



---

## Digital Transformation, Government Policy and Financial Performance of Small and Medium Enterprises in Southwestern Nigeria

\*Anafi, Abdul-Wahab Oluwatoyin<sup>1</sup>, Jibrin Nuhu SHAGARI<sup>2</sup> and Adamu YAHAYA<sup>3</sup>

<sup>1</sup>*Department of Business Administration, College of Business and Management Studies, Kaduna Polytechnic. Kaduna State, Nigeria.*

<sup>2</sup>*Department of Business Management, Faculty of Management Sciences, Federal University Dutsin-Ma, Katsina State, Nigeria.*

\*Corresponding Author: [alhintoyeen@gmail.com](mailto:alhintoyeen@gmail.com)

---

### Abstract

*Modern business firms not only strive to survive in the face of modern technologies, but also thrive to improve their performance by transforming their operations with the adoption of advanced digital technologies. It is observed in the literature that most small and medium enterprises (SMEs) in spite of the adoption, are said to record poor performance. Hence, this study attempts to examine the combined effect of both government policy and digital transformation on firms' financial performance. The population of the study consists of the entire registered small business enterprises in the six states of southwestern Nigeria. A sample size of 373 SMEs was used to represent the entire population through Krejcie and Morgan (1970) formula. Primary data were collected with the aid of structured questionnaires distributed to owners/managers of the enterprises which was analyzed through Partial Least Squared-Structural Equation Modelling (PLS-SEM) techniques. The results suggest that all the three measures of digital transformation (i.e. digital technological, organizational and social perspectives) have positive significant effects on firms' financial performance. The result also revealed that government policy on adoption of digital transformation had a positive significant effect on firms' financial performance. Therefore, the study recommends that government needs to review and refine its policies on digital economics (i.e. digital tax incentives, digital grants to SMEs and infrastructural support) by creating enabling environment and by ensuring full implementation and application through legal backing, granting of technological extension services, spearheading of procurement of digital technologies and making such available to interested business firms on credit or hire purchases. Owners are also urged to key into digital transformation programmes by embarking on training of their employees on proper adoption of digital transformation.*

**Keywords:** Financial Performance, Digital Technological Perspective, Digital Organizational Perspective, Digital Social Perspective, Government Policies

---

### 1. Introduction

A firm's financial performance serves as a benchmark for its financial well-being. Performance echoes the ability of an organization to achieve set goals to maintain profit, gain competitive advantage, increase market share, and sustain long-term survival, which depends on the use of appropriate organizational strategies and operational plans. Strong financial

performance indicates efficient resource allocation, contributing to the overall health of the national economy.

Performance of Small and Medium Enterprises is vital to the accomplishment of sustainable growth and development of developing nations. The wealth of a nation, as well as their growth and development is strongly associated with performance of SMEs. SMEs are engine room for economic

development and growth, being avenues for employment generation, and innovations and wealth creation stimulation. SMEs are catalysts for the provision of quality products; they have potentials to enhance progress since they are the backbone of development and industrialization of economies.

It is clear that SMEs play a crucial role in employment creation, poverty alleviation, and economic growth of any country. As a result, in recent decades, numerous nations have placed an emphasis on the growth of SMEs in order to accelerate economic growth. They are the economic lifeblood of communities that help fight poverty, create decent jobs, foster entrepreneurship for women, youth and vulnerable groups, safeguard livelihoods and economic growth. All these efforts and achievements of SMEs contribute to the achievement of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

An appropriate financial performance that is achieved through improved resource allocation, utilization and effective profitability is essential for firm's continued economic relevance. Stakeholders tend to favour firms that effectively explore emerging technologies to enhance value creation, minimize input costs and relate with communities propitiously. Advanced process and operational technologies have been shown to contribute well to corporate efficiency, effectiveness and profitability (Gartner, 2017; Price Water Cooper (PwC), 2017; Zarie, 2024). This positive correlation provides motivations for industry leaders across the globe to ardently explore digital perspectives that could strengthen the firm's competitive posture. Thus, modern business world is continuously evolving as firms are increasingly transforming their business operations through advanced digital technologies all in attempts to improve on their performance. This indicates that the

business world has transitioned into digital economy and society.

However, high-profile failures have raised concerns, and many global firms including those in Nigeria face performance challenges. Many firms, from the smallest to the biggest, in Nigeria faced challenges of poor financial performance and inability to pay dividends consistently (Oji, 2023). As explained by Yang and Ming (2024), failure to integrate digital transformation in the organizational structure, business processes and models explains the deficiencies in the firms' performances. Addressing these challenges of poor financial performance using digital transformation (DT) is essential for the firms' continued contribution to national economies.

As a result, researchers are intensively investigating the economic effects of this digital transformation trend. This study adopts three dimensions of digital transformation to examine its relationship with financial performance adopted from Reis et al., (2018). These include technological, organizational and social perspectives of digital transformation. Digital technological perspective refers to the adoption of new digital technologies. Digital organization perspective refers to the perception of digital transformation from the angle of organization's changes in structures, business processes and models. The Digital social perspective of digital transformation concerns itself with the impact on individuals, culture, and society. As the digital economy rapidly evolves through establishment of Ministry of Communication and Digital Economy, government policy plays a crucial role in addressing the resulting social and economic changes. While digital technologies like AI and big data analysis enhance market efficiency and prediction accuracy, they also raise concerns about privacy, data security, and market power abuse (Spence, 2021). To mitigate these

risks and ensure a balanced market, government intervention is necessary to establish effective institutional frameworks and regulate the misuse of market power.

Government policies such as procurement and provision of heavy digital technologies and making same available to interested firms, training on digital courses, subsidy and promotion of mobile payment platforms play a crucial role in enhancing business performance by leveraging technology and promoting consumer stability (Ismanu & Kusmintarti, 2019). These policies focus on up-skilling and reskilling programs, which significantly impact business performance. Autonomous governments proactively support SMEs' development by providing education, training, and market insights, leading to improved performance. By fostering collaboration between large and small enterprises, government policies facilitate technology sharing, attracting customers, and driving sales and innovation growth. The government's role is to enhance innovative behaviors in businesses by providing assistance, including training, technology, market information, and funding. Thus government policy is imminent as it plays a crucial role in SMEs' performance in Nigeria. This is evident as scholars established that technological absorption is capital intensive (Dam et al. 2025) with a delayed contribution to firm financial performance while most of the firms are small scale and possess very low capital insufficient enough to digitally transform their businesses, hence government intervention is necessary. By incorporating government policy in the research model, since digital transformation is technology-based, this study is in a vantage position to explicate the role of government in the performance implications of digital transformation for SMEs. It is against this background that this study examines influence of government policy on the relationship between digital

transformation and firms' financial performance in South-Western Nigeria.

Despite the growing interest in digital transformation, there is a significant knowledge gap regarding its economic impacts of Nigerian SMEs. This study aims to address this gap by exploring the impact of digital transformation on SMEs' performance and role of government policy. While digital transformation has been linked to improved firm performance, many firms struggle to successfully implement it, with some even experiencing adverse consequences (Zareie et al., 2024). Research suggests that a significant number of digital transformation efforts fail (Rogers, 2016; McKinsey & Company, 2019; Marx, et al., 2023), and in some cases, digital transformation can even harm firm performance by increasing costs and reducing efficiency.

The question remains as to how firms can harness digital transformation to drive innovation and value creation which expectedly leads to improved performance. Despite efforts to address this, the existing literature has fallen short of identifying the underlying mechanisms. This study bridges this knowledge gap by introducing the role of government policy in shaping the effect of digital transformation on firms' performance.

Government policies play a crucial role in enhancing business performance by leveraging technology and promoting consumer stability (Ismanu & Kusmintarti, 2019). These policies focus on up-skilling and reskilling programs, which significantly impact business performance. Autonomous governments proactively support SME development by providing education, training, and market insights, leading to improved performance. By fostering collaboration between large and small enterprises, government policies facilitate technology sharing, attracting customers, and driving sales and innovation growth. The government's role is to enhance

innovative behaviors in businesses by providing assistance, including training, technology, market information, and funding. Therefore, this study developed research model that incorporates government policies as another factor, specifically measured by government policy on digital economy.

Based on the above argument, this study examines the effect of digital transformation and government policy on SMEs' performance in Southwestern Nigeria.

### **1.2 Objectives of the Study**

The objectives of this research paper are to:

- i. Examine the relationship between digital technological perspective and firms' financial performance in South Western Nigeria.
- ii. Evaluate the relationship between digital organizational perspective and firms' financial performance in South Western Nigeria.
- iii. Investigate the relationship between digital social perspective and firms' financial performance in South Western Nigeria.
- iv. Examine the relationship between government policy and firms' financial performance in South Western Nigeria.

### **1.3 Hypothesis of the Study**

The hypotheses of the study are proposed to test the propositions put forth as part of the research framework and are as follows:

H<sub>01</sub>: Digital technological perspective has no significant effect on firms' financial performance in South Western Nigeria.

H<sub>02</sub>: Digital organizational perspective has no significant effect on firms' financial performance in South Western Nigeria.

H<sub>03</sub>: Digital social perspective has no significant effect on firms' financial performance in South Western Nigeria.

H<sub>04</sub>: Government policy has no significant effect on firms' financial performance in South Western Nigeria.

## **2. Literature Review**

This section reviews the literature on firm performance, digital transformation and government policy and the relationship between them, the section also discusses the theoretical framework and empirical studies.

### **2.1 Conceptual Framework**

#### **2.1.1 Digital Transformation**

Digital transformation is a complex and multifaceted concept that has been defined and categorized in various ways by different authors. Reis et al. (2018) broke down the definitions into three elements: technological, organizational, and social, highlighting the impact on customer experience, business processes, and business models. Mahraz et al. (2019) identified three levels of impact: customer experience, business processes, and business process models. Verhoef et al. (2021) conducted a scoping review to identify stages of digital change, including digitization, digitalization, and digital transformation. Previous literature suggests that digitization and digitalization are precursors to achieving digital transformation (Loebbecke & Picot, 2015; Hartl & Hess, 2017; Matt et al., 2015; Parviainen et al., 2017). These definitions and frameworks highlight the complexity and nuances of digital transformation. Digital transformation is a complex and multifaceted concept that has been defined and described by various authors in different ways, highlighting its various aspects and implications.

For this study, digital transformation is defined as the use of digital technologies to improve process efficiency and effectiveness, involving the analysis and development of a digital business model that creates greater value or the organization, going beyond simply replicating services in a digital format (Matarazzo et al., 2021).

#### **2.1.2 Objectives of Digital Transformation**

The objectives of digital transformation include:

- i. Enhancing existing products digitally. This is an important aim of production exercise in which existing products of the organization are not only being enhanced but also improved upon.
- ii. Innovating product development. Every business product development needs new improvement as time changes. This is one of the objectives of digital transformation.
- iii. Improving customer digital experience and channels.- Customer services and product delivery through digital forms are aimed at being improved.
- iv. Adapting to changing customer behaviors. – The era of arm-chair business with increasing technologies is becoming outdated and so business must adapt to changing customer behaviours in terms of cutting pace with trend of technologies.
- v. Maintaining customer satisfaction.- If customer is to be satisfied in today's business world, the business firm must transform digitally.

New technologies like social and mobile technologies, analytics, cloud, and IoT have transformed the business landscape, presenting opportunities and threats. Failing to adopt these technologies and digital transformation may result in businesses being left behind (Sebastian et al., 2017; Al-Ayed & Al-Tit, 2023).

### **2.1.3. Dimensions of Digital Transformation**

Digital transformation has several dimensions which include: Leadership support which is crucial for setting the organization's philosophy and supporting positive behaviors. Infrastructure which has to do with the foundation that supports the organization, including devices, equipment,

programs, networks, and facilities. Digital security: Methods used to protect internet accounts and files from external threats. New business development which concerns securing new resources and maximizing existing ones. Technological perspective: Refers to the adoption of new digital technologies. Organizational perspective: Involves changes in business processes, models, and structures. Social perspective: Concerned with the impact of digitalization on individuals, culture, and society in general. (Reis et al., 2018).

### **2.2 Firm Performance**

Performance is defined as the ability of an organization to achieve a set goal either to maintain profit, gain competitive advantage, increase market share, and sustain long-term survival, which depends on the use of appropriate organizational strategies and operational plans (Oyemomi et al., 2019; Soto-Acosta et al., 2016; Vatamanescu et al., 2022; Ibrahim & Kurfi, 2024). It can be geney said that performance is the achievement that companies can achieve in a given period. Performance refers to the accomplishment of tasks, goals, or objectives, measured against pre-set standards (Nwaolisa & Chijindu, 2016). A firm's performance is a broad assessment of its ability to utilize resources effectively and generate profits. Profitability is crucial for a company's long-term survival and growth (Pandey, 2005). However, it's important to note that profit maximization shouldn't come at the expense of environmental, social, and employee well-being (Pandey, 2005). Firm performance can be evaluated through various metrics, including: financial metrics (accounting measures), market-based metrics, combined metrics (hybrid measures), firm survival rates, and operational efficiency metrics (Shook, 2005).

### **2.3 Government Policy**

Government policies play a vital role in firm growth, with the policy environment, including government culture, education,

regulatory authorities, banks, professions, and large corporations, significantly shaping firm development (Nguyen et al., 2009; OECD, 2004). Stakeholders must support entrepreneurship to create a level playing field and foster an enterprise culture, and effective policies can substantially impact firm success (Carter & Jones-Evans, 2006). Governments can promote entrepreneurship and firm growth through various policies (Storey, 2008), leading to job creation, innovation, productivity, and growth (Van Praag & Versloot, 2007). By collaborating, stakeholders can create a supportive ecosystem for firm growth and development, highlighting the importance of a comprehensive approach to business policy that addresses the complex interplay of factors influencing firm success.

#### **2.4 Review of Empirical Studies**

Research on digital transformation has been extensive, with studies examining its impact on organizational performance from various angles. Some have focused on specific technologies or frameworks (Chen et al., 2016; Ziyadin et al., 2019), while others have investigated the drivers of digital transformation adoption (Berghaus & Back, 2017; Haffke et al., 2017; Schmidt et al., 2017). These studies have identified both internal and external triggers, including changes in customer behavior, competitive landscape, and industry dynamics, as motivations for digital transformation. Additionally, research has shown that digital transformation can have both direct and indirect effects on organizational performance (Osmundsen et al., 2018). Overall, the literature suggests that digital transformation is a crucial aspect of modern business strategy, essential for organizations to remain competitive and relevant in today's fast-paced digital landscape.

Digital transformation improves firm performance in various aspects, enhancing product and service quality, reducing

production and management costs, optimizing management structure, and promoting corporate innovation and sustainable development (Liu et al., 2021; Wang & Du, 2021). It also drives sustainable development, improves productivity, and enhances environmental governance capabilities, making companies more attractive to external investors and stakeholders (Bertani et al., 2020; Dyatlov et al., 2019). Stakeholder pressure encourages companies to adopt proactive environmental governance strategies and undergo digital transformation, bringing numerous benefits to businesses and society (Waheed et al., 2020; Iyigün, 2015; Cronkleton et al., 2008).

Digital technologies can enhance information processing capabilities, responsiveness, and transparency, improving business management and operations (Premkumar et al., 2005; Kyaw et al., 2022). They provide real-time data for efficient resource allocation, sustainable development, and improved business performance (de Sousa Jabbour et al., 2018; Mubarak et al., 2019; Nwankpa & Roumani, 2016). Digital transformation can also boost productivity, competitiveness, and profitability (Llopis-Albert et al., 2021) and enhance business growth for small service businesses (Chen et al., 2021). However, its impact on industry benchmarks and customer experience is mixed (Chen et al., 2016; Guzmán-Ortiz et al., 2020) and may have both positive and negative outcomes (Vial, 2019).

Government policies can significantly impact business operations and performance, and such effects can be explained from a technical perspective (Okojie, 2013). Policies like taxation, subsidies, interest rates, and exchange rates can have direct or indirect effects on businesses (Alabi & Aderinto, 2019). Taxation policies, for instance, can influence production costs, prices, and investment decisions (David & David,

2015). High taxes on imported goods can encourage local production, while high taxes on raw materials can discourage production (Abioro & Adefeso, 2016). Corporation tax increases can lead to higher production costs, forcing businesses to raise prices (Nielsen, 2016). Value-added taxes (VATs) and environmental taxes can also impact businesses, despite being aimed at consumers (Mann & Shideler, 2015). Government financial policies and interest rates can affect investment rates, with high lending rates discouraging borrowing and reducing investments (Mirzanti et al., 2015). The government creates frameworks and rules that guide business operations, and changes to these rules can force entrepreneurs to adapt their business strategies (Schulz et al., 2016). Therefore, government policies can have significant effects on business operations and performance (Wright et al., 2015).

Government plays a crucial role in a nation's economy, and their policies have a significant impact on business operations (Okojie, 2013). In the past, governments established state-run industries, but many of these were privatized in the late 20th century, increasing competition in the business environment (Okojie, 2013). Interest rates, set by government entities like Nigeria's Monetary Policy Committee, greatly affect entrepreneurs and consumers. Higher interest rates increase business costs and reduce consumer purchasing power, leading to decreased sales (Okojie, 2013). Government policies, therefore, have a profound impact on the economy and business operations, and their decisions are closely watched by entrepreneurs and economists alike.

The government's spending policy can significantly impact business operations, as increased spending in a specific sector can stimulate business activity and increase income for enterprises supplying inputs to that sector (Wallace, 2000). Subsidies and tax incentives, such as tax holidays and

removal of excise duties, can also boost economic activity in a given sector. However, empirical studies have shown that government monetary policy may not have a significant impact on business performance. For example, Spyros (2001) and Floros (2004) found no considerable relationship between inflation and returns on stock or assets, respectively, in their studies on the Greek stock market. These findings suggest that government monetary policy may not have a significant impact on business performance, contrary to expectations.

Various studies have investigated the effects of fiscal and monetary policies on business operations and economic development. Research on value-added tax (VAT) has shown that it can have a significant impact on economic and human development (Unegbu & Irefin, 2011), and that companies tend to comply more with VAT than corporate income tax (Symons et al., 2011). However, VAT can also have negative effects on businesses (Umeora, 2013). Studies on monetary policy have found that exchange rate fluctuations can affect business competitiveness (Chawla, 2011), and that changes in exchange rate regimes can influence foreign currency borrowing decisions and currency mismatches (Kamil, 2012). Additionally, research has shown that monetary policy can have a significant impact on industrial growth (Usman & Adejare, 2014), and that the J-curve hypothesis may not always be present in a country's trade balance (Umoru & Oseme, 2013). These studies highlight the importance of considering the impact of fiscal and monetary policies on business operations and economic development.

Zareie et al., (2024) use textual analysis to measure corporate digital transformation by the frequency of digital terms in the firm 10-K report. The study then show that this digital transformation score (DGS) is associated with corporate value. Importantly, study show that organizational

capital, the quality of corporate governance, information quality, and firm IPO age play non-negligible roles in shaping the value creation of corporate digital transformation. The study fresh evidence indicates that firms need to enhance their organizational capital, corporate governance, and firm information quality to benefit from their digital transformation efforts.

Barba-Sánchez, et al., (2024) study the effects of digital transformation on firm performance: The role of IT capabilities and digital orientation. A theoretical model to analyse the role of digital orientation and digital transformation in this relationship is introduced and tested on a set of 246 firms through the Partial Least Squares-Structural Equation Modeling method (PLS-SEM). The research contributes to the literature by introducing the social aspect to the study of technology management, delving also into the antecedents of digital transformation. Results confirm a positive effect of IT capabilities on firm performance through the development of a digital orientation and the digital transformation of the organisation. Aprieliene, and Joko, (2024) determine the effect of digital transformation on food and beverage SMEs by considering the variables of leadership, organizational agility, and its effect on SMEs performance. The method used is a quantitative descriptive method. The study results found that leadership and organizational agility have a positive relationship with digital transformation in SMEs. This research also found that digital transformation has a positive relationship with the performance of SMEs.

### **2.5 Research Gap**

Research on digital transformation has been extensive, with studies examining its impact on organizational performance from various angles. Some have focused on specific technologies or frameworks, while others have investigated the drivers of digital transformation adoption. These studies have

identified both internal and external triggers, including changes in customer behavior, competitive landscape, and industry dynamics, as motivations for digital transformation. Additionally, research has shown that digital transformation can have both direct and indirect effects on organizational performance. Overall, the literature suggests that digital transformation is a crucial aspect of modern business strategy essential for organizations to remain competitive and relevant in today's fast-paced digital landscape. Notably, most studies have focused on the direct impact of digital transformation on firm performance, overlooking the potential effects of third variable. Most of the previous studies on the impact of digital transformation on firm performance were conducted in the developed countries with only few ones in the developing nations. Meanwhile, studies proved that government plays a crucial role in a nation's economy, and their policies have a significant impact on business operations. Therefore, to bridge these empirical and methodological gaps this study introduce another independent variable to the digital transformation framework proposed by Al-Ayed et al. (2022), so as to examine their effects on the performance of SMEs in Southwest, Nigeria.

### **2.6 Theoretical Framework**

In order to provide a proper theoretical foundation for this study, the researcher briefly reviews the resource based view (RBV) theory which will serve as the bedrock for this study (Underpinning theory).

#### **2.6.1 The Resource-Based View (RBV)**

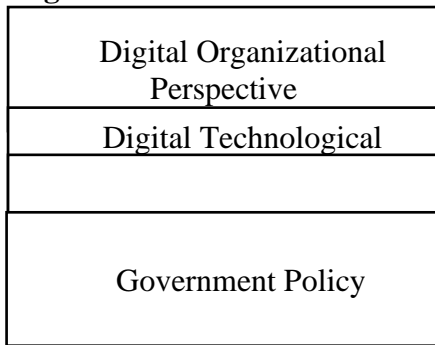
The resource-based view (RBV) is a management theory that suggests organizations can achieve a competitive advantage by effectively utilizing their resources and capabilities (Barney, 1991; Peteraf, 1993; Barney, 2001; Newbert, 2007; Newbert, 2008; Davis & DeWitt,

2021; Kellermanns et al., 2016). Resources are the factors owned or controlled by the firm, and capabilities are the firm's capacity to deploy those resources (Amit & Schoemaker, 1993). Tangible resources include physical assets, while intangible resources include non-physical assets like intellectual property, brand reputation, and organizational culture (Barney, 1991). To provide a sustained competitive advantage, resources must be valuable, rare, difficult to imitate, and non-substitutable (Barney, 1991).

According to the Resource-Based View (RBV), certain assets, known as strategic assets, have characteristics that generate sustained competitive advantage. These resources, which are owned and controlled by the firm, have the potential to create competitive advantage and superior firm performance. However, the RBV also recognizes that different firms in different situations require different government policies. Firms must leverage their knowledge resources to enhance

**Independent Variable**

**Digital Transformation**



**Dependent Variable**

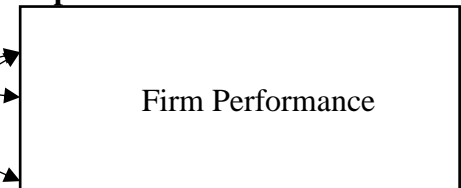


Figure 1: Conceptual Framework of the Study

**3. Methodology**

This research employed a cross-sectional survey design, collecting data on a single point in time. The study population comprised all registered firms in southwestern Nigeria's six states, totaling 23,289 as of June 2025. A sample of 378 firms was selected using Krejcie and Morgan's formula. A multi-stage sampling

approach was utilized, combining stratified and simple random sampling techniques to ensure representativeness. Data was collected through structured questionnaires administered to owners/managers of small and medium enterprises, with firms' performance serving as the dependent variable while digital transformation and government policies as independent variables. The data analysis employed

**2.7 Model Specification**

$$FP_{it} = \beta_{0it} + \beta_1 DTP_{it} + \beta_2 DOP_{it} + \beta_3 DSP_{it} + \beta_4 GP_{it} + e_{it}$$

Where:

$FP_{it}$  = Firm Performance

$DTP_{it}$  = Digital Technological Perspective

$DOP_{it}$  = Digital Organizational Perspective

$DSP_{it}$  = Digital Social Perspective

$GP_{it}$  = Government Policy

$\beta_0$  = Constant (i.e., the intercept)

$\beta_1 - \beta_3$  = Coefficient of the explanatory variables (i.e., the slope)

$e$  = Error term

$i$  = Individual firm

$t$  = Time period (i.e., year)

**2.8 Conceptual Model**

The conceptual model of this study shows diagrammatically how digital transformation and government policy affect firm performance in Southwestern Nigeria.

descriptive statistics, correlation, and regression techniques using SPSS version 22 and SmartPLS3.

To examine the model, the suggested relationship for the first assumption is as follows:

$$FP_{it} = c + \beta_1 DTP_{it} + \beta_2 DO_{it} + \beta_3 DSP_{it} + \beta_4 GP_{it} + U_{it}$$

model

The model evaluates the effect of the independent variables i.e. digital transformation proxies (digital

**4.1 Diagnostics Testing**

**Table 1: Test for Independence**

	Collinearity Statistics	
	Tolerance	VIF
DOP	.542	1.844
DTP	.554	1.806
DSP	.666	1.501
GP	.486	2.058

Source: Field Survey, 2025

As shown in Table 1, the Variance Inflation Factor (VIF) values for each variable - DOP (1.844), DTP (1.806), DSP (1.501), and GP (2.058) - are all below 10, indicating no multicollinearity issues. Additionally, the tolerance values for each variable - DOP (0.542), DTP (0.554), DSP (0.666), and GP (0.486) - exceed the threshold of 0.1,

**Table 2: Tests of Normality**

	Skewness		Kurtosis	
	Statistics	Std. Error	Statistics	Std. Error
FP	-1.962	.126	4.396	.252
DOP	-1.567	.126	3.021	.252
DTP	-1.511	.126	3.645	.252
DSP	-.553	.126	.060	.252
GP	-1.992	.126	5.926	.252

Source: Survey, 2025

Hair et al. (2010) state that the Skewness value should not be greater than -3.0 or + 3.0, and to confirm that the variables are normally distributed, and the Kurtosis value should not be greater than -7.0 or + 7.0. Accordingly, the study examined the normality of the data and the values of

technological perspective (BDTP), digital organizational perspective (DOP) and digital social perspective (DSP)) and government policy on the dependent variable (firms' financial Performance)

**4. Results and Discussion**

The section presents the data analysis and interpretation of result of the dependent variable and independent variables. It presents the descriptive statistics, correlation and regression results of the study.

suggesting that the variables are sufficiently independent of one another. This implies that they are all reliable to estimate as there is no case of multicollinearity having VIF value not greater than 5 while Tolerance value is also not less 0.20 according to (Hair, et.al., 2011).

Skewness and Kurtosis of each variable as illustrated in Table 2. Accordingly, all Skewness and Kurtosis values of the variables are found within the prescribed levels as per the research results. Therefore the data are deemed to be distributed with a fair approximation to normality.

**Table 3: Test of Homogeneity of Variances**

	Levene Statistic	df1	df2	sig.
FP	.368	9	94	.587
DOP	.329	9	94	.565
DTP	.654	9	94	.200
DSP	.069	9	94	.794
GP	.620	9	94	.058

Source: Field Survey, 2025

This study employed the Levene statistic to test for homogeneity of variance. If the probability associated with the Levene Statistic is less than or equal to the level of significance (<0.05), this indicated that the variance is not homogeneous. The results presented in Table 3 indicates that the variances are homogeneous as the

significant level of all the variables are greater than 0.05 (Amstrong & Overton, 1977).

**4.2 Descriptive Statistics**

The descriptive statistics shows the mean and standard deviation of each independent variable from the mean and standard deviation of the dependent variable.

**Table 4: Descriptive Statistics of the Variables**

	N	Mean	Std. Deviation
FP	373	4.4347	.55414
DOP	373	4.3494	.63480
DTP	373	4.3298	.65468
DSP	373	3.8552	.77478
GP	373	4.3194	.64405

Source: Field Survey, 2025

Table 4 presents the descriptive statistics for the dependent and independent variables, based on 373 observations. The results show that the variables exhibit significant variation in responses. Specifically, Firm Performance (FP) has a mean of 4.43 and a standard deviation of 0.55. Similarly, Digital Organizational Perspective (DOP), Digital Technological Perspective (DTP), and Government Policy (GP) have means ranging from 4.32 to 4.35, with standard deviations between 0.54 and 0.65. In contrast, Digital Social Perspective (DSP) has a slightly lower mean of 3.86 and a higher standard deviation of 0.77, indicating substantial differences in responses. Overall, the results suggest considerable

variation in the responses to the questions across all variables.

**4.3 Correlation Result**

The correlation results reveal the relationships between each independent variable and the dependent variable. Correlation coefficients range from -1 to 1, with the sign indicating the direction of the relationship (positive or negative) and the absolute value indicating the strength. Stronger relationships are denoted by larger values, while weaker relationships are indicated by lower values. Notably, the correlation coefficients on the main diagonal are 1.0, reflecting a perfect positive linear relationship between each variable and itself.

**Table 5: Correlation Matrix**

	ꯃP	ꯃOP	ꯃTP	ꯃSP	ꯃP
ꯃP					
ꯃOP	706**				
ꯃTP	510**	582**			
ꯃSP	522**	427**	477**		
ꯃP	561**	518**	588**	541**	

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

Source: *Field Survey, 2025*

**Table 6: Cronbach’s Alpha, Composite Reliability and Average Variance Extracted**

Latent Constructs and Indicators	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
<b>Firm Financial Performance</b>	0.839	0.844	0.879	0.509
<b>Digital Organizational Perspective</b>	0.730	0.757	0.848	0.652
<b>Digital Social Perspective</b>	0.722	0.737	0.762	0.749
<b>Digital Technological Perspective</b>	0.745	0.748	0.849	0.738
<b>Government Policy</b>	0.800	0.814	0.853	0.756

Source: *Field Survey, 2025*

According to Hair et al. (2011), a composite reliability coefficient of 0.70 or higher indicates adequate internal consistency reliability. As shown in Table 6, the lowest composite reliability coefficient value in this study is 0.737, exceeding the recommended threshold. Furthermore, Chin (1998) suggests that the Average Variance Extracted (AVE) for each latent construct should be 0.50 or higher. The AVE values in Table 6 demonstrates high loadings ( $\geq 0.50$ ) on their respective constructs, indicating sufficient convergent validity.

**4.4. Discriminant Validity**

Discriminant validity assesses the distinctiveness of variables from one another (Hair et al., 2010). This study

evaluated discriminant validity using two methods: the Heterotrait-Monotrait (HTMT) ratio of correlation and the Fornell and Larcker (1981) criterion, as recommended by Ramaya et al. (2018). The HTMT results showed a maximum value of 0.843, which is below the thresholds of 0.85 and 0.90 suggested by Kline (2011) and Gold et al. (2001), indicating no issues with discriminant validity. Additionally, the Fornell and Larcker (1981) criterion was met, as the square root of the Average Variance Extracted (AVE) for each construct exceeded the correlations with other constructs (see Table 7 below).

**Table 7 Fornell-Larcker Criterion**

Latent Variables	Digital Organizational Perspective	Digital Social Perspective	Digital Technological Perspective	Firm Financial Performance	Government Policies
DOP	0.807				
DSP	0.504	0.670			
DTP	0.582	0.578	0.859		
FP	0.728	0.623	0.617	0.713	
GP	0.646	0.661	0.598	0.684	0.676

Source: Field Survey, 2025

**4.5. Effect Size (F<sup>2</sup>)**

Table 8 represents effect size F<sup>2</sup>. Cohen (1989) stated that the F<sup>2</sup> value from 0.02 to 0.15 represents a small effect, while the value from 0.15 to 0.35 represents a medium effect, and F<sup>2</sup> value above 0.35

represents a large effect. Result shows that digital organizational perspective has small effect size, while, digital social perspective, digital technological perspective and government policies has moderate effect size.

**Table 8: F-Square Result**

	Firm Financial Performance
Digital Organizational Perspective	0.007
Digital Social Perspective	0.035
Digital Technological Perspective	0.017
Government Policies	0.024

Source: Field Survey, 2025

**4.6. Regression Analysis**

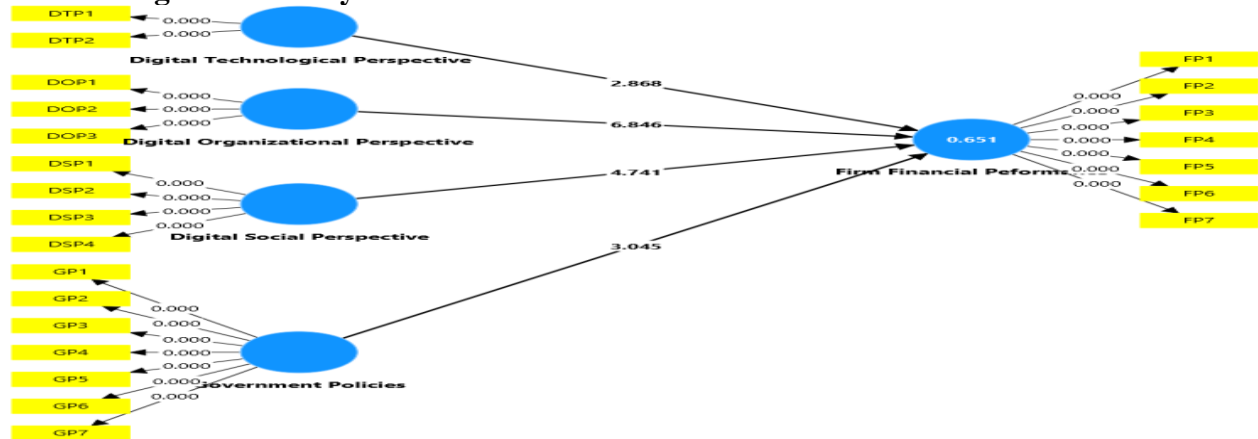


Fig. 1: Result of Path Analysis

**Table 9: Result of Main Relationship**

Paths	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values	Decision
<b>Model 1</b>						
DOP -> FP	0.399	0.390	0.069	5.799	<b>0.000</b>	<b>Reject</b>
DSP -> FP	0.208	0.209	0.043	4.865	<b>0.000</b>	<b>Reject</b>
DTP -> FP	0.127	0.127	0.046	2.734	<b>0.006</b>	<b>Reject</b>
GP -> FP	0.183	0.187	0.065	2.831	<b>0.005</b>	<b>Reject</b>

Source: Field Survey, 2025

#### 4.7 Test of Hypotheses

To determine whether to accept or reject the null hypothesis at a 5% significance level, the p-value is examined. The decision rule is as follows: (1) if the p-value is  $\leq 0.05$ , the null hypothesis is rejected in favor of the alternative hypothesis; (2) if the p-value is  $> 0.05$ , the null hypothesis is accepted.

For Hypothesis 1 ( $H_{01}$ ), which posits a no significant effect of digital technological perspective on firms' financial performance in Southwestern Nigeria, the results show a t-value of 2.734 and a p-value of 0.006. Since the p-value is less than 0.05, the null hypothesis is rejected, indicating a significant effect of digital technological perspective on firms' financial performance in Southwest Nigeria.

$H_{02}$  posits a no significant effect of digital organizational perspective on firms' financial performance in Southwestern Nigeria. With a t-value of 5.799 and a p-value of 0.000 (less than 0.05), the null hypothesis is rejected, indicating a significant effect of digital organizational perspective on SMEs' financial performance.

$H_{03}$  suggests a no significant effect of digital social perspective on firms' financial performance in Southwestern Nigeria. The t-value of 4.865 and p-value of 0.000 (less than 0.05) lead to the rejection of the null hypothesis, confirming a significant effect of the former on the latter.

$H_{04}$  proposes a no significant effect of government policies on firms' financial

performance in Southwestern Nigeria. With a t-value of 2.831 and a p-value of 0.005 (less than 0.05), the null hypothesis is rejected, indicating a significant relationship between government policies and firms' financial performance.

#### Discussion of Findings

The impact of first independent variable digital technological perspective on dependent variable firms' performance is positive with coefficient value of 0.127, meaning that a unit increase in the digital technological perspective while other variable remains constant leads to an increase in firms' performance by 12.7%. The outcome is consistent with the study of Al-yed et al. (2022); Guo et al. (2023) and support the resource based theory which highlights resource availability, specifically digital technologies, as a critical success factor for firms' competitiveness, performance, and sustainability. This positive significant relationship indicated that as digital technological perspective in terms of (i.e. simplicity and easy to use of the firm's technology platforms, connectivity of firm's units via digital systems) increases, the firms' performance in Southwestern Nigeria will increase and vice-versa. This means the higher the firms' simplify their technology platforms and firms' units are well connected via digital systems, the higher the overall evaluation of firms' performance in Southwestern Nigeria.

The impact of second proxy of independent variable digital organizational perspective

on dependent variable firms' performance being positive with coefficient value of 0.399, meaning that a unit increase in the digital organizational perspective while other variable remains constant leads to an increase in firms' performance by 39.9%. The outcome is consistent with the study of Al-yed et al. (2022); Elgamal and Al-Aassy (2023) and supports the resource-based theory which highlights resource availability, specifically digital technologies, as a critical success factor for firms' competitiveness, performance, and sustainability. This positive significance relationship indicated that as digital organizational perspective in terms of (i.e. digital initiatives and manifest work flow to utilize digital systems) increase, the firms' performance in Southwestern Nigeria will increase and vice-versa. This means the higher the firms' capability to structure their production processes, the more they have inspirational vision of how digital systems can establish a novel future with common value of the organization, the higher the firms' performance in Southwestern Nigeria. This will lead to the institution of new improved methods of production or operational processes.

The impact of third independent variable digital social perspective on dependent variable firms' performance is positive with coefficient value of 0.208, meaning that a unit increase in the digital social perspective while other variable remains constant leads to an increase in firms' financial performance by 20.8%. The outcome is consistent with the study of Al-yed et al. (2022); Sui and Yao (2023) and support the resource-based theory which highlights resource availability, specifically digital technologies as a critical success factor for firms' competitiveness, performance, and sustainability. This positive significance relationship indicated that as digital social perspective in terms of (i.e. transmutation of digital-centric systems/institutions and expanding network of collaborations)

increase, the firms' performance in Southwestern Nigeria will increase and vice-versa. This means the higher the leaders in the firms behave as role models by expediting the transmutation of digital-centric systems/ institutions, the firms' uses digital systems to improve the efficiency of employees and expand its network of collaborators and has the needed expertise, proficiency, and skill staff to utilize digital successfully, the higher the firms' performance in Southwestern Nigeria. This will lead to the robust inter and intra exchange of knowledge on digitalization amongst the firms in the digital economy.

The impact of fourth independent variable government policies on dependent variable firms' performance is positive with coefficient value of 0.183, meaning that a unit increase in the government policies while other variable remains constant leads to an increase in firms' financial performance by 18.3%. The outcome is consistent with the study of Chen et al. (2021); Alabi et al. (2022), Karnsomdee (2021); Mosoti et al. (2020) and support the resource-based theory which recognizes that different firms in different situations require different government policies, as a critical success factor for firms' competitiveness, performance, and sustainability. This positive significant relationship indicated that as government policies in terms of (i.e. providing training on digital course and promoting digital technologies and tools that future digital trends) increase, the firms' performance in Southwestern Nigeria will increase and vice-versa. This means the higher the government subsidy to support firms using digital technologies until they can rely on their ability, and provide regulation and standards for digital technology, the higher the firms' performance in Southwestern Nigeria.

## 5. Conclusion, and Recommendations Conclusion, and Recommendations and Policy Implication

The study's findings highlight the significant impact of digital transformation and government policies on firms' financial performance in Southwestern Nigeria. The three measures of digital transformation - digital technological perspective, digital organizational perspective, and digital social perspective - all showed a positive significant relationship with firms' financial performance. Additionally, government policies were found to have a positive significant effect on firms' financial performance. These findings contribute to the advancement of the resource-based view theory, shedding lights on the connections between digital transformation, government policies, and firms' performance. The study argues that digital transformation and government policies are strategic resources that businesses can leverage to improve their performance. The results also have important policy implications for various stakeholders, given the central role of digital transformation and government policies in defining how firms operate. To maximize the benefits of digital transformation, the government needs to review and refine its policies on digital economics (i.e. digital tax incentives, SMEs digital grants, and infrastructure support), ensuring full implementation and application by firms. Overall, the study provides valuable insights for policymakers, business leaders, and researchers, highlighting the importance of digital transformation and government policies in driving firms' performance in Southwestern Nigeria.

### 5.1. Limitations and Directions for Future Research

The study acknowledges some limitations and provides recommendations for future research. One key limitation is the geographical scope, which focused solely on small and medium enterprises firms in

Southwestern Nigeria. This limitation was due to the fact that as at the time of this study, the region had the highest number of registered enterprises who have adopted the use of digitalization in their operations. To enhance generalizability, future studies are encouraged to expand the investigation to firms in other geographical regions of the country. Additionally, the study suggests that future research consider alternative measures of digital transformation, government policy, and firms' financial performance to provide a more comprehensive understanding of these constructs. By addressing these limitations, future studies can build upon the current research and provide valuable insights into the complex relationships between digital transformation, government policies, and firms' performance in diverse contexts.

## References

- Abolo, A. P. (2023). Board size and financial performance of listed real estate companies in Nigerian. *International Journal of Advancement in Accounting, Management and Human Development*, 8(1), 12-20.
- Alabi, F. A., David, J. O., & Aderinto O. C. (2022). The impact of government policies on business growth of SMEs in South Western Nigeria. *International Journal of Management Studies and Social Science Research*, 1(13), 1-16.
- Al-Ayed, Sura & Al-Tit, Ahmad (2023). The effect of supply chain risk management on supply chain resilience: The intervening part of Internet-of-Things. *Uncertain Supply Chain Management*, 11: <https://doi.org/10.5267/j.uscm.2022.10.009>
- Andriole, S. J. (2020). The hard truth about soft digital transformation. *IT Professional*, 22(5), 13-16.

- Apriliene, S., & Joko, S. (2024). The impact of digital transformation in food and beverage sector SMEs: The role of leadership and organizational agility. *E3S Web of Conferences* 484, 01017 (2024). <https://doi.org/10.1051/e3sconf/202448401017>
- Barba-Sánchez, B., Meseguer-Martínez, A., Gouveia-Rodrigues, R., & Raposo, M. L., (2024). Effects of digital transformation on firm performance: The role of IT capabilities and digital orientation. *Heliyon*, 10 (2024) e27725
- Chatterjee, S., Chaudhuri, R., Vrontis, D., Giovando, G., (2023). Digital workplace and organization performance: Moderating role of digital leadership capability. *Journal of Innovation & Knowledge*, 8 (2023) 100334
- Chen, C. L., Lin, Y. C., Chen, W. H., Chao, C. F., & Pandia, H. (2021). Role of Government to Enhance Digital Transformation in Small Service Business. *Sustainability*, 13(3), 1028.
- Chen, P., & Hao, Y. (2022). Digital transformation and corporate environmental performance: The moderating role of board characteristics. *Corporate Social Responsibility and Environmental Management*, 1(4), 1-11.
- Clark, E. (2018, May 21). Digital transformation: What is it. *Educause Review*. <https://er.educause.edu/articles/2018/5/digital-transformation-what-is-it>
- Efeeloo, N., Turakpe, M. J., & Effenamdi A. C. (2023). Firm characteristics and financial performance: Evidence from Nigeria's listed consumer goods sector. *Academic Journal of Accounting and Business Management*, 4(4), 1-13.
- Elgamal, N. H., & Al-Aassy, O. B. (2023). The Impact of Digital Transformation on Organizational Performance in the Banking Sector in Egypt with Application on the Agricultural Bank of Egypt". *The Journal of Strategic Information Systems*, 9(3), 65-98.
- Eniola, A. A. & Entebang, H. (2015). Government Policy and Performance of Small and Medium Business Management. *International Journal of Academic Research in Business and Social Sciences*, 5(2), 237-248.
- Feroz, A. K., Zo, H. & Chiravuri, A. (2021). "Digital transformation and environmental sustainability: a review and research agenda". *Sustainability*, 13(3), 15-30, doi: 10.3390/su13031530.
- Guo, D., Yan, Z., Zhou, X., & Mo, X. (2023). Smarter and Prosperous: Digital Transformation and Enterprise Performance. *Systems*, 2023, 11, 329. <https://doi.org/10.3390/systems11070329>
- Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A systematic review of the literature on digital transformation: insights and implications for strategy and organizational change. *Journal of Management Studies*, 58(5), 1159-1197.
- Harash, E., Bin Yahya, S., Ahmed, E. R., & Alsaad, F. J. (2023). Impact of Government policies in the Influence of Market practices on Financial Performance of small and medium enterprises (SMEs) in Iraq. *Journal of Accounting and Business (JAB)*, 13(2), 20-31.
- Hartl, E., & Hess, T. (2017). The Role of Cultural Values for Digital

- Transformation: Insights from a Delphi Study. In Twenty-third Americas Conference on Information Systems AMCIS, Cultural Values in Digital Transformation, Boston. *Proceedings*, pp. 1–10.
- Henry, R. N., Nwamaka, B. P., & Udeoji, E. A. (2024). The Role of Government Policy Programme in the Growth and Development of MSMEs in Nigeria. *International Journal of Advanced Studies in Business Strategies and Management / IJASBSM*, 11(1), 183-196.  
[https://doi.org/10.2991/978-94-6463-270-5\\_17](https://doi.org/10.2991/978-94-6463-270-5_17)
- Henry, T. & Zheng, G. (2017). Institutional ownership and firm performance: Evidence from U.S- based public trade restaurants firms. *Journal of Hospitality and Tourism Research*, 3 (1), 19-38.
- Huynh, Q. L., Hoque, M. E., Susanto, P., Watto, W. A., & Ashraf, M. (2022). Does financial leverage mediates corporate governance and firm performance? *Sustainability*, 14, 13545.  
<https://doi.org/10.3390/su142013545>
- Ibrahim, A. A., & Kurfi, A. K. (2024). Moderating role of corporate governance on the relationship between financial leverage and financial performance: a conceptual review. *FUOYE Journal of Public Administration and Management*, 2(1), 156-168. WWW.FJPAM.COM
- Ibrahim, A. A., Aliyu, M. S., Abubakar, M. A., (2024). Corporate governance and financial performance: The moderating effects of board gender diversity among listed consumer goods firms in Nigeria. *International Journal of Accounting, Finance and Administrative Research*, 1(3), 34-48.
- Ironkwe, U, I., E., & Emefe, P. (2019). Corporate ownership structure on financial performance of quoted companies in Nigeria. *International journal of Advance Academic Research, Social and Management Sciences*, 5 (4), 67-87.
- Ismaila, H., & Tanko, H. A., (2023). Ownership structure and financial performance of listed insurance firms in Nigeria: Moderating role of independent director. *International Journal of Research and Innovation in Social Science (IJRISS)*, 7(5), 1833-1840.
- Ismanu, S., & Kusmintarti, A. (2019). Government Policies and Firm Size as a Moderating Effect of Innovation on Business Performance. *Advances in Economics, Business and Management Research, volume 136*, 123-128.
- Li, S., Gao, L., Han, C., Gupta, B., Alhalabi, W., Almakdi, S., (2023). Exploring the effect of digital transformation on Firms' innovation performance. *Journal of Innovation & Knowledge*, 8 (2023) 100317
- Liu, W., Wang, Z., Shi, Q., & Bao, S. (2024). Impact of the digital transformation of Chinese new energy vehicle enterprises on innovation performance. *Humanities and Social Sciences Communications*, 11:592.  
<https://doi.org/10.1057/s41599-024-03109-y>
- Loebbecke, C., & Picot, A. (2015). Reflections on societal and business model transformation arising from digitization and big data analytics: A research agenda.

- The Journal of Strategic Information Systems*, 24(3), 149–157.  
<http://dx.doi.org/10.1016/j.jsis.2015.08.002>
- Mahraz, M. I., Benabbou, L., & Berrado, A. (2019). A Systematic literature review of Digital Transformation. *Proceedings of the International Conference on Industrial Engineering and Operations Management Toronto, Canada*, October 23-25.
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, 642-656.  
<https://doi.org/10.1016/j.jbusres.2020.08.019>
- Matt, C., Hess, T. & Benlian, A. (2015). Digital Transformation Strategies. *Bus Inf Syst Eng*, 57, 339–343 (2015).  
<https://doi.org/10.1007/s12599-015-0401-5>
- Mazzone, D. M. (2014). *Digital or death: digital transformation: the only choice for business to survive smash and conquer*. Smashbox Consulting Inc.
- McKinsey, M., & Company, A. (2019): Smartening up with artificial intelligence. [online] Available at:<<http://www.mckinsey.com/industries/semiconductors/our-insights/smartening-up-with-artificial-intelligence>> [Accessed 28.07.2017].
- Obaji, N. O., & Olugu, M. U., (2014). The role of government policy in entrepreneurship development. *Science Journal of Business Management*, 2(4), 109–115.
- Osmundsen, K., Iden, J., & Bygstad, B., (2018). Digital Transformation: Drivers, Success Factors, and Implications. *MCIS 2018 Proceedings*, 37.  
<https://aisel.aisnet.org/mcis2018/37>
- Parviainen, P., Tihinen, M., Kääriäinen, J., & Teppola, S., (2017). Tackling the digitalization challenge: how to benefit from digitalization in practice. *International Journal of Information Systems and Project Management*, 5(1), 63–77.  
<https://doi.org/10.12821/ijispm050104>
- Reis, J., Amorim, M., Melão, N., Matos, P. (2018). Digital Transformation: A Literature Review and Guidelines for Future Research. In: Rocha, Á., Adeli, H., Reis, L.P., Costanzo, S. (eds) Trends and Advances in Information Systems and Technologies. WorldCIST'18 2018. *Advances in Intelligent Systems and Computing*, 745. Springer, Cham.  
[https://doi.org/10.1007/978-3-319-77703-0\\_41](https://doi.org/10.1007/978-3-319-77703-0_41)
- Sebastian, I. M., Ross, J. W., Beath, C.; Mocker, Martin, M, Kate G., & Fonstad, N. O. (2017). How Big Old Companies Navigate Digital Transformation," *MIS Quarterly Executive*, 16(3), 197–213.  
<https://aisel.aisnet.org/misqe/vol16/iss3/6>
- Seufert, S., & Meier, C. (2016). From eLearning to digital transformation: A framework and implications for L & D. *International Journal of Corporate Learning (iJAC)*, 9(2), 27-33.
- Ulas, D. (2019). Digital Transformation Process and SMEs. *Procedia Computer Science*, 158, 662–671.
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J.Q., Fabian, N. & Haenlein, M. (2021). “Digital transformation: a



multidisciplinary reflection and research agenda”, *Journal of Business Research*, 122, 889-901, doi:

10.1016/j.jbusres.2019.09.022.

Zareie, M., Attig, N., El Ghouli, S., Fooladi, I. (2024). Firm digital transformation and corporate performance: The moderating effect of organizational capital. *Finance Research Letters*, 61 (2024) 105032

Zhao, F., Meng, T., Wang, W., Alam, F., Zhang, B., (2023). Digital transformation and firm performance: Benefit from letting users participate. *Journal of Global Information Management*, 31(1), 1-23. <https://orcid.org/0000-0003-3703-5170>.