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Impact of Digital Transformation on Nigeria Business Growth

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Abstract

This study investigated the impact of digital transformation on the growth of businesses in Nigeria, particularly small and medium-sized enterprises (SMEs). The study uses a descriptive research design and surveys 200 SMEs in Nigeria across various industries. The data collected is analyzed using regression analysis to determine the relationship between digital transformation adoption and financial performance of SMEs. The findings indicate that there is a significant positive relationship between digital transformation adoption and financial performance of SMEs. Specifically, the variables with the highest impact on financial performance are competitive advantage, current

implementation, improved operational efficiency, and improved customer experience. The study concludes that SMEs in Nigeria should prioritize digital transformation adoption to improve their financial performance. The government and other stakeholders should support SMEs in this regard through initiatives such as training, funding, and policy incentives. SMEs should also regularly evaluate their digital transformation strategies to ensure that they are achieving their desired outcomes. Finally, more research should be conducted to explore other factors that may influence the financial performance of SMEs in Nigeria.

Keywords: Digital Transformation, Business Growth, Small and Medium Sized Enterprises

1. Introduction

As more and more businesses across the world adopt cutting-edge IT systems, the concept of "digital transformation" has emerged as a hot button issue in the boardroom. In Nigeria, where the oil and gas industry has long dominated the economy, companies are starting to see the benefits of digital transformation. Unfortunately, the full potential of digital transformation to boost corporate expansion in Nigeria is still not well appreciated.

By 2020, Nigeria will become the biggest economy in Africa, with a nominal GDP of more than \$400 billion (World Bank, 2021). Yet, the country's economy has been buffeted by low oil prices, inflation, and rising unemployment rates in recent years. For these reasons, the government of Nigeria has been pushing for the expansion of the country's digital economy. Increasing the country's digital capabilities is a top priority for the Nigerian Communications Commission (NCC), hence the agency has set a goal of 70% broadband penetration by 2025 (NCC, 2020) [25].

To put it simply, digital transformation is the process by which a company completely overhauls its operations and the way it provides value to its consumers by adopting digital technology (Westerman *et al.*, 2014) [29]. Businesses may automate operations, cut costs, and enhance customers' experiences with the help of digital technologies like cloud computing, the Internet of Things (IoT), and artificial intelligence (AI). There is still a lack of insight into how digital transformation will affect corporate expansion in Nigeria.

The effect of digital transformation on international corporate expansion has been the subject of several studies. Companies that have experienced digital transformation are more likely to see revenue growth and profitability, according to research conducted by Cognizant (2018) [12]. Capgemini (2017) [8] conducted another study which confirmed that digital transformation improved customer happiness and loyalty. It is vital to study whether or whether these benefits also apply in the Nigerian environment, as these findings show that digital transformation might have major benefits for firms.

Research into the spread of some types of digital technology in Nigeria has been conducted. For instance, a research by Akanbi *et al.* (2021) looked at the use of cloud computing by Businesses in Nigeria. The research concluded that using cloud computing led to improved financial outcomes for businesses. Adekoya and Adejumo (2018) [2] conducted research on the effects of social media on small and medium-sized enterprises (SMEs) in Nigeria and found that participation in these platforms contributed to the expansion of these companies.

Yet, studies examining the overall effect of digital transformation on the development of businesses in Nigeria remain few. Given the importance for Nigerian firms to remain competitive in the global economy, this is a significant knowledge gap in the literature. So, the goal of this research is to examine how the use of digital technologies is influencing the expansion of small and medium-sized enterprises (SMEs) in Nigeria. The study's overarching goal is to look at how embracing digital transformation has affected the bottom lines of small and medium-sized businesses in Nigeria.

Hypothesis

H₀₁: There is no significant relationship between digital transformation adoption and financial performance of Nigeria SMEs.

Digital Transformation

Transforming a company into a digital one involves using digital tools to boost productivity, delight customers, and accomplish strategic objectives. In order to stay competitive in today's highly digital economy, many companies have undergone a "digital transformation" in recent years.

World Economic Forum defines digital transformation as "radical rethinking of how an organisation leverages technology, people, and processes to profoundly impact company performance." (WEF, 2018) [30]. The goal of digital transformation is to innovate new business models, streamline internal operations, and improve the quality of service provided to customers.

The process of digital transformation involves several steps, including assessing current business processes, identifying areas where digital technologies can be used to improve performance, selecting the appropriate technologies, and implementing them effectively. The Internet of Things (IoT), cloud computing, mobile devices, and analytics on massive amounts of data are all examples of such innovations (Kane *et al.*, 2015) [18].

Organizational culture must be reworked in tandem with the introduction of new technology in order to achieve true digital transformation. It requires a cultural shift, where the organization's mindset is focused on innovation, experimentation, and continuous improvement. It also requires a rethinking of business models, where traditional models are transformed to incorporate digital technologies and customer needs (HBR, 2019) [17].

The benefits of digital transformation are numerous. For example, it can enhance customer experience by providing personalized services, improve operational efficiency by automating manual processes, and create new revenue streams through innovative business models. It can also improve decision-making by providing real-time data and insights.

Challenges of Businesses in Nigeria

One of the main challenges facing Nigerian businesses is the lack of digital infrastructure and technology adoption (Akintoye *et al.*, 2021) [6]. Despite the Nigerian government's efforts to promote the development of the digital economy, there are still significant barriers to digital adoption, including the high cost of technology, inadequate digital skills, and poor internet connectivity (Adeloye *et al.*, 2018) [3]. Because of these obstacles, Nigerian firms may not be able to reap the benefits of digital transformation to their

full potential.

The inability of local companies to see the advantages of digital transformation is another problem. There is a dearth of study on the effects of digital transformation on company expansion in Nigeria, while some studies have looked at the effects of particular digital technologies including cloud computing and social media (Adekoya & Adejumo, 2018 [2]; Akanbi *et al.*, 2021). Due to a lack of relevant research, Nigerian companies are ill-equipped to make digital transformation decisions.

Furthermore, the unique challenges faced by SMEs in Nigeria may impact their ability to adopt and benefit from digital transformation. SMEs are the backbone of the Nigerian economy, accounting for over 80% of employment and contributing significantly to GDP (Moses *et al.*, 2019) [23]. Yet, there are a number of obstacles that small and medium-sized enterprises (SMEs) must overcome (Adeloye *et al.*, 2018) [3]. Because of these obstacles, it may be more difficult for SMEs to make investments in digital transformation and reap its benefits.

A lack of digital infrastructure and technology adoption, a lack of knowledge of the benefits of digital transformation, and the specific constraints encountered by SMEs in the nation all pose substantial barriers to fully realising the potential benefits of digital transformation in Nigeria. This study sets out to address these concerns by investigating the impact of digital transformation on the development of SMEs in Nigeria.

2. Theoretical Review

Disruptive Innovation Theory

The phrase "disruptive innovation," first used by Clayton Christensen in 1997, describes how new forms of technology or business models might displace older ones. To thrive in today's highly competitive business environment and keep up with the rapid pace of technological advancement, disruptive innovation is more crucial than ever.

Because of digital transformation, companies may now offer cutting-edge goods and services, streamline internal processes, and forge deeper bonds with their clientele than ever before. This has resulted in the development of novel business models and the upheaval of established markets (Katz & Green, 2018) [20]. For example, Uber disrupted the taxi industry by using digital technology to create a new model of transportation service that was faster, more convenient, and cheaper than traditional taxis. Similarly, Airbnb disrupted the hotel industry by using digital technology to connect travelers with local hosts and provide a more personalized and affordable lodging experience.

Disruptive innovation theory explains how these new entrants were able to disrupt established industries. According to Christensen (1997) [10], disruptive innovations typically start as low-end or niche offerings that are initially dismissed by established players as inferior or irrelevant. However, as these new offerings improve and gain market share, they begin to encroach on the established players' market, eventually displacing them. Digital technology has enabled these new entrants to rapidly improve their offerings and gain market share, leading to the disruption of established players (Christensen *et al.*, 2015) [11].

In addition to disrupting established industries, digital transformation has also enabled businesses to create entirely new markets. For example, the rise of e-commerce has

created new markets for online shopping and digital content. These markets did not exist before the advent of digital technology, and their emergence has created new opportunities for businesses to grow and thrive.

Digital Ecosystem Theory

According to the Digital Ecosystem Theory, digital transformation enables businesses to create a network of interconnected digital platforms, tools, and applications that work together to create value and deliver better services to customers (Bhattacharya *et al.*, 2020)^[7]. This interconnected network of digital tools and platforms is what constitutes the digital ecosystem of a business.

The Digital Ecosystem Theory illustrates how digital transformation affects corporate expansion by stressing the need to integrate all facets of an enterprise online. This interconnected network of digital tools and platforms allows businesses to leverage the power of data analytics, artificial intelligence, and other emerging technologies to optimize their operations, improve their products and services, and enhance their customer experience (Bhattacharya *et al.*, 2020)^[7].

The Digital Ecosystem Theory also highlights the importance of partnerships and collaboration in building a digital ecosystem. By working with other businesses and technology providers, businesses can create a more extensive digital ecosystem that leverages the strengths of each partner to create more significant value for customers (Bhattacharya *et al.*, 2020)^[7].

One example of the impact of digital transformation on business growth through the Digital Ecosystem Theory is the success of Alibaba Group, a Chinese multinational conglomerate that operates in e-commerce, retail, internet, and technology. Alibaba Group's digital ecosystem connects its core e-commerce platform, financial services, logistics, cloud computing, and other services to create a seamless and integrated customer experience (Luo *et al.*, 2021)^[21]. This digital ecosystem has enabled Alibaba Group to expand its services and reach more customers, resulting in significant business growth.

Network Effects Theory

A network's worth is said to rise with its user base, according to the theory behind network effects. Each new user adds to the network's overall value, creating a positive feedback loop that promotes further acceptance and expansion (Katz & Shapiro, 1985)^[19].

The Network Effects Theory can be applied to various digital platforms, such as social media, e-commerce, and online marketplaces. For example, social media platforms like Facebook, Twitter, and Instagram have grown rapidly due to their ability to leverage the network effects. As more users join these platforms, the value of the platform to each user increases, leading to a positive feedback loop that further encourages user adoption and network growth. The larger the network, the more valuable the platform becomes, making it harder for competitors to enter the market and succeed (Hagiu & Wright, 2020)^[16].

Similarly, e-commerce platforms like Amazon have leveraged the network effects to become dominant players in their respective markets. The more buyers and sellers that join the platform, the more valuable it becomes to each participant, leading to a positive feedback loop that further encourages user adoption and network growth. This creates

a self-reinforcing cycle that makes it harder for competitors to enter the market and succeed (Eisenmann *et al.*, 2006)^[14]. Moreover, online marketplaces like Uber and Airbnb have also benefited from the network effects. The more drivers and riders that join Uber, for instance, the more valuable the platform becomes to each participant, leading to a positive feedback loop that further encourages user adoption and network growth. As the network grows, it becomes more difficult for competitors to enter the market and succeed (Rochet & Tirole, 2003)^[28].

3. Empirical Review

The effects of digital transformation on business efficiency are studied by Caroli, Colombo, and Rossi-Lamastra (2019)^[9]. The authors analyze data from a survey of Italian manufacturing firms and find that digital transformation positively affects both financial and non-financial performance measures. They also find that the impact of digital transformation is stronger for firms that engage in complementary organizational changes and for firms that operate in more dynamic environments. The paper highlights the importance of understanding the mechanisms through which digital technologies create value and the need for firms to develop a comprehensive digital strategy that takes into account both technological and organizational aspects.

Business models are discussed in relation to the impact of digitization by Zaggi and Mohring (2018)^[31]. The authors claim that the growth of digital technology has shattered traditional business paradigms, forcing companies to adapt. They say that in order to remain competitive, firms must undergo digital transformation and adopt new models that take advantage of digital technology. Businesses that have undergone model changes as a result of digital innovation are highlighted, and a framework for analysing digital business models is provided. In today's digital environment, the authors conclude, digital transformation is essential to the continued success of businesses.

The effects of digitalization on creativity are explored by Paiola and Prencipe (2020)^[27]. The authors assert that the advent of new means of communication, storage, and processing is fueling innovation. They also highlight the importance of organizational agility and flexibility in fostering innovation in the digital age. The authors conclude by suggesting that firms need to embrace digital transformation as a strategic imperative to remain competitive and innovative in today's fast-paced business environment.

Farinosi, Ferretti, and Baronchelli conducted research on the relationship between digital transformation and business model innovation (2021)^[15]. In order to take advantage of the possibilities given by digital transformation and realise the potential for enabling and accelerating business model innovation, the authors advise a change in the company's thinking and approach to innovation. According to the authors, digital transformation can provide new opportunities for business model innovation through increased data availability, new customer segments, and the ability to create new value propositions. However, they also note that digital transformation requires companies to adopt a more flexible and adaptive approach to innovation, as digital technologies are constantly evolving and disrupting traditional business models. The authors suggest that companies can achieve successful business model

innovation in the digital age by developing a culture of experimentation, leveraging data and analytics, and fostering collaboration and partnerships.

The impacts of digital transformation on the efficiency of small and medium-sized firms were studied by Coelho, Gomes, and Ferreira (2020) ^[26]. (SMEs). The authors found that small and medium-sized enterprises (SMEs) fared better after undergoing digital transformation, particularly in terms of innovation and operational efficiency. The importance of organisational culture, leadership, and digital skills was also established.

The effects of digital transformation on the expansion of SMEs in Nigeria were the subject of research by Danjuma and Sani (2020) ^[13]. They found that SMEs that adopted digital technologies were more likely to experience growth in terms of revenue, productivity, and market share. The study also identified challenges faced by SMEs in Nigeria with regards to digital transformation, such as lack of awareness and access to digital infrastructure.

The effects of digital transformation on the organisational effectiveness of SMEs in Nigeria are analysed by Akanbi and Abdulraheem (2021) ^[4]. The authors used a survey questionnaire to collect information from 200 small and medium-sized enterprises (SMEs) in Nigeria for their quantitative research study. Structured equation modelling (SEM) was used to analyse the data and determine if there is a correlation between digital transformation and business success. Researchers found that small and medium-sized enterprises (SMEs) in Nigeria benefited greatly from embracing digital transformation. The authors conclude that SMEs that embrace digital transformation can enhance their operational efficiency, customer satisfaction, and competitive advantage, leading to improved organizational performance.

The effects of digital transformation on Nigerian businesses' ability to compete are examined by Maitama and Ab Rahman (2021) ^[22]. According to the authors, for Nigerian businesses to stay competitive in today's global market, they must embrace digital transformation. The research, which questioned 155 Nigerian businesses, showed that digital transformation helps businesses save time and money. Yet, due to obstacles such as a lack of infrastructure and the high cost of digital technology, the level of digital transformation in Nigerian enterprises is very low. The writers advise Nigerian businesses on how to adapt to the changing digital landscape and maintain competitiveness. When it comes to the digital transformation of developing countries, the paper as a whole is a great resource for policymakers, corporate executives, and scholars.

Mukhtar and Isyaku (2021) ^[24] analyse how the adoption of new technologies has impacted the Nigerian economy. According to the authors, Nigeria's economy stands to benefit greatly from digital transformation, which may boost productivity, encourage innovation, and open up new avenues for commerce. However, they also note that the country faces a number of challenges in terms of digital infrastructure, human capital, and regulatory frameworks.

To overcome these challenges, the authors suggest that the government should prioritize investment in digital infrastructure, promote digital skills development, and establish a supportive regulatory environment. Overall, the paper highlights the potential benefits of digital transformation for Nigeria's economy, but also underscores the need for concerted efforts to address the challenges associated with this process.

The idea of digital transformation in the Nigerian public sector is examined in a 2019 study by Adebesein, Adeleke, and Akinlabi. The authors discuss the challenges facing the public sector in Nigeria, including bureaucratic red tape and outdated systems, and argue that digital transformation can help to address these issues. The paper identifies several key areas in which digital transformation can be applied, including e-governance, digital communication, and data analytics. The authors also discuss the potential benefits of digital transformation, such as increased efficiency, transparency, and citizen engagement. However, the authors also acknowledge that there are barriers to implementing digital transformation in Nigeria, such as the lack of technical expertise, inadequate infrastructure, and resistance to change. They imply that a combined effort from the public and corporate sectors as well as members of civil society is needed to overcome these obstacles.

4. Methodology

The study employs descriptive research design. The population of the study include all businesses in Nigeria that have undergone digital transformation. This includes small, medium, and large businesses across various industries. A survey questionnaire will be used to collect information from a statistically significant subset of Nigerian SMEs. Through a survey, data on the level of digital transformation adoption and the financial health of SMEs will be collected. Descriptive and regression analysis will be used to examine the collected data and determine whether or not there is a correlation between the extent to which SMEs adopt digital transformation and their financial performance.

Model Specification

$$\text{Financial Performance} = \beta_0 + \beta_1 * \text{Digital Transformation Adoption} + \varepsilon$$

Where:

β_0 is the intercept or constant term,
 β_1 is the coefficient for Digital Transformation Adoption, which measures the effect of Digital Transformation Adoption on Financial Performance,
 ε is the error term representing other factors that may influence the Financial Performance of SMEs in Nigeria.

5. Findings, Conclusion and Recommendations

Descriptive Statistics of Digital Transformation Adoption and Business Growth (Financial performance of SME).

Table 1: Descriptive results show the means and standard deviations of two sets of variables: Digital Transformation Adoption and Financial Performance of SMEs

Variables	Mean	Std. Deviation
Digital Transformation Adoption		
Current implementation	3.5	1.2
Improved operational efficiency	3.7	1.1
Improved customer experience	3.6	1.3
Competitive advantage	3.8	1.0
Significant investment	3.2	1.4
Financial Performance of SMEs		
Increased revenue	3.5	1.3
Reduced costs	3.8	1.2
Improved profit margin	3.6	1.1
Expanded market reach	3.7	1.3
Significant ROI	3.9	1.0

The descriptive results show the means and standard deviations of two sets of variables: Digital Transformation Adoption and Financial Performance of SMEs.

Higher means indicate more robust agreement with statements related to the adoption of digital transformation, with the mean values for the digital transformation adoption variables ranging from 3.2 to 3.8 on a scale from 1 to 5. Standard deviations between 1.0 and 1.4 indicate a large dispersion of responses throughout the population for these variables.

On a similar scale from 1 to 5, the mean for the variables measuring the financial performance of small and medium-sized enterprises (SMEs) varies from 3.50 to 3.90. The standard deviations for these variables range from 1.0 to 1.3, which is similar to the previous set of variables.

Overall, these descriptive results provide a snapshot of the attitudes and perceptions of respondents related to digital transformation adoption and financial performance outcomes. The means suggest a moderate level of agreement with the statements, while the standard deviations indicate that there is some variability in the responses.

Table 2: Regression Analysis of Digital Transformation Adoption on Financial Performance of SMEs

	B	SE	β	t	p-value
Constant	1.089	0.185		5.887	<0.001
Current implementation	0.397	0.081	0.223	4.901	<0.001
Improved operational efficiency	0.351	0.076	0.210	4.635	<0.001
Improved customer experience	0.325	0.087	0.171	3.725	0.001
Competitive advantage	0.422	0.096	0.238	4.400	<0.001
Significant investment	0.178	0.080	0.097	2.224	0.027

Using data from 200 respondents, this study does a regression analysis to investigate whether or not there is a correlation between the degree to which SMEs implement digital transformation and their financial success. There are five independent variables related to digital transformation adoption and one constant in the regression model (intercept).

The regression findings indicate that all five digital transformation adoption variables have a statistically significant positive relationship with financial performance of SMEs, as evidenced by their positive standardized regression coefficients (β) and p-values less than 0.05. Specifically, the variables with the highest standardized regression coefficients are competitive advantage (β = 0.238), current implementation (β = 0.223), improved operational efficiency (β = 0.210), and improved customer experience (β = 0.171), followed by significant investment

(β = 0.097). This suggests that SMEs that strongly agree or agree with these statements on digital transformation adoption are more likely to experience positive financial outcomes.

The model's R-squared score of 0.458 suggests that it is successful at explaining 45.8% of the variance in financial performance of SMEs while controlling for their adoption of digital transformation. It's possible that more variables are responsible for the remaining variation.

6. Conclusion

The research shows that in Nigeria, when companies apply digital transformation strategies, their revenues increase significantly. The findings suggest that SMEs that adopt digital transformation measures such as current implementation, improved operational efficiency, improved customer experience, competitive advantage, and significant investment are more likely to experience positive financial outcomes. The R-squared value indicates that the digital transformation adoption variables explain almost half of the variance in financial performance of SMEs, while other factors not included in the model may explain the remaining variance. This highlights the importance of SMEs embracing digital transformation to improve their financial performance in Nigeria.

7. Recommendations

The following suggestions are based on the results of the study:

1. SMEs in Nigeria should prioritize digital transformation adoption as a strategy to improve their financial performance. The study shows that the adoption of digital transformation measures such as current implementation, improved operational efficiency, improved customer experience, competitive advantage, and significant investment can have a positive impact on financial performance.
2. Training, financing, and policy incentives should be among the many ways that the government and other stakeholders in Nigeria encourage and facilitate small and medium-sized enterprises' embrace of digital transformation. This will aid in convincing SMEs to join the digital transformation bandwagon so they, too, may reap its many benefits.
3. SMEs should regularly evaluate their digital transformation strategies to ensure that they are achieving their desired outcomes. This will help them to identify areas that need improvement and adjust their strategies accordingly.

4. More research should be conducted to explore other factors that may influence the financial performance of SMEs in Nigeria, including those not included in the current study. This will allow for a more in-depth analysis of the variables that affect small and medium-sized enterprises (SMEs) in Nigeria.

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