 5-point Likert scale of “Strongly agree, Agree, Undecided, Disagree, and Strongly disagree”. The measurement and operationalization of variables is shown in Table 3.1 below;

Table 3.1 Operationalization of Variables

S/N	Variables	Operational Definition	Measurement	Question Number
Personal Data				
1	Gender	Sex of the repondents (male or female)	Norminal scale	Q1
2	Age	Age bracket of respondents	Ordinal scale	Q2
3	Educational Qualification	Highest level of education attained	Ordinal scale	Q3
4	Years in Business	Length of time the respondent has been in business	Ordinal scale	Q4
5	Business Sector	The sector in which the business operates	Norminal scale	Q5
Independent Variables				
6	Operational Transformation	Extent of leveraging digital technologies and process redesign to enhance efficiency, agility, and productivity within business operations.	Likert-type Five-point scale	Segments B; Q6 – Q10
7	Customer Experience Transformation	The strategic use of digital tools and data to improve how customers interact with and perceive a brand across all touchpoints.	Likert-type Five-point scale	Segments B; Q11 – Q15
8	Organisational Culture and Workplace Transformation	The degree of adoption of digital practices and mindsets that reshape how employees collaborate, communicate, and adapt to change within the organisation.	Likert-type Five-point scale	Q16 – Q20
9	Product and Service Innovation	The creation or enhancement of products and services through digital technologies to meet evolving customer needs and market demands.	Likert-type Five-point scale	Q21 – Q25
Dependent Variable				
10	Business Performance	Performance is related to the extent to which the business achieves efficiency, productivity, customer satisfaction, and overall growth.	Likert-type Five-point scale	Segments B; Q26 – Q30

3.7 Research Instrument

The primary research instrument employed in this study is a structured questionnaire. Questionnaires are widely used in quantitative research because they allow for efficient and cost-effective collection of standardised information from a large sample of respondents (Oppenheim, 2020). Their structured nature enables the generation of quantifiable data suitable for statistical analysis and hypothesis testing (Creswell & Creswell, 2023).

The questionnaire is divided into two main sections:

Section A: Collects demographic and organisational data such as age, gender, educational qualification, years in business, and business sector.

Section B: Focuses on the core variables of the study - operational transformation, customer experience transformation, organisational culture transformation, and product/service innovation - and business performance.

All items are rated on a five-point Likert scale ranging from “Strongly Disagree (1)” to “Strongly Agree (5).” Likert scales are particularly effective for capturing the intensity of respondents’ attitudes and perceptions, making them a preferred choice in behavioural and management research (Bryman, 2021).

3.8 Validity and Reliability

Validity refers to the degree to which a research instrument measures what it is designed to measure. To ensure the validity of the questionnaire, two key forms were established; face

validity and content validity. For face validity, the preliminary draft of the questionnaire was presented to the project supervisor to review its appearance, clarity, format, and the suitability of the language for the target audience (MSME owners/managers in Benin City). Feedback received was used to refine the instrument, ensuring the questions appeared relevant and unambiguous to the respondents. For content validity, I ensured that the instrument's items adequately cover all aspects of the theoretical constructs being studied: Digital Transformation (independent variable) and Business Performance (dependent variable). The items were carefully adapted from established, validated scales in existing literature on digital transformation and MSME performance, and further reviewed to ensure comprehensive coverage of all dimensions relevant to the study's scope.

Reliability refers to the consistency of the research instrument; specifically, the degree to which the measurement would produce the same result if applied repeatedly under the same circumstances. The Internal Consistency Reliability was assessed using the Cronbach's Alpha coefficient through a pilot study.

A pilot study was conducted by administering the questionnaire to a small, non-participating sample of 20 MSME owners/managers outside the main study population but with similar characteristics and a value of 0.791 was obtained. This preliminary test helped to identify any potential problems with the questionnaire's clarity and structure and provided the data necessary to compute Cronbach's Alpha for each scale.

Cronbach's Alpha is a statistic that measures how closely related a set of items are as a group. The value is expressed between 0 and 1, with values closer to 1 indicating higher internal consistency. A generally accepted benchmark for acceptable reliability in social science research is an Alpha value of 0.70 or higher (Field, 2019). The results for the reliability test on the core variables are presented below:

Table 3.2 Cronbach's alpha Reliability Test Results

VARIABLES	QUESTIONS	CRONBACH ALPHA
Operational Transformation	6-10	0.822
Customer Experience Transformation	11-15	0.773
Organisational Culture and Workplace Transformation	16-20	0.806
Product and Service Innovation	21-25	0.833
Business Performance	26-30	0.711

Source: Researcher's Fieldwork (2025)

The Cronbach's alpha values presented in Table 3.2 show that each variable exceeds the recommended minimum threshold of 0.70. This indicates a high level of internal consistency across the variables, thereby confirming their reliability for statistical analysis.

3.9 Model Specification

The study adopts a multiple linear regression to examine the impact of digital transformation on business performance.

Functional form

BUSP=f(OPT,CET,OCT,PSI,)

Econometric form

$BUSP_i=\beta_0+\beta_1OPT_i+\beta_2CET_i+\beta_3OCT_i+\beta_4PSI_i+\varepsilon_i$

Where

$BUSP_i$ = Business performance score for firm/respondent

OPT_i = Operational transformation

CET_i = Customer experience transformation

OCT_i = Organisational culture and workforce transformation

PSI_i = Product and service innovation

β_0 = Intercept; $\beta_1...\beta_4$ = coefficients;

ε_i = stochastic error.

Expected signs (a priori): $\beta_1>0$, $\beta_2>0$, $\beta_3>0$, $\beta_4>0$ (operational transformation. Customer experience transformation, organisational culture and workforce transformation, and product/service innovation are expected to increase business performance).

3.10 Method of Data Analysis

Data obtained from the administered questionnaires will be analysed using both descriptive and inferential statistical techniques to ensure a comprehensive interpretation of results. Analyses

will be conducted using the Statistical Package for the Social Sciences (SPSS) version 25, a widely recognised tool for quantitative data analysis (Pallant, 2020).

Descriptive statistics including frequencies, percentages, means, and standard deviations will be used to summarise respondents' demographic characteristics and describe patterns in the dataset. Subsequently, inferential statistics will be employed to examine the relationship between the independent variable (digital transformation) and the dependent variable (business performance). Pearson's correlation analysis will assess the strength and direction of associations among the variables, while multiple regression analysis will evaluate the predictive influence of employee motivation on organisational performance in Benin City. All statistical analyses will be interpreted at a 95% confidence interval, with $p < 0.05$ indicating statistical significance.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

In this chapter, we delve into the empirical evaluation of data gathered from the field survey. Specifically, 290 questionnaires were disseminated to Micro, Small and Medium Enterprises (MSMEs) operating within Benin City, Edo State, Nigeria. Impressively, 267 of questionnaires were returned, processed, and utilized in our analysis, reflecting an 92.1% response rate.

4.2 Demographic Analysis

The demographic data of the respondents is presented in this section below.

Table 4.1: Demographic Distribution of Respondents

Demographic Variables	**Categories**	**Frequency (n)**	**Percentage (%)**
Gender	Male	144	53.9%
	Female	123	46.1%
	Total	**267**	**100%**
Age	Below 25	42	15.7%
	25–34	81	30.3%
	35–44	66	24.7%
	45–54	48	18.0%
	55 and above	30	11.2%
	Total	**267**	**100%**
Highest Educational Qualification	FSLC	12	4.5%
	SSCE/WAEC	57	21.3%
	OND/NCE	66	24.7%
	B.Sc/HND	81	30.3%
	Masters	45	16.9%
	Others	6	2.3%

Demographic Variables	Categories	Frequency (n)	Percentage (%)
	Total	**267**	**100%**
Years in Business	Less than 1 year	21	7.9%
	1–5 years	99	37.1%
	6–10 years	78	29.2%
	Above 10 years	69	25.8%
	Total	**267**	**100%**
Business Sector	Manufacturing	33	12.4%
	Retail	93	34.8%
	Hospitality	42	15.7%
	Technology	39	14.6%
	Education	30	11.2%
	Others (specify)	30	11.2%
	Total	**267**	**100%**

Source: Field Survey (2025)

Gender: Out of the 267 respondents surveyed, 144 (53.9%) were male, while 123 (46.1%) were female. This indicates a fairly balanced gender representation among MSME owners in Benin City, with a slight predominance of male participants.

Age: The majority of respondents fall within the age brackets of 25–34 years (81 respondents or 30.3%) and 35–44 years (66 respondents or 24.7%), indicating that MSMEs are largely driven by economically active adults in their prime working years. The younger demographic below 25 years constituted 42 respondents (15.7%), while 45–54 years had 48 respondents (18.0%) and those aged 55 and above were the least represented with 30 respondents (11.2%).

Highest Educational Qualification: Among the respondents, the highest proportion (81 or 30.3%) held a B.Sc or HND, followed by OND/NCE holders at 66 (24.7%) and SSCE/WAEC at 57 (21.3%). A total of 45 respondents (16.9%) had a Master's degree, while 12 (4.5%) had

only FSLC. The smallest group was those with other qualifications, totaling 6 (2.3%). This indicates that a majority of MSME operators have at least a post-secondary education, highlighting the relatively high educational attainment among business owners.

Years in Business: The largest group of respondents (99 or 37.1%) had operated their businesses for 1–5 years, followed by 78 (29.2%) who had been in business for 6–10 years. Another 69 respondents (25.8%) had over 10 years of experience, while 21 (7.9%) had been in business for less than 1 year. This distribution shows that a significant portion of MSMEs in Benin City are either in their early stages or moderately established, with a strong representation of experienced operators as well.

Business Sector: Retail was the most represented sector with 93 respondents (34.8%), indicating its dominance among MSMEs in the area. This was followed by Hospitality (42 or 15.7%), Technology (39 or 14.6%), Manufacturing (33 or 12.4%), and Education (30 or 11.2%). Additionally, 30 respondents (11.2%) belonged to other unspecified sectors. The data reveals a concentration of MSMEs in consumer-facing and service-driven industries, reflecting the economic structure of Benin City.

4.3 Descriptive Analysis of Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City

This section presents descriptive analysis on the data retrieved from respondents using frequency count, percentage (%) and mean.

4.3.1 Data Presentation and Analysis for the Dependent Variable

The table below presents the descriptive analysis on the dependent variable (Business Performance) using frequency count, percentage and mean.

Table 4.2: Descriptive Analysis of Business Performance

S/N	STATEMENT	Total Responses	SA (5) f/(%)	A (4) f/(%)	U (3) f/(%)	D (2) f/(%)	SD (1) f/(%)	Mean ($\bar{x}$)
1	Digital transformation has improved our overall business performance.	267	44 (16.5%)	86 (32.2%)	61 (22.8%)	58 (21.7%)	18 (6.7%)	3.30
2	The adoption of digital technologies has increased our profitability.	267	34 (12.7%)	148 (55.4%)	46 (17.2%)	26 (9.7%)	13 (4.9%)	3.61
3	Digital transformation has improved customer satisfaction and loyalty.	267	38 (14.2%)	156 (58.4%)	36 (13.5%)	19 (7.1%)	18 (6.7%)	3.67
4	Our business performance depends significantly on digital technology adoption.	267	40 (15.0%)	93 (34.8%)	79 (29.6%)	42 (15.7%)	13 (4.9%)	3.40
5	Digital transformation has enhanced our business's growth and sustainability.	267	57 (21.3%)	140 (52.4%)	29 (10.9%)	22 (8.2%)	19 (7.1%)	3.72
	Average		**42.6 (15.9%)**	**124.6 (46.6%)**	**50.2 (18.8%)**	**33.4 (12.5%)**	**16.2 (6.1%)**	**3.54**

Source: Field Survey (2025)

Table 4.2 presents a descriptive analysis of respondents' views on the impact of digital transformation on business performance across five key dimensions. In the first item, 44 respondents (16.5%) strongly agreed and 86 (32.2%) agreed that digital transformation has improved their overall business performance, yielding a moderate mean of 3.30. The second item shows a stronger positive perception, where 148 (55.4%) agreed and 34 (12.7%) strongly agreed that digital technologies increased profitability, resulting in a higher mean score of 3.61. Regarding customer satisfaction and loyalty, 156 (58.4%) agreed and 38 (14.2%) strongly agreed, while 36 (13.5%) remained neutral, producing a mean of 3.67, the second highest.

Further, 93 respondents (34.8%) agreed and 40 (15.0%) strongly agreed that business performance significantly depends on digital technology adoption, while 79 (29.6%) were neutral, giving a mean of 3.40. The most favorable perception was observed in the final item, with 140 (52.4%) agreeing and 57 (21.3%) strongly agreeing that digital transformation has enhanced growth and sustainability, leading to the highest mean score of 3.72. On average, across all items, 15.9% strongly agreed, 46.6% agreed, 18.8% were neutral, 12.5% disagreed, and 6.1% strongly disagreed. The overall average mean of 3.54 suggests a generally positive perception of the role of digital transformation in enhancing business performance among MSMEs in Benin City.

4.3.2 Data Presentation and Analysis for the Independent Variable

The table below presents the descriptive analysis on the independent variables (Operational Transformation, Customer Experience Transformation, Organisational Culture and Workplace

Transformation, and Product and Service Innovation) using frequency count, percentage and mean.

Table 4.3: Descriptive Analysis of Operational Transformation

S/N	STATEMENT	Total Responses	SA (5) f/(%)	A (4) f/(%)	U (3) f/(%)	D (2) f/(%)	SD (1) f/(%)	Mean ($\bar{x}$)
6	My business uses digital tools to automate daily operations.	267	52 (19.5%)	150 (56.2%)	27 (10.1%)	21 (7.9%)	17 (6.4%)	3.75
7	The use of digital technologies has improved our productivity.	267	45 (16.9%)	152 (56.9%)	37 (13.9%)	21 (7.9%)	12 (4.5%)	3.74
8	The use of digital platforms has enhanced coordination and communication among staff	267	50 (18.7%)	156 (58.4%)	36 (13.5%)	13 (4.9%)	12 (4.5%)	3.82
9	Digital transformation has reduced the cost of running our business.	267	55 (20.6%)	144 (53.9%)	39 (14.6%)	17 (6.4%)	12 (4.5%)	3.79
10	Digital operational systems have led to faster and more accurate service delivery.	267	54 (20.2%)	143 (53.6%)	39 (14.6%)	20 (7.5%)	11 (4.1%)	3.78
	Average		**51.2 (19.2%)**	**149 (55.8%)**	**35.6 (13.3%)**	**18.4 (7.0%)**	**12.8 (4.8%)**	**3.78**

Source: Field Survey (2025)

Table 4.3 shows that respondents expressed strong positive perceptions toward operational transformation driven by digital tools. Across all five statements, the majority consistently agreed or strongly agreed, with average agreement levels of 55.8% (Agree) and 19.2% (Strongly Agree). For instance, automation of daily operations recorded 150 (56.2%) agreement and 52 (19.5%) strong agreement, producing a mean score of 3.75, while productivity improvements from digital technologies showed similar results with a mean of 3.74. Enhanced coordination and communication among staff had the highest mean (3.82), supported by 156 (58.4%) agreement and 50 (18.7%) strong agreement.

Furthermore, respondents also affirmed the role of digital tools in reducing operational costs and improving service delivery, with mean scores of 3.79 and 3.78 respectively. Neutral responses across items averaged 13.3%, suggesting that only a small proportion remained undecided, while disagreement levels remained low at 7.0% (Disagree) and 4.8% (Strongly Disagree). The overall average mean score of 3.78 indicates a strong and consistent recognition among MSMEs that digital transformation significantly enhances operational efficiency, cost reduction, and service accuracy.

Table 4.4: Descriptive Statistics of Customer Experience Transformation

S/N	STATEMENT	Total Responses	SA (5) f/(%)	A (4) f/(%)	U (3) f/(%)	D (2) f/(%)	SD (1) f/(%)	Mean ($\bar{x}$)
11	We use digital platforms to interact with and respond to customers.	267	47 (17.6%)	137 (51.3%)	42 (15.7%)	23 (8.6%)	18 (6.7%)	3.65
12	Digital tools have improved our ability to understand customer needs.	267	40 (15.0%)	150 (56.2%)	38 (14.2%)	23 (8.6%)	16 (6.0%)	3.65
13	Customers find it easier to reach us through digital channels.	267	48 (18.0%)	144 (53.9%)	45 (16.9%)	18 (6.7%)	12 (4.5%)	3.74
14	The use of social media has improved our customer engagement and satisfaction.	267	56 (21.0%)	138 (51.7%)	37 (13.9%)	21 (7.9%)	15 (5.6%)	3.74
15	Digital transformation has enhanced customer loyalty and retention.	267	47 (17.6%)	148 (55.4%)	39 (14.6%)	19 (7.1%)	14 (5.2%)	3.72
	Average		**47.6 (17.8%)**	**143.4 (53.7%)**	**40.2 (15.1%)**	**20.8 (7.8%)**	**15.0 (5.6%)**	**3.70**

Source: Field Survey (2025)

Table 4.4 shows that respondents widely acknowledged the role of digital transformation in enhancing customer experience across various dimensions. The use of digital platforms for customer interaction had a strong response, with 137 (51.3%) agreeing and 47 (17.6%) strongly agreeing, resulting in a mean score of 3.65. Similarly, digital tools improving understanding of customer needs received 150 (56.2%) agreement and 40 (15.0%) strong agreement, also with a mean of 3.65. The highest-rated items were related to customer access and engagement through digital channels: 144 (53.9%) agreed and 48 (18.0%) strongly agreed that digital

platforms improved customer accessibility (mean = 3.74), while 138 (51.7%) agreed and 56 (21.0%) strongly agreed that social media boosted engagement and satisfaction (mean = 3.74). In addition, 148 (55.4%) agreed and 47 (17.6%) strongly agreed that digital transformation has enhanced customer loyalty and retention, with a mean score of 3.72. Across all five statements, the average agreement (Agree and Strongly Agree) was 71.5%, while neutral responses averaged 15.1%, indicating a moderate level of indecision among some respondents. Disagreement levels remained low at 7.8% (Disagree) and 5.6% (Strongly Disagree). The overall average mean of 3.70 suggests that MSMEs in Benin City strongly perceive digital transformation as a key driver of improved customer engagement, accessibility, satisfaction, and loyalty.

Table 4.5: Descriptive Statistics of Organisational Culture and Workplace Transformation

S/N	STATEMENT	Total Responses	SA (5) f/(%)	A (4) f/(%)	U (3) f/(%)	D (2) f/(%)	SD (1) f/(%)	Mean ($\bar{x}$)
16	Our management supports innovation and digital change.	267	45 (16.9%)	134 (50.2%)	42 (15.7%)	29 (10.9%)	17 (6.4%)	3.60
17	Employees are encouraged to adopt and use digital technologies.	267	44 (16.5%)	147 (55.1%)	43 (16.1%)	24 (9.0%)	9 (3.4%)	3.72
18	The organisation promotes teamwork and information sharing digitally.	267	35 (13.1%)	150 (56.2%)	46 (17.2%)	26 (9.7%)	10 (3.7%)	3.66
19	Resistance to technological change is low in our business.	267	52 (19.5%)	142 (53.2%)	36 (13.5%)	23 (8.6%)	14 (5.2%)	3.74
20	The organisation's culture is adaptable to new digital trends.	267	48 (18.0%)	145 (54.3%)	39 (14.6%)	21 (7.9%)	14 (5.2%)	3.72
	Average		**44.8 (16.8%)**	**143.6 (53.8%)**	**41.2 (15.4%)**	**24.6 (9.2%)**	**12.8 (4.8%)**	**3.69**

Source: Field Survey (2025)

Table 4.5 presents respondents' perspectives on the extent to which organisational culture and workplace dynamics are shaped by digital transformation. Management support for innovation had a moderate mean of 3.60, with 134 (50.2%) agreeing and 45 (16.9%) strongly agreeing, though 29 (10.9%) disagreed. Encouragement of employees to adopt digital technologies recorded stronger affirmation, with a mean of 3.72, and 147 (55.1%) agreeing and 44 (16.5%) strongly agreeing. The promotion of teamwork and information sharing through digital tools was also widely affirmed (mean = 3.66), supported by 150 (56.2%) agreements.

In addition, low resistance to technological change was observed with 142 (53.2%) agreeing and 52 (19.5%) strongly agreeing, producing the highest mean of 3.74. Similarly, adaptability to new digital trends was affirmed by 145 (54.3%) and 48 (18.0%), with a mean score of 3.72. On average, 16.8% of respondents strongly agreed, 53.8% agreed, and 15.4% were neutral. Disagreement levels were modest, averaging 9.2%, while strong disagreement remained relatively low at 4.8%. The overall average mean score of 3.69 reflects a positive workplace culture that supports innovation, teamwork, and adaptability, key components for sustaining digital transformation in MSMEs.

Table 4.6: Descriptive Statistics of Product and Service Innovation

S/N	STATEMENT	Total Responses	SA (5) f/(%)	A (4) f/(%)	U (3) f/(%)	D (2) f/(%)	SD (1) f/(%)	Mean ($\bar{x}$)
21	Digital tools have helped us to develop new products or services.	267	45 (16.9%)	155 (58.1%)	41 (15.4%)	17 (6.4%)	9 (3.4%)	3.78
22	Technology has made our business more competitive.	267	45 (16.9%)	156 (58.4%)	40 (15.0%)	14 (5.2%)	12 (4.5%)	3.78
23	We regularly upgrade our digital systems to enhance innovation.	267	58 (21.7%)	139 (52.1%)	41 (15.4%)	17 (6.4%)	12 (4.5%)	3.80
24	Our business invests in research and development to improve products/services.	267	60 (22.5%)	147 (55.1%)	30 (11.2%)	18 (6.7%)	12 (4.5%)	3.83
25	Innovation through digital transformation has increased our market share.	267	52 (19.5%)	150 (56.2%)	38 (14.2%)	19 (7.1%)	8 (3.0%)	3.82
	Average		**52.0 (19.5%)**	**149.4 (56.0%)**	**38.2 (14.2%)**	**17.0 (6.3%)**	**10.6 (4.4%)**	**3.80**

Source: Field Survey (2025)

Table 4.6 reveals strong respondent agreement regarding the role of digital transformation in fostering product and service innovation. Digital tools supporting new product/service development recorded 155 (58.1%) agreement and 45 (16.9%) strong agreement, resulting in a mean of 3.78. Similarly, technology enhancing business competitiveness produced an identical mean, supported by 156 (58.4%) agreement and 45 (16.9%) strong agreement. Regular digital system upgrades also reflected high endorsement with a mean of 3.80, where 139 (52.1%) agreed and 58 (21.7%) strongly agreed.

Furthermore, investment in research and development received substantial support, reflected in the highest mean score of 3.83, with 147 (55.1%) agreement and 60 (22.5%) strong agreement. Innovation-driven market share expansion was also recognised by respondents, showing a mean of 3.82. On average, 19.5% strongly agreed and 56.0% agreed across all five items, while 14.2% were neutral. Disagreement remained relatively low, averaging 6.3% (Disagree) and 4.4% (Strongly Disagree). The overall average mean of 3.80 suggests that MSMEs in Benin City perceive digital transformation as a critical driver of competitiveness, product/service development, system upgrades, R&D investment, and market expansion.

4.4 Correlation Analysis of Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City

The results from the correlation analysis provide insights into the character and orientation of the connection between the dependent and independent variables. While the correlation

coefficient doesn't denote a direct functional dependence, it serves as a preliminary indicator of the strength and trend of this relationship. The details of these findings will be elaborated upon in the subsequent discussion.

Table 4.7: Correlation Results of Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City

Correlations

		BUSP	OPT	CET	OCT	PSI
BUSP	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	267				
OPT	Pearson Correlation	.739**	1			
	Sig. (2-tailed)	.000				
	N	267	267			
CET	Pearson Correlation	.640**	.715**	1		
	Sig. (2-tailed)	.000	.000			
	N	267	267	267		
OCT	Pearson Correlation	.518**	.643**	.615**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	267	267	267	267	
PSI	Pearson Correlation	.451**	.548**	.515**	.676**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	267	267	267	267	267

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Author's Estimation from SPSS 22, 2025.

Table 4.7 presents the Pearson correlation results examining the relationship between digital transformation dimensions and business performance (BUSP) among MSMEs in Benin City.

The results show a strong positive and statistically significant correlation between business performance and operational transformation (OPT) ($r = .739$, $p < 0.01$), indicating that improvements in operational processes through digital tools strongly enhance overall business outcomes. Customer experience transformation (CET) also has a significant and moderately strong correlation with business performance ($r = .640$, $p < 0.01$), suggesting that improved digital engagement with customers positively influences performance. Organisational culture and workplace transformation (OCT) shows a moderate but meaningful correlation with business performance ($r = .518$, $p < 0.01$), implying that internal adaptability and support for digital innovation contribute to success. Lastly, product and service innovation (PSI) is positively correlated with business performance ($r = .451$, $p < 0.01$), although it is the weakest among the five, suggesting that while innovation contributes to performance, its impact is less direct than that of operational or customer-focused transformations. All correlations are significant at the 0.01 level, affirming that digital transformation across these dimensions is significantly associated with enhanced performance in MSMEs.

Furthermore, none of the variables have a coefficient value greater than 0.80, indicating the presence of a multicolinearity problem, which denotes a situation in which some of the explanatory variables in a model are correlated, limiting and altering the efficiency of the regression results.

4.5 Hypothesis Testing

The research hypotheses were tested utilising regression analysis in order to achieve the current study's objectives. The hypotheses were evaluated with an Alpha level of significance of 0.05 (Decision rule: computed level of significance <0.05, reject null hypothesis; computed level of significance >0.05, accept null hypothesis).

Table 4.8a Model Summary of Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.756[a]	.572	.566	.55074	.572	87.621	4	262	.000	2.039

a. Predictors: (Constant), PSI, CET, OCT, OPT

b. Dependent Variable: BUSP

Source: Statistical Package for social Sciences v.22

Table 4.8a presents the model summary of a multiple regression analysis examining the impact of digital transformation dimensions—Operational Transformation (OPT), Customer Experience Transformation (CET), Organisational Culture and Workplace Transformation (OCT), and Product and Service Innovation (PSI)—on Business Performance (BUSP) among

MSMEs in Benin City. The model shows a high correlation coefficient (R) of 0.756, indicating a strong positive relationship between the combined predictors and business performance. The R Square value of 0.572 suggests that approximately 57.2% of the variance in business performance is explained by the four dimensions of digital transformation included in the model. The Adjusted R Square of 0.566 adjusts for the number of predictors, confirming the model's robustness and generalizability. The F-statistic (87.621, $p < 0.001$) is statistically significant, indicating that the overall regression model is a good fit for the data. Additionally, the Durbin-Watson value of 2.039 falls within the acceptable range (1.5–2.5), suggesting there is no significant autocorrelation in the residuals. This implies that digital transformation significantly and reliably predicts business performance in MSMEs within the study context.

Table 4.8b Analysis of Variance (ANOVA) of Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.308	4	26.577	87.621	.000[b]
	Residual	79.469	262	.303		
	Total	185.777	266			

a. Dependent Variable: BUSP

b. Predictors: (Constant), PSI, CET, OCT, OPT

Source: Statistical Package for social Sciences v.22

Table 4.8b presents the Analysis of Variance (ANOVA) results assessing the overall significance of the regression model that examines the impact of digital transformation dimensions such as Product and Service Innovation (PSI), Customer Experience Transformation (CET), Organisational Culture and Workplace Transformation (OCT), and Operational Transformation (OPT) on Business Performance (BUSP) among MSMEs in Benin City. The regression sum of squares is 106.308 with 4 degrees of freedom, indicating the portion of total variance in business performance explained by the predictors. The residual sum of squares is 79.469 (with 262 degrees of freedom), representing the unexplained variance. The F-statistic of 87.621 with a p-value of .000 indicates that the overall regression model is highly significant at the 1% level. This confirms that the combined effect of digital transformation variables significantly improves the explanatory power of the model in predicting business performance among the MSMEs surveyed.

Table 4.8c Regression Output of Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.311	.194		1.601	.111		
	OPT	.603	.067	.566	9.025	.000	.415	2.409
	CET	.226	.062	.221	3.654	.000	.445	2.249
	OCT	.001	.065	.000	.008	.994	.416	2.403
	PSI	.029	.061	.026	.471	.638	.518	1.930

a. Dependent Variable: BUSP

Source: Statistical Package for social Sciences v.22

Table 4.8c presents the regression coefficients for the impact of digital transformation dimensions on business performance among MSMEs in Benin City. The model shows that Operational Transformation (OPT) has the strongest and most significant positive effect on business performance ($B = 0.603$, $\beta = 0.566$, $t = 9.025$, $p < 0.001$), indicating that improvements in operational processes—such as automation and productivity—are highly predictive of better business outcomes. Customer Experience Transformation (CET) also has a statistically significant and positive influence ($B = 0.226$, $\beta = 0.221$, $t = 3.654$, $p < 0.001$), suggesting that enhanced digital interaction with customers contributes meaningfully to performance.

In contrast, Organisational Culture and Workplace Transformation (OCT) and Product and Service Innovation (PSI) show no statistically significant effect on business performance in this model, with p-values of 0.994 and 0.638, respectively. Their low standardized beta values ($\beta = 0.000$ for OCT; $\beta = 0.026$ for PSI) and low t-statistics further confirm their weak predictive power in the presence of other variables. The Variance Inflation Factor (VIF) values for all predictors are below 3, indicating no multicollinearity problem. Overall, the regression output confirms that business performance in MSMEs is primarily driven by operational efficiency and improved customer experiences through digital transformation, while cultural adaptability and innovation, although important, may require stronger implementation or longer time horizons to yield measurable impact.

Hypothesis 1

Ho_1: There is no significant relationship between operational transformation and business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

The regression output shows that operational transformation (OPT) has a p-value of 0.000, which is less than 0.05, and a high t-value of 9.025, indicating a statistically significant and strong positive relationship with business performance. Therefore, the null hypothesis is rejected, and the alternative hypothesis is accepted, confirming that operational transformation significantly affects business performance among MSMEs in Benin City.

Hypothesis 2

Ho_2: There is no significant relationship between customer experience transformation and business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

The regression result indicates a p-value of 0.000 for customer experience transformation (CET), which is below the 0.05 threshold, with a t-value of 3.654 and a positive beta coefficient. Hence, the null hypothesis is rejected and the alternative hypothesis is accepted, establishing that customer experience transformation has a significant positive relationship with business performance in MSMEs.

Hypothesis 3

Ho_3: There is no significant impact of organisational culture and workforce transformation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

Organisational culture and workforce transformation (OCT) has a p-value of 0.994, which is far above the 0.05 significance level, with a t-value of 0.008, indicating no statistical significance. Therefore, the null hypothesis is accepted, meaning there is no significant impact of organisational culture and workforce transformation on business performance among MSMEs in Benin City.

Hypothesis 4

Ho_4: There is no significant impact of product and service innovation on business performance in micro, small, and medium enterprises (MSMEs) in Benin City.

The p-value for product and service innovation (PSI) is 0.638, which exceeds 0.05, and the corresponding t-value is 0.471, indicating a lack of statistical significance. Therefore, the null hypothesis is accepted, confirming that product and service innovation does not significantly impact business performance in MSMEs within the context of this study.

4.5 Discussion of Findings

Operational Transformation and Business Performance

The regression results revealed a strong and statistically significant positive relationship between operational transformation and business performance ($\beta = 0.566$, $p < 0.001$). This suggests that MSMEs in Benin City that have digitised their internal processes—such as inventory management, billing systems, and workflow automation—are more likely to experience enhanced operational efficiency and improved overall business outcomes. This

finding is consistent with the literature, particularly the work of Akpan et al. (2020), who found that Nigerian SMEs that integrated ERP systems and cloud-based solutions achieved higher productivity and reduced operational costs. Similarly, Ghosh (2020) and Westerman et al. (2020) noted that operational transformation enables faster decision-making and resource optimisation. This aligns with the Dynamic Capabilities Theory (DCT), which posits that reconfiguring internal processes to meet external changes is critical to sustained competitiveness (Teece, 2020). However, this finding also reflects the contextual evidence in Benin City, where MSMEs, though constrained by infrastructural challenges, are leveraging basic digital tools (e.g., mobile apps, POS systems) to streamline daily operations, thus validating the growing practical impact of digital transformation in emerging economies (Okundaye et al., 2019; Eze et al., 2021).

Customer Experience Transformation and Business Performance

The analysis also showed a significant positive relationship between customer experience transformation and business performance ($\beta = 0.221$, $p < 0.001$). This indicates that MSMEs that leverage digital tools such as social media, messaging platforms, and e-commerce interfaces to improve customer engagement experience better performance outcomes in terms of sales, loyalty, and customer satisfaction. This is in line with the findings of Chatterjee et al. (2021) and Eze et al. (2020), who observed that the use of CRM systems and digital communication tools significantly enhanced customer relationships and brand trust in Nigerian SMEs. Moreover, Lemon and Verhoef (2021) emphasised that customer experience is a

strategic driver of competitiveness in the digital economy. The findings also support the Socio-Technical Systems (STS) Theory, which highlights that integrating digital systems with human engagement leads to higher organisational performance. Despite infrastructural limitations, MSMEs in Benin City appear to be effectively using platforms like WhatsApp, Instagram, and Facebook to manage customer relations, which aligns with observations by McLean and Wilson (2019). Thus, customer-centric digital transformation proves to be an accessible and effective means for small firms to gain competitive edge, especially when tailored to local customer behaviours and digital habits.

Organisational Culture and Workforce Transformation and Business Performance

Contrary to expectations, the study found no statistically significant impact of organisational culture and workforce transformation on business performance ($\beta = 0.000$, $p = 0.994$). This result suggests that, within the sample of MSMEs in Benin City, cultural shifts and workforce digital readiness have not yet translated into measurable business outcomes. This finding diverges from the broader literature, which often identifies organisational culture and employee adaptability as key enablers of digital transformation success (Santoro et al., 2020; Hess, 2019). For instance, Spanos et al. (2021) argue that digital culture fosters innovation and strategic alignment, while Margherita and Braccini (2022) found that workforce competencies are positively linked to performance. The discrepancy may be due to contextual challenges such as low levels of digital literacy, hierarchical leadership styles, or underinvestment in workforce development in the local MSME sector (Adeniran & Johnston, 2020; Eze et al., 2021). It also

highlights a gap in the actual implementation of supportive digital culture despite some degree of digital tool adoption. In line with Dynamic Capabilities Theory, the absence of performance impact could suggest that while some firms may have the tools, they lack the dynamic capability to transform cultural norms and employee skills into strategic outcomes.

Product and Service Innovation and Business Performance

The regression analysis further showed that product and service innovation did not have a significant impact on business performance ($\beta = 0.026$, $p = 0.638$). This outcome contrasts with prior studies such as Kraus et al. (2021) and Santoro et al. (2025), who found that digitalisation-driven innovation is crucial for competitiveness and market expansion among SMEs. However, the lack of statistical significance in this study may reflect a limited depth of innovation among MSMEs in Benin City. Rather than creating fundamentally new products or services, many firms may be applying digital tools for incremental adjustments that are not yet strong enough to influence firm-level performance metrics. This aligns with the observations of Troise et al. (2022), who noted that many MSMEs struggle to translate digital innovation into sustained value due to weak innovation ecosystems and lack of R&D capacity. From a theoretical standpoint, this result challenges the assumptions of the Resource-Based View, which posits that innovation is a key strategic resource, and reinforces the Dynamic Capabilities Theory's emphasis on the need to transform capabilities—not just possess them—to achieve impact. For MSMEs in Benin City, this suggests that while digital platforms may be used for marketing or sales, they are not yet fully integrated into product development or service design processes in ways that drive competitive differentiation.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the conclusion to the research. It is structured into the following sections: summary of findings, conclusion, recommendations, contribution to knowledge, and suggestions for future studies.

5.2 Summary of Findings

This study investigated the impact of digital transformation on business performance among Micro, Small, and Medium Enterprises (MSMEs) operating in Benin City, Edo State, Nigeria. Specifically, 290 questionnaires were disseminated to Micro, Small and Medium Enterprises (MSMEs) operating within Benin City, Edo State, Nigeria. Impressively, 267 of questionnaires were returned, processed, and utilized in our analysis. The analysis employed both descriptive statistics (frequency, percentage, and mean) and inferential statistics (regression analysis) using SPSS version 22.

Key findings are summarised below:

i. The regression results revealed a strong and statistically significant positive relationship between operational transformation and business performance ($\beta = 0.566$, $p < 0.001$). This suggests that MSMEs in Benin City that have digitised their internal processes

such as inventory management, billing systems, and workflow automation are more likely to experience enhanced operational efficiency and improved overall business outcomes.

ii. The analysis also showed a significant positive relationship between customer experience transformation and business performance ($\beta = 0.221$, $p < 0.001$). This indicates that MSMEs that leverage digital tools such as social media, messaging platforms, and e-commerce interfaces to improve customer engagement experience better performance outcomes in terms of sales, loyalty, and customer satisfaction.

iii. Contrary to expectations, the study found no statistically significant impact of organisational culture and workforce transformation on business performance ($\beta = 0.000$, $p = 0.994$). This result suggests that, within the sample of MSMEs in Benin City, cultural shifts and workforce digital readiness have not yet translated into measurable business outcomes.

iv. The regression analysis further showed that product and service innovation did not have a significant impact on business performance ($\beta = 0.026$, $p = 0.638$).

5.3 Conclusion

This study focused on assessing the impact of digital transformation on business performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City, Nigeria. Drawing upon data from 267 MSMEs and grounded in the Dynamic Capabilities Theory, the findings revealed that

operational transformation and customer experience transformation are the most significant contributors to improved business performance, confirming the value of internal digital process optimisation and customer engagement tools. However, the study also found that organisational culture and workforce transformation, as well as product and service innovation, did not have a statistically significant impact on performance, possibly due to limitations in digital literacy, resource constraints, or superficial adoption of innovation strategies. In conclusion, while digital transformation holds immense potential for MSMEs, its effectiveness depends on the depth of implementation and alignment with strategic capabilities, especially in resource-constrained environments such as Benin City.

5.4 Practical Recommendations

Based on the findings and conclusions, the following practical recommendations are offered:

i. MSMEs should prioritise operational digitalisation by investing in affordable and scalable tools such as cloud-based accounting software, digital point-of-sale systems, and inventory management platforms to enhance internal efficiency and reduce operational costs.

ii. Businesses should strengthen digital customer engagement strategies by leveraging platforms like WhatsApp, Instagram, Facebook, and customer relationship management (CRM) tools to provide personalised and responsive services that drive loyalty and repeat patronage.

iii. Policymakers and business support organisations should invest in workforce digital training programmes, focusing on enhancing digital literacy and promoting cultural adaptability among MSME staff to ensure long-term alignment with digital transformation goals.

iv. MSMEs should be encouraged to engage in structured innovation activities by collaborating with research institutions, adopting customer feedback mechanisms, and experimenting with low-cost digital prototyping tools to enhance product and service development.

5.5 Contribution to Knowledge

This study contributes to the growing body of literature on digital transformation in emerging economies by providing empirical evidence on how specific dimensions of digital transformation influence business performance in MSMEs within Benin City, Nigeria. It expands the applicability of the Dynamic Capabilities Theory by demonstrating that while operational and customer-facing digital capabilities yield measurable performance benefits, organisational culture and innovation require deeper structural investment and strategic alignment. The study also addresses a contextual gap by offering locally relevant insights into the digital readiness and transformation trajectory of MSMEs in a developing urban setting.

5.6 Suggestions for Further Studies

Future research should consider adopting a mixed-methods approach that combines quantitative data with qualitative insights from in-depth interviews or focus group discussions with MSME owners and employees. This would provide a richer understanding of the barriers and enablers of digital transformation, particularly in terms of cultural resistance, employee digital literacy, and the internal dynamics that influence technology adoption. Such an approach could uncover the underlying reasons why some digital initiatives fail to translate into performance improvements, despite technological availability.

Additionally, future studies could expand the geographic scope by comparing MSMEs across multiple cities or states in Nigeria or other Sub-Saharan African countries. This would allow for cross-regional analysis and benchmarking, thereby offering more generalisable conclusions. Researchers may also explore the role of enabling environments—such as digital infrastructure, government policy, access to finance, and private sector support—in shaping the outcomes of digital transformation. Longitudinal studies could further assess how the impact of digital transformation evolves over time within MSMEs, providing insights into sustainability and long-term performance trajectories.

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APPENDICES

DEPARTMENT OF BUSINESS ADMINISTRATION
FACULTY OF MANAGEMENT SCIENCES
UNIVERSITY OF BENIN, BENIN CITY

Dear Sir/Madam,

REQUEST FOR YOUR COOPERATION IN COMPLETING THIS QUESTIONNAIRE

I am an undergraduate student of the above-named institution and department, currently carrying out a research study titled **"**The Impact of Digital Transformation on Business Performance in Micro, Small, and Medium Enterprises (MSMEs) in Benin City.**"** You have been selected as part of the study's sample, and I kindly request your cooperation in completing this questionnaire. Your responses will be invaluable to the success of this research. Please be assured that all information provided will be handled with strict confidentiality and used solely for academic purposes.

Thank you for your cooperation.

Yours faithfully,

Rahimat ISMAIL

Researcher

SECTION A: PERSONAL DATA

Please tick [√] the option that applies to you

1 Gender	Male [ ] Female [ ]
2 Age	Below 25 [ ] 25–34 [ ] 35–44 [ ] 45–54 [ ] 55 and above [ ]
3 Highest Educational Qualification	FSLC [ ] SSCE/WAEC [ ] OND/NCE [ ] B.Sc/HND [ ] Masters [ ] Others (specify)
4 Years in Business	Less than 1 year [ ] 1-5 years [ ] 6-10 years [ ] above 10 years [ ]
5 Business Sector	Manufacturing [ ] Retail [ ] Hospitality [ ] Technology [ ] Education [ ] Others (specify) _____

SECTION B: RESEARCH ITEMS

Please indicate the option that represents your opinion.

SA = Strongly Agree; A = Agree; U = Undecided; D = Disagree; SD = Strongly Disagree

S/N	ITEMS	SD	D	U	A	SA
B. Operational Transformation						
6	My business uses digital tools to automate daily operations.					
7	The use of digital technologies has improved our productivity.					
8	The use of digital platforms has enhanced coordination and communication among staff					
9	Digital transformation has reduced the cost of running our business.					

10	Digital operational systems have led to faster and more accurate service delivery.					
C. Customer Experience Transformation						
11	We use digital platforms to interact with and respond to customers.					
12	Digital tools have improved our ability to understand customer needs.					
13	Customers find it easier to reach us through digital channels.					
14	The use of social media has improved our customer engagement and satisfaction.					
15	Digital transformation has enhanced customer loyalty and retention.					
D. Organisational Culture						
16	Our management supports innovation and digital change.					
17	Employees are encouraged to adopt and use digital technologies.					
18	The organisation promotes teamwork and information sharing through digital platforms.					
19	Resistance to technological change is low in our business.					
20	The organisation's culture is adaptable to new digital trends.					
E. Product/Service Innovation						
21	Digital tools have helped us to develop new products or services.					
22	Technology has made our business more competitive.					

23	We regularly upgrade our digital systems to enhance innovation.					
24	Our business invests in research and development to improve on our products/services.					
25	Innovation through digital transformation has increased our market share.					
F. Business Performance						
26	Digital transformation has improved our overall business performance.					
27	The adoption of digital technologies has increased our profitability.					
28	Digital transformation has improved customer satisfaction and loyalty.					
29	Our business performance depends significantly on digital technology adoption.					
30	Digital transformation has enhanced our business's growth and sustainability.					

Thank You!!!!

RELIABILITY

Notes

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		Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax			RELIABILITY /VARIABLES=VR1 VR2 VR3 VR4 VR5 /SCALE(Operational Transformation) ALL /MODEL=ALPHA.
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		Elapsed Time	00:00:00.02

Scale: Operational Transformation

Case Processing Summary

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Reliability Statistics

Cronbach's Alpha	N of Items
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Reliability

Notes

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		Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax			RELIABILITY /VARIABLES=VR6 VR7 VR8 VR9 VR10 /SCALE(Customer Experience Transformation) ALL /MODEL=ALPHA.
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Scale: Customer Experience Transformation

Case Processing Summary

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Reliability Statistics

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Reliability

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	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.

Syntax		RELIABILITY /VARIABLES=VR11 VR12 VR13 VR14 VR15 /SCALE(Organisational Culture and Workplace Transformation) ALL /MODEL=ALPHA.
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Scale: Organisational Culture and Workplace Transformation

Case Processing Summary

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	Total	20	100.0

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Reliability Statistics

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Reliability

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	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=VR16 VR17 VR18 VR19 VR20 /SCALE(Product and Service Innovation) ALL /MODEL=ALPHA.
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Scale: Product and Service Innovation

Case Processing Summary

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	Excluded [a]	0	.0
	Total	20	100.0

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Reliability Statistics

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Reliability

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	Cases Used	Statistics are based on all cases with valid data for all variables in the procedure.
Syntax		RELIABILITY /VARIABLES=VR21 VR22 VR23 VR24 VR25 /SCALE(Business Performance) ALL /MODEL=ALPHA.
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	Elapsed Time	00:00:00.01

Scale: Business Performance

Case Processing Summary

		N	%
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	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
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FREQUENCY TABLE

Digital transformation has improved our overall business performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	6.7	6.7	6.7
	Disagree	58	21.7	21.7	28.5
	Neutral	61	22.8	22.8	51.3
	Agree	86	32.2	32.2	83.5
	Strongly Agree	44	16.5	16.5	100.0
	Total	267	100.0	100.0	

The adoption of digital technologies has increased our profitability.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	4.9	4.9	4.9
	Disagree	26	9.7	9.7	14.6
	Neutral	46	17.2	17.2	31.8
	Agree	148	55.4	55.4	87.3
	Strongly Agree	34	12.7	12.7	100.0
	Total	267	100.0	100.0	

Digital transformation has improved customer satisfaction and loyalty.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	6.7	6.7	6.7
	Disagree	19	7.1	7.1	13.9
	Neutral	36	13.5	13.5	27.3
	Agree	156	58.4	58.4	85.8
	Strongly Agree	38	14.2	14.2	100.0
	Total	267	100.0	100.0	

Our business performance depends significantly on digital technology adoption.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	13	4.9	4.9	4.9
	Disagree	42	15.7	15.7	20.6
	Neutral	79	29.6	29.6	50.2
	Agree	93	34.8	34.8	85.0
	Strongly Agree	40	15.0	15.0	100.0
	Total	267	100.0	100.0	

Digital transformation has enhanced our business's growth and sustainability.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	19	7.1	7.1	7.1
	Disagree	22	8.2	8.2	15.4
	Neutral	29	10.9	10.9	26.2
	Agree	140	52.4	52.4	78.7
	Strongly Agree	57	21.3	21.3	100.0
	Total	267	100.0	100.0	

My business uses digital tools to automate daily operations.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	6.4	6.4	6.4
	Disagree	21	7.9	7.9	14.2
	Neutral	27	10.1	10.1	24.3
	Agree	150	56.2	56.2	80.5
	Strongly Agree	52	19.5	19.5	100.0
	Total	267	100.0	100.0	

The use of digital technologies has improved our productivity.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	21	7.9	7.9	12.4
	Neutral	37	13.9	13.9	26.2
	Agree	152	56.9	56.9	83.1
	Strongly Agree	45	16.9	16.9	100.0
	Total	267	100.0	100.0	

The use of digital platforms has enhanced coordination and communication among staff

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	13	4.9	4.9	9.4
	Neutral	36	13.5	13.5	22.8
	Agree	156	58.4	58.4	81.3
	Strongly Agree	50	18.7	18.7	100.0
	Total	267	100.0	100.0	

Digital transformation has reduced the cost of running our business.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	17	6.4	6.4	10.9
	Neutral	39	14.6	14.6	25.5
	Agree	144	53.9	53.9	79.4
	Strongly Agree	55	20.6	20.6	100.0
	Total	267	100.0	100.0	

Digital operational systems have led to faster and more accurate service delivery.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	4.1	4.1	4.1
	Disagree	20	7.5	7.5	11.6
	Neutral	39	14.6	14.6	26.2
	Agree	143	53.6	53.6	79.8
	Strongly Agree	54	20.2	20.2	100.0
	Total	267	100.0	100.0	

We use digital platforms to interact with and respond to customers.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	18	6.7	6.7	6.7
	Disagree	23	8.6	8.6	15.4
	Neutral	42	15.7	15.7	31.1
	Agree	137	51.3	51.3	82.4
	Strongly Agree	47	17.6	17.6	100.0
	Total	267	100.0	100.0	

Digital tools have improved our ability to understand customer needs.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	16	6.0	6.0	6.0
	Disagree	23	8.6	8.6	14.6
	Neutral	38	14.2	14.2	28.8
	Agree	150	56.2	56.2	85.0
	Strongly Agree	40	15.0	15.0	100.0
	Total	267	100.0	100.0	

Customers find it easier to reach us through digital channels.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	18	6.7	6.7	11.2
	Neutral	45	16.9	16.9	28.1
	Agree	144	53.9	53.9	82.0
	Strongly Agree	48	18.0	18.0	100.0
	Total	267	100.0	100.0	

The use of social media has improved our customer engagement and satisfaction.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	15	5.6	5.6	5.6
	Disagree	21	7.9	7.9	13.5
	Neutral	37	13.9	13.9	27.3
	Agree	138	51.7	51.7	79.0
	Strongly Agree	56	21.0	21.0	100.0
	Total	267	100.0	100.0	

Digital transformation has enhanced customer loyalty and retention.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	5.2	5.2	5.2
	Disagree	19	7.1	7.1	12.4
	Neutral	39	14.6	14.6	27.0
	Agree	148	55.4	55.4	82.4
	Strongly Agree	47	17.6	17.6	100.0
	Total	267	100.0	100.0	

Our management supports innovation and digital change.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	17	6.4	6.4	6.4
	Disagree	29	10.9	10.9	17.2
	Neutral	42	15.7	15.7	33.0
	Agree	134	50.2	50.2	83.1
	Strongly Agree	45	16.9	16.9	100.0
	Total	267	100.0	100.0	

Employees are encouraged to adopt and use digital technologies.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	3.4	3.4	3.4
	Disagree	24	9.0	9.0	12.4
	Neutral	43	16.1	16.1	28.5
	Agree	147	55.1	55.1	83.5
	Strongly Agree	44	16.5	16.5	100.0
	Total	267	100.0	100.0	

The organisation promotes teamwork and information sharing through digital platforms.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	3.7	3.7	3.7
	Disagree	26	9.7	9.7	13.5
	Neutral	46	17.2	17.2	30.7
	Agree	150	56.2	56.2	86.9
	Strongly Agree	35	13.1	13.1	100.0
	Total	267	100.0	100.0	

Resistance to technological change is low in our business.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	5.2	5.2	5.2
	Disagree	23	8.6	8.6	13.9
	Neutral	36	13.5	13.5	27.3
	Agree	142	53.2	53.2	80.5
	Strongly Agree	52	19.5	19.5	100.0
	Total	267	100.0	100.0	

The organisation's culture is adaptable to new digital trends.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	14	5.2	5.2	5.2
	Disagree	21	7.9	7.9	13.1
	Neutral	39	14.6	14.6	27.7
	Agree	145	54.3	54.3	82.0
	Strongly Agree	48	18.0	18.0	100.0
	Total	267	100.0	100.0	

Digital tools have helped us to develop new products or services.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	9	3.4	3.4	3.4
	Disagree	17	6.4	6.4	9.7
	Neutral	41	15.4	15.4	25.1
	Agree	155	58.1	58.1	83.1
	Strongly Agree	45	16.9	16.9	100.0
	Total	267	100.0	100.0	

Technology has made our business more competitive.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	14	5.2	5.2	9.7
	Neutral	40	15.0	15.0	24.7
	Agree	156	58.4	58.4	83.1
	Strongly Agree	45	16.9	16.9	100.0
	Total	267	100.0	100.0	

We regularly upgrade our digital systems to enhance innovation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	17	6.4	6.4	10.9
	Neutral	41	15.4	15.4	26.2
	Agree	139	52.1	52.1	78.3
	Strongly Agree	58	21.7	21.7	100.0
	Total	267	100.0	100.0	

Our business invests in research and development to improve on our products/services.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	4.5	4.5	4.5
	Disagree	18	6.7	6.7	11.2
	Neutral	30	11.2	11.2	22.5
	Agree	147	55.1	55.1	77.5
	Strongly Agree	60	22.5	22.5	100.0
	Total	267	100.0	100.0	

Innovation through digital transformation has increased our market share.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	8	3.0	3.0	3.0
	Disagree	19	7.1	7.1	10.1
	Neutral	38	14.2	14.2	24.3
	Agree	150	56.2	56.2	80.5
	Strongly Agree	52	19.5	19.5	100.0
	Total	267	100.0	100.0	

DESCRIPTIVES VARIABLES=BUSP1 BUSP2 BUSP3 BUSP4 BUSP5 OPT1 OPT2 OPT3 OPT4 OPT5 CET1 CET2 CET3 CET4 CET5 OCT1 OCT2 OCT3 OCT4 OCT5 PSI1 PSI2 PSI3 PSI4 PSI5 BUSP OPT CET OCT PSI
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Descriptives

Notes

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Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Digital transformation has improved our overall business performance.	267	1.00	5.00	3.2996	1.17625
The adoption of digital technologies has increased our profitability.	267	1.00	5.00	3.6142	.99106
Digital transformation has improved customer satisfaction and loyalty.	267	1.00	5.00	3.6629	1.02902
Our business performance depends significantly on digital technology adoption.	267	1.00	5.00	3.3933	1.07204
Digital transformation has enhanced our business's growth and sustainability.	267	1.00	5.00	3.7266	1.10542
My business uses digital tools to automate daily operations.	267	1.00	5.00	3.7453	1.05965
The use of digital technologies has improved our productivity.	267	1.00	5.00	3.7378	.98035
The use of digital platforms has enhanced coordination and communication among staff	267	1.00	5.00	3.8202	.94465
Digital transformation has reduced the cost of running our business.	267	1.00	5.00	3.7978	.98690
Digital operational systems have led to faster and more accurate service delivery.	267	1.00	5.00	3.7828	.98752

We use digital platforms to interact with and respond to customers.	267	1.00	5.00	3.6442	1.07815
Digital tools have improved our ability to understand customer needs.	267	1.00	5.00	3.6554	1.03018
Customers find it easier to reach us through digital channels.	267	1.00	5.00	3.7416	.97943
The use of social media has improved our customer engagement and satisfaction.	267	1.00	5.00	3.7453	1.05253
Digital transformation has enhanced customer loyalty and retention.	267	1.00	5.00	3.7303	1.00485
Our management supports innovation and digital change.	267	1.00	5.00	3.6030	1.08634
Employees are encouraged to adopt and use digital technologies.	267	1.00	5.00	3.7228	.95675
The organisation promotes teamwork and information sharing through digital platforms.	267	1.00	5.00	3.6517	.95502
Resistance to technological change is low in our business.	267	1.00	5.00	3.7303	1.03797
The organisation’s culture is adaptable to new digital trends.	267	1.00	5.00	3.7191	1.01850
Digital tools have helped us to develop new products or services.	267	1.00	5.00	3.7865	.91527
Technology has made our business more competitive.	267	1.00	5.00	3.7790	.94185

We regularly upgrade our digital systems to enhance innovation.	267	1.00	5.00	3.8015	.99714
Our business invests in research and development to improve on our products/services.	267	1.00	5.00	3.8427	.99509
Innovation through digital transformation has increased our market share.	267	1.00	5.00	3.8202	.92860
BUSP	267	1.00	5.00	3.5393	.83571
OPT	267	1.00	5.00	3.7768	.78380
CET	267	1.00	5.00	3.7034	.81772
OCT	267	1.00	5.00	3.6854	.80275
PSI	267	1.00	5.00	3.8060	.76775
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CORRELATIONS
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Correlations

Notes

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Correlations

		BUSP	OPT	CET	OCT	PSI
BUSP	Pearson Correlation	1	.739**	.640**	.518**	.451**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	267	267	267	267	267
OPT	Pearson Correlation	.739**	1	.715**	.643**	.548**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	267	267	267	267	267
CET	Pearson Correlation	.640**	.715**	1	.615**	.515**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	267	267	267	267	267
OCT	Pearson Correlation	.518**	.643**	.615**	1	.676**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	267	267	267	267	267
PSI	Pearson Correlation	.451**	.548**	.515**	.676**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	267	267	267	267	267

**. Correlation is significant at the 0.01 level (2-tailed).

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Regression

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	Cases Used	Statistics are based on cases with no missing values for any variable used.

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Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PSI, CET, OCT, OPT[b]	.	Enter

a. Dependent Variable: BUSP

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.756[a]	.572	.566	.55074	.572	87.621	4	262	.000	2.039

a. Predictors: (Constant), PSI, CET, OCT, OPT

b. Dependent Variable: BUSP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.308	4	26.577	87.621	.000[b]
	Residual	79.469	262	.303		
	Total	185.777	266			

a. Dependent Variable: BUSP

b. Predictors: (Constant), PSI, CET, OCT, OPT

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.311	.194		1.601	.111	-.072	.693		
	OPT	.603	.067	.566	9.025	.000	.472	.735	.415	2.409
	CET	.226	.062	.221	3.654	.000	.104	.348	.445	2.249
	OCT	.001	.065	.000	.008	.994	-.128	.129	.416	2.403
	PSI	.029	.061	.026	.471	.638	-.092	.149	.518	1.930

a. Dependent Variable: BUSP

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	OPT	CET	OCT	PSI
1	1	4.926	1.000	.00	.00	.00	.00	.00
	2	.026	13.642	.65	.07	.19	.02	.04
	3	.023	14.771	.26	.05	.14	.22	.29
	4	.013	19.629	.06	.05	.22	.61	.61
	5	.012	20.169	.03	.83	.45	.16	.05

a. Dependent Variable: BUSP

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.1698	4.6059	3.5393	.63218	267
Residual	-1.63006	2.02384	.00000	.54659	267
Std. Predicted Value	-3.748	1.687	.000	1.000	267
Std. Residual	-2.960	3.675	.000	.992	267

a. Dependent Variable: BUSP