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MEDIATING EFFECT OF INFORMATION TECHNOLOGY CAPABILITY ON THE RELATIONSHIP BETWEEN DIGITAL BUSINESS STRATEGY AND BUSINESS PERFORMANCE AMONG COMMERCIAL BANKS IN BAUCHI STATE

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Abstract

This study examined the mediating effect of Information Technology Capability (ITC) on the relationship between Digital Business Strategy (DBS) and Business Performance (BP) among commercial banks in Bauchi State, Nigeria. Specifically, the study investigated the influence of digital marketing, digital transformation, and digital analytics on business performance, as well as the mediating role of IT capability in these relationships. A cross-sectional survey research design was adopted, and data were collected from employees of eight selected commercial banks operating in Bauchi State. From a target sample of 312 respondents, 267 valid questionnaires were retrieved and analyzed, representing an 85.6% response rate. Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM 4). The findings revealed that digital marketing ($\beta = 0.528$, $p < 0.001$) and digital transformation ($\beta = 0.147$, $p < 0.001$) have significant positive effects on business performance, while digital analytics ($\beta = 0.066$, $p = 0.078$) showed no significant direct effect. The coefficient of determination ($R^2 = 0.521$) indicated that digital business strategy dimensions explained 52.1% of the variance in business performance. The mediation analysis further revealed that IT capability significantly mediates the relationship between digital marketing and business performance ($\beta = 0.295$, $p < 0.001$) as well as between digital analytics and business performance ($\beta = 0.560$, $p < 0.001$). However, IT capability did not significantly mediate the relationship between digital transformation and business performance ($\beta = 0.101$, $p = 0.192$). The study recommends that commercial banks invest in robust IT infrastructure, staff digital competencies, and integrated digital platforms to maximize the benefits of digital business strategies and enhance overall business performance.

Keywords: Digital Business Strategy, Digital Marketing, Digital Transformation, Digital Analytics, Information Technology Capability, Business Performance, Commercial Banks.

1. Introduction

Business performance is shaped by a combination of internal factors such as strategy, leadership, organizational culture, and resource availability and external factors including market trends, competition, economic conditions, and technological advancements. Achieving and sustaining effective business

performance is critical for organizational survival, growth, and long-term competitiveness. Regular measurement and evaluation of business performance enable organizations to identify performance gaps, improve operations, and make informed, data-driven decisions (El-Gohary, 2021).

Globally, commercial banks are increasingly recognizing the strategic value of digital business models in achieving growth, operational efficiency, and improved customer satisfaction (Banking Technology Vision, 2020). The global banking sector has experienced substantial digital transformation, with adoption of online and mobile banking services increasing by 20–30% annually. Currently, digital channels account for 70–80% of banking transactions, resulting in both significant cost reductions and revenue growth. According to the Global Digital Banking Survey (2023), top-performing banks have reported a 10–15% increase in revenue and overall business performance, along with a 15–20% decrease in operational costs due to successful digital initiatives.

African banks have made significant strides in digital transformation, with 60% of banks investing in digital channels. Mobile banking penetration has reached 50% in some African countries, driving financial inclusion and revenue growth and business performance. African banks have seen a 5–10% increase in revenue and 10–15% reduction in costs due to digital transformation (McKinsey's, 2022).

Nigeria's banking industry has experienced rapid digital transformation, with 80% of banks offering online and mobile banking services. Digital channels account for 40% of banking transactions in Nigeria, driving growth and efficiency. Top-performing Nigerian banks have seen a 10–15% increase in revenue and 15–20% reduction in costs due to digital transformation.

Most commercial banks in Bauchi State have adopted digital channels, including online and mobile banking, to enhance customer experience and improve operational efficiency. However, the level of digital transformation varies among banks, with some having more advanced digital platforms than others. Key digital initiatives include: Mobile banking apps, Internet banking platforms, USSD banking, Cardless transactions and Digital payment solutions. The banking industry in Bauchi State has experienced moderate growth in recent years, driven by increased adoption of digital channels and improved economic activity (Li, 2020).

Many Nigerian organizations, including commercial banks, face challenges integrating digital tools such as marketing platforms, customer relationship management (CRM) systems, enterprise resource planning (ERP), and analytics into their core operational systems. Problems related to data integration, data privacy, cloud security, and compliance with data protection standards further complicate effective deployment (Korsen & Ingvaldsen, 2022). Moreover, a skills gap persists. As Naod Rezene (2022) noted, while digital marketing and analytics are gaining momentum in Nigeria, many organizations lack the technical capacity to utilize these tools effectively for performance improvement.

There is also a conceptual gap in understanding how digital business strategies such as digital marketing, digital analytics, and digital transformation impact business performance in Nigeria's banking sector. Although studies (e.g., Bharadwaj et al., 2021; Ukko et al., 2022; Wang et al., 2023) have examined the effect of digital strategies on firm performance globally, few studies have explored this relationship in the Nigerian context or incorporated IT capability as a mediating factor.

Specifically, there is a need to understand how IT capability the organization's ability to deploy and manage IT resources effectively influences or strengthens the relationship between digital business strategy and business performance. Given the role of IT infrastructure, personnel, and systems in enabling digital solutions, it is crucial to examine this mediating effect to provide a more nuanced understanding of what drives digital success in the banking sector.

This study, therefore, aims to address this gap by investigating the relationship between digital business strategy and business performance, while examining the mediating role of IT capability in the context of commercial banks in Bauchi State, Nigeria. It contributes both theoretically and practically by offering an empirically grounded framework for how digitally enabled strategies can improve business outcomes, especially in underserved regions of the country

The study was guided by the following specific objectives are:

- i. To determine the influence of digital marketing on business performance
- ii. To examine the influence of digital transformation on business performance
- iii. To examine the influence of digital analytics on business performance
- iv. To determine the mediating effect of IT capability on the relationship between digital marketing and business performance
- v. To examine the mediating effect of IT capability on the relationship between digital transformation and business performance
- vi. To examine the mediating effect of IT capability on the relationship between digital analytics and business performance

2. Literature Review

Business Performance

Many definitions of what constitutes a BP can be discerned from the literature (see, for example, Alchian & Dernsetz, 2022; Flapper, Fortuin and Stoop; 2021; Daft, 2020; Al- Marri et al, 2021; Jing & Avery, 2023). However, in its crystallized form BP has come to be regarded primarily in terms of how the organization is meeting its objectives seen from the perspective of how it creates value and disseminates that value to its own customers in an optimal manner. A number of studies have attempted to measure BP using financial returns (return on investment, for example) or market-related criteria such as increase in market share, overall competitive position of the organization in the marketplace, and so on (Stock *et al*, 2021; Chen and Poulaj, 2023; Flynn *et al*, 2021).

Digital Marketing

According to Hafiz (2023) digital marketing is defined as: “modern trading style that seeks the common need between the firms, dealers, and consumers to minimize costs and increase the goods efficiency as soon as possible” (Hafiz, 2023). Whereas, Sabri (2023) defined digital marketing as: “The ability to use the internet to

achieve the marketing goals within new advantages and possibilities” (Sabri, 2023). Additionally, Surrah (2023) defined digital marketing as: “using the digital methods to make the trading exchange between the concerned parties instead of direct communication” (Surrah, 2023).

Digital Analytics

Digital analytics is defined as the collection, measurement and analysis of web data for controlling and optimizing digital platforms and marketing campaigns which has become an essential instrument of digital business. Nowadays, it is no longer a question of whether a company does digital analytics, but how and what for Chaffey (2022).

Digital Transformation

Digital Transformation In general, digital transformation refers to a radical and comprehensive shift in the use of technology with the goal of improving business performance. According to one definition of digital transformation from (Ferrer, 2021). Digital transformation is a change caused or influenced by the use of digital technology in all aspects of human life. In contrast to the definition of (Grandon & Pearson, 2023).

2.2 Empirical Review

Relationship between Digital Transformation and Business Performance

Several studies have demonstrated that technology can improve business processes and performance (Gera & Gu, 2023; Paniagua & Sapena, 2023; Hakala & Kohtamäki, 2021). Some researchers have discovered that corporate adoption of social media has advantages, and several have discovered a positive relationship between social media adoption and corporate performance (Ainin et al., 2020; Paniagua & Sapena, 2023; Parveen et al., 2023; Rodriguez et al., 2022). Rodriguez et al. (2020) discovered that social media use improved customer-facing activities and, as a result, sales performance.

Relationship between Digital Marketing and Business Performance

Study by Chaffey, 2023 found that email marketing can enhance brand awareness by providing customers with relevant and personalized content. Mobile marketing can be an effective way to reach target audiences by leveraging the ubiquity of mobile devices. Similarly, a study found that website marketing can improve online visibility and attract more visitors to an organization's website.

Relationship between Digital Analytics and Business Performance

Bharadwaj et al. (2023) proposed that digital business strategies have enabled the democratization of business-related content shared by companies in digitalizing business environments and on distinct digital platforms. Thus, companies can utilize digital business strategies to grow business and sales by offering customers more variation in their offerings (Holopainen et al., 2023; Grover & Kohli, 2023). Bharadwaj et al. (2023) also suggested that companies using digital business strategies can revise their operations and offerings based on customer preferences.

IT Capability Mediate the Relationship between Digital Transformation and Business Performance

Digital Transformation has emerged to be among the most important models in the corporate industry, known as the intersection of strategic management and information technology. In the current period, digital technologies that are typically integrated into the system include cloud computing, artificial intelligence, business intelligence, big data, and similar technologies that can help businesses gain significant value.

IT capability significantly mediates the Relationship between Digital marketing and Business Performance

Schryen (2023) argues that DBS can help companies determine their IT capabilities, thereby gaining a competitive advantage in the market and ultimately creating value. According to Nadeem et al. (2023), DBS enables firms to enhance their capabilities, especially the

ability to lead the digital transformation, but the capabilities affected are vague. Moreover, the research by Turulja and Bajgoric (2021) shows that companies can increase market value through digital strategies that improve IT-related capabilities.

IT capability Mediate the Relationship between Digital Analytics and Business performance

The fields of applications of digital analytics and its potential benefits are large and manifold, as this previous study shows. It ranges from classic web analysis, analyses of apps or customer portal usage to analyses and management of online marketing campaigns, using different digital marketing instruments like search engine advertising, display advertising, newsletter marketing or social media advertising. Every organization who does not track its digital platforms, assets and marketing initiatives, is flying blind without instruments. Research shows, that companies who are not investing in digital analytics are less successful in achieving digital business goals (Zumstein et al. 2022, Phippen et al. 2023, Järvinen 2021).

2.3 Theoretical Review

Two relevant theories were identified as underpinning and supporting theories which are IT capability theory and resource base theory respectively.

IT Capability Theory

IT Capability Theory was developed by several researchers in the field of Information Systems (IS) and Management. Some key contributors to the development of IT Capability Theory include:

1. Sanjay Gosain and Ritu Agarwal (2021) - Developed the concept of "IT Capability" and its relationship with organizational performance.
2. Wade and Hulland (2023) - Introduced the concept of "IT-Enabled Capabilities" and explored its impact on business performance.
3. Bharadwaj et al. (2022) - Developed a framework for IT Capability that includes three dimensions: IT Infrastructure, IT Business Partnership, and IT Application Development.

4. Pavlou and El Sawy (2021) - Examined the role of IT Capability in enabling organizational agility and responsiveness.

5. Venkatraman and Zaheer (2021) - Explored the relationship between IT Capability and business performance in the context of digital business strategy.

RBV Theory

The study supporting theory is Resource base view (RBV) theory. RBV theory posits that a firm's performance is determined by its unique resources and capabilities, which enable it to achieve and sustain a competitive advantage. In this context:

The Resource-Based View (RBV) theory was developed by several researchers in the field of Strategic Management. The key contributors to the development of RBV theory include:

1. Edith Penrose (1959) - Laid the foundation for RBV with her work on firm growth and resource utilization.

2. Birger Wernerfelt (1984) - Introduced the concept of "resource-based view" and emphasized the importance of firm-specific resources.

3. Jay Barney (1986) - Developed the VRIO framework (Valuable, Rare, Inimitable, and Organized) to evaluate resource competitiveness

4. Peteraf (2023) - Built on Barney's work and introduced the concept of "resource-based advantage."

5. Collis and Montgomery (2020) - Further developed the RBV theory and applied it to corporate strategy.

6. Amit and Schoemaker (2023) - Contributed to the RBV theory by exploring the relationship between resources, capabilities, and competitive advantage.

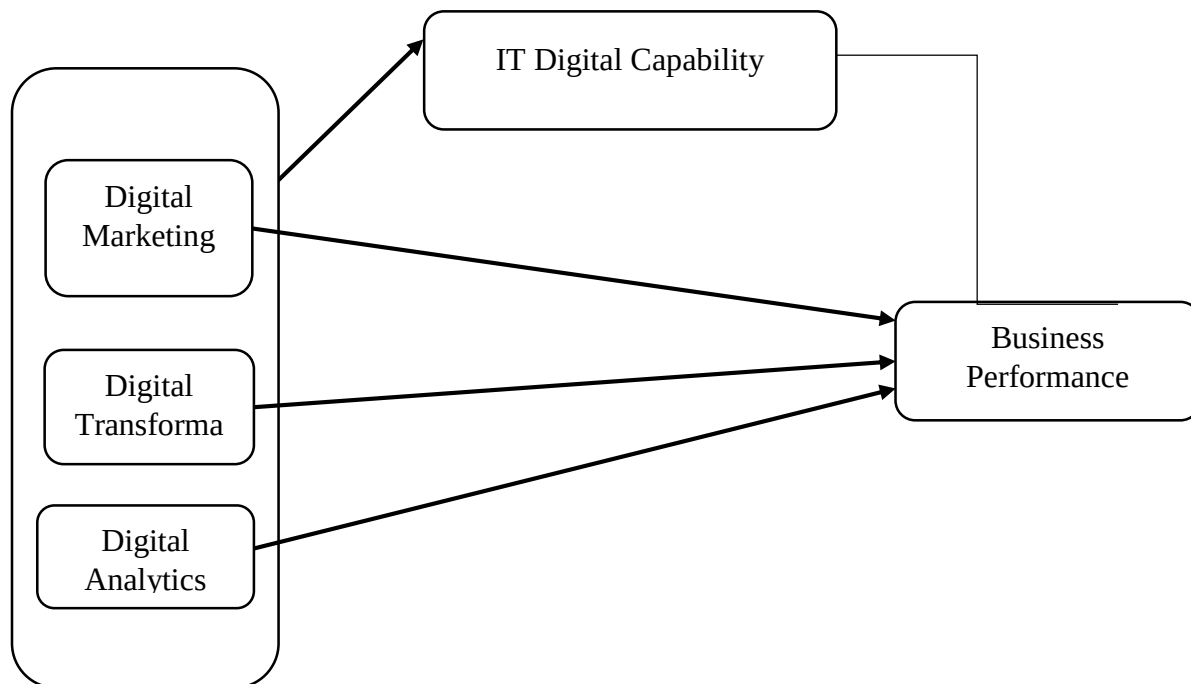
2.4 Conceptual Framework

Independent Variable

Digital Business Strategy

Mediating Variable

Independent Variable



Source: (Venkatraman, 2021; Bharadwaj, et al. 2020).

3. Methodology

This study utilized survey research design using cross-sectional which according to Rindfleisch et al., (2023) is a less costly research design in comparison with other approaches. In terms of a cross-sectional research design, the descriptive design is the most frequently used by researchers (Malhotra, 2020). The population of this study comprises a total of 802 staff drawn from eight selected commercial banks operating in Bauchi State, Nigeria. These banks First Bank of Nigeria (FBN), United Bank for Africa (UBA), Zenith Bank, First City Monument Bank (FCMB), Union Bank, Unity Bank, Keystone Bank, and Access Bank were purposively selected based on the criterion that each has at least one physical branch outside the state capital in one or more Local Government Areas (LGAs) across the three senatorial zones of Bauchi State.

The sampling size was determined using Krejcie and Morgan (1970) sampling table It has been established from the table that, for a population of approximately

802 the required minimum sample size would be 260 as shown in Table. However, previous studies such as Story and Tait, (2019) opined that in survey research 10% to 30% can be added to the minimum sample size in order to take care of incomplete responses so that the needed statistical power would be achieved. Therefore, 20% (52) was added from 260 to 312 to take care of missing or incomplete questionnaire. Given the diverse population of staff from different banks, departments, and locations, stratified random sampling was the sampling technique used. Data collected using validated adopted structure questionnaire from 312 staff across selected commercial banks using a stratified random sampling technique. Preliminary data analysis, including treatment of missing values and outliers, was conducted using SPSS version 30. The structural model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM 4) to evaluate both direct and indirect relationships.

4. Results and Discussion

Table 1: Analysis of Questionnaire Distribution and Response Rate

Category	Frequency (N)	Percentage (%)
Total Questionnaires Administered	312	100.0
Returned and Usable Questionnaires	267	85.6
Returned but rejected	15	4.8
Not Returned	30	9.6
Total Analysed	267	—

Demographic Profile of the Respondents

Specific characteristics of the respondents were also collected through the questionnaire instrument. The respondents were requested to give input based on the

category they belong to identify them. five demographic variables were used in this study to determine the respondents. They include; Gender, age, marital status, education qualification and Work Experience.

Table 2: Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	172	64.4%
	Female	95	35.6%
Age	25 – 30	46	17.2%
	31 – 40	124	46.4%
	41 – 50	69	25.8%
	51 and above	28	10.5%

Variable	Category	Frequency (n)	Percentage (%)
Educational Qualification	ND/NCE	22	8.2%
	B.Sc./HND	158	59.2%
	M.Sc./MBA	87	32.6%
	Ph.D.	0	0.0%
Work Experience	5 – 10 years	88	33.0%
	11 – 20 years	120	44.9%
	21 years and above	59	22.1%

Assessment of Measurement Model

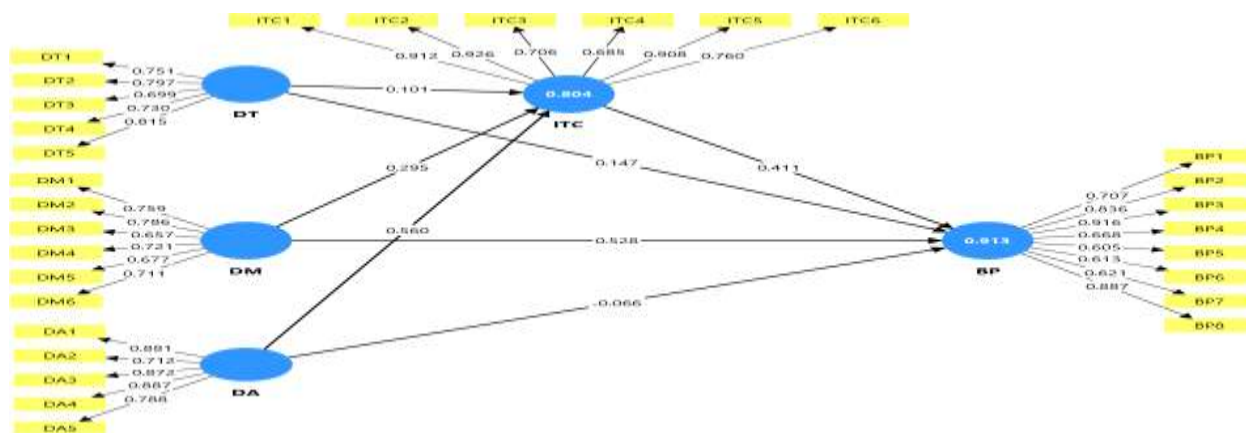


Figure 1: Measurement Model: Showing the relationship between independent variables with dependent variable through mediating variable.

According to Hair et al. (2019), the acceptable threshold for outer (factor) loadings in a measurement model is 0.50 or higher. Indicators with loadings below this threshold are typically candidates for removal, as they may not contribute sufficiently to the construct's reliability and validity. However, in this study, all measurement items demonstrated factor loadings exceeding the 0.50 benchmark. Therefore, no items were deleted from the model, as each item met the minimum criteria for inclusion and contributed meaningfully to its respective construct.

Reliability Assessment

Cronbach's Alpha values for all constructs ranged between 0.817 and 0.901, exceeding the minimum threshold of 0.70 recommended by Hair et al. (2019). This indicates good internal consistency among the items measuring each construct. Composite Reliability values for all constructs were within the acceptable range of

0.823 to 0.916, which falls in the "satisfactory to good" range (0.70 to 0.90) as per Hair et al. (2019). This indicates that the latent constructs have high levels of internal consistency. The AVE (Average Variance Extracted) values for each construct were all above 0.50, meeting the threshold for convergent validity (Hair et al., 2019). This suggests that the constructs explain more than 50% of the variance of their indicators. Therefore, the measurement model is reliable and valid according to the recommended standards by Hair et al. (2019, 2020), and no item deletion was necessary. In this study, discriminant validity was evaluated using the Heterotrait-Monotrait Ratio (HTMT), and all HTMT values fall below the conservative threshold of 0.85, indicating that all constructs are empirically distinct from one another and there is no evidence of discriminant validity issues in the model. This supports the construct validity of the measurement model.

Assessment of Structural Model

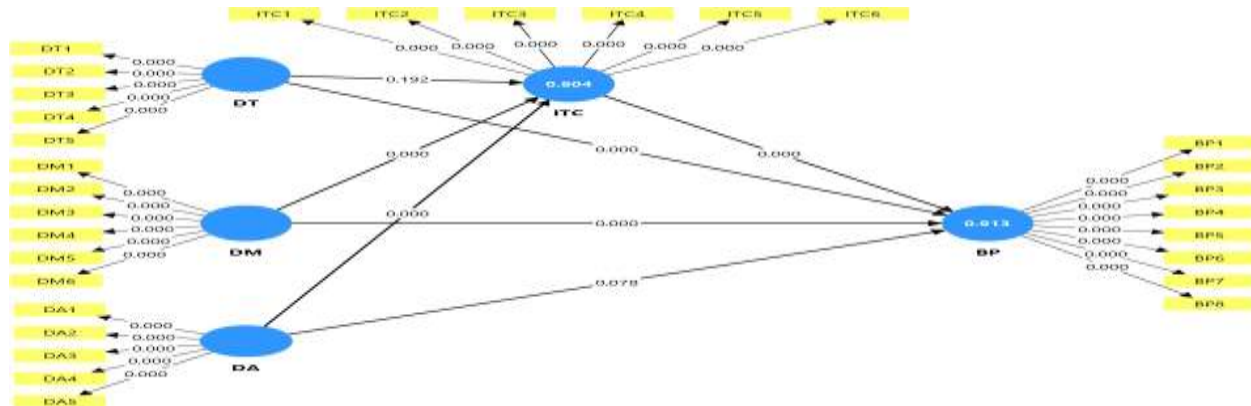


Figure 2: Structural Model: Showing the relationship between independent variables with dependent variable through mediating variable.

Source: Researcher's Original Construction

Coefficient of Determination Assessment (R^2)

The result shows that Business Performance (dependent variable) has an R^2 of 0.521. This simply implies that 3

independent variables (Digital Marketing, Digital Transformation, and Digital Analytics) had formed and explained the phenomenon of Business Performance 52% of variance explained capacity in the model.

Table 3: Coefficient of Determination (R^2)

Constructs	R^2 Value
Business Performance (BP)	0.521

Source: Researcher's Original Construction

Assessment of Predictive Relevance (Q^2)

Predictive relevance is assessed using cross-validated predictive ability test (CVPAT) the result indicated that are all the values are above or greater than zero which

indicates that the model under consideration has a good predictive relevance. The predictive relevance of the structural model is assessed using cross-validated Predictive Ability Test (CVPAT) in table below.

Table 4: Predictive Relevance (Q^2)

Endogenous Constructs	$Q^2_{predict}$				Predictive Relevance
		RMSE	MAE		
Business Performance	0.871	0.361	0.255		Yes
IT Capability	0.784	0.469	0.327		Yes

Source: Extracted from SmartPLS4 output, 2025.

Significance Effect of Direct Path Coefficients

The structural model was assessed using the bootstrapping technique to run the multiple analysis for

the two hundred and twenty-two valid samples used in this study. Five thousand (5000) subsamples were used to run the bootstrapping procedure as widely suggested in the literature (Hair et al., 2017; Wong, 2013).

Table 5: Significance Effects of Direct (Path Coefficient)

Hypothesis	Relationships	Original Sample(O)	Standard Beta	t-statistics	p-Value	Decision
H ₁	DM-> BP	0.528	0.044	11.997	0.000	Supported
H ₂	DT ->BP	0.147	0.041	3.552	0.000	Supported
H ₃	DA -> BP	0.066	0.047	1.421	0.078	Not Supported

H1 (Digital Marketing → Business Performance): The path coefficient ($\beta = 0.528$) is positive and statistically significant at $p < 0.001$, with a high t-value ($t = 11.997$). This suggests that Digital Marketing (DM) has a strong and significant direct effect on Business Performance (BP). Therefore, H1 is supported.

H2 (Digital Transformation → Business Performance): The path coefficient ($\beta = 0.147$) is also positive and significant ($p < 0.001$, $t = 3.552$). This indicates that Digital Transformation (DT) has a moderate but

statistically significant positive effect on Business Performance. Hence, H2 is supported.

H3 (Digital Analytics → Business Performance): Although the path coefficient ($\beta = 0.066$) is positive, it is not statistically significant at the conventional 0.05 level ($p = 0.078$, $t = 1.421$). As a result, Digital Analytics (DA) does not have a significant direct effect on Business Performance, and H3 is therefore not supported.

Assessing the Mediating Effect

Table 6: Mediating Effect Test Results

Hypothesis	Relationships	Original Sample(O)	Standard Beta	t-statistics	p-Value	Decision
H4	DM =>ITC => BP	0.295	0.071	4.147	0.000	Supported
H5	DT => ITC => BP	0.101	0.116	0.871	0.192	Not Supported
H6	DA => ITC => BP	0.56	0.09	6.223	0.000	Supported

Source: Extracted from SmartPLS4 output, 2025.

H4: Digital Marketing (DM) → IT Capability (ITC) → Business Performance (BP): The analysis shows that IT Capability significantly mediates the relationship between Digital Marketing and Business Performance ($\beta = 0.295$, $t = 4.147$, $p < 0.001$).

H5: Digital Transformation (DT) → IT Capability (ITC) → Business Performance (BP): Although the path

coefficient is positive ($\beta = 0.101$), the result is not statistically significant ($t = 0.871$, $p = 0.192$).

H6: Digital Analytics (DA) → IT Capability (ITC) → Business Performance (BP): The analysis reveals a strong and statistically significant mediating effect of IT Capability on the relationship between Digital Analytics and Business Performance ($\beta = 0.560$, $t = 6.223$, $p < 0.001$).

Table 7: Summary of the Results of the Hypotheses Tested

Hypothesis	Statements	Type of Test	Decision
Ha1	There is insignificant relationship between Digital Marketing and Business Performance.	PLS-SEM Path model	Supported
Ha2	There is a significant relationship between Digital Transformation and Business Performance.	PLS-SEM Path model	Supported
Ha3	There is a significant relationship between Digital Analytics and Business Performance.	PLS-SEM Path model	Not Supported
Ha4	IT Capability mediates the relationship between Digital Marketing and Business Performance.	PLS-SEM bootstrap	Supported
Ha5	IT Capability mediates the relationship between Digital Transformation and Business Performance.	PLS-SEM bootstrap	Not Supported
Ha6	IT Capability mediates the relationship between Digital Analytics and Business Performance.	PLS-SEM bootstrap	Supported

Discussion Findings

The findings show that Digital Marketing has a strong and statistically significant positive effect on business performance. This implies that effective utilization of digital platforms for marketing purposes such as social media, email campaigns, SEO, and content marketing directly enhances organizational outcomes, including sales growth, customer engagement, and brand visibility.

This result aligns with previous empirical studies (e.g., Chaffey & Ellis-Chadwick, 2024; Tiago & Veríssimo, 2024) which found that digital marketing strategies significantly improve firm performance in dynamic markets. In the Nigerian context, Akinyele and Fasogbon (2020) also affirmed that digital marketing adoption among SMEs positively correlates with revenue and market share. This result is underpinned by the Resource-Based View (RBV) theory, which posits that organizational resources and capabilities when they are valuable, rare, inimitable, and non-substitutable can generate sustained competitive advantage.

Several studies (e.g., Westerman, Bonnet, & McAfee, 2024; Vial, 2024) have highlighted the critical role of digital transformation in improving customer experience, process effectiveness, and strategic alignment. In emerging economies like Nigeria, digital transformation is increasingly recognized as a performance catalyst in sectors like banking, retail, and telecommunications.

The relationship between Digital Analytics and Business Performance is positive but not statistically significant at the 5% level. This suggests that while firms may invest in analytics tools and data collection, such capabilities do not automatically translate into improved performance outcomes without strategic alignment and data-driven decision-making. Contrary to expectations, the finding contrasts with some prior studies (Davenport & Harris, 2022; Akter et al., 2021), which report that business analytics contribute significantly to strategic decision-making and organizational success. However, the result is consistent with studies (Sharma et al., 2014) that caution that the value of analytics is contingent on organizational maturity and absorptive capacity. From the IT Capability Theory, digital analytics may represent

a lower-order capability if not fully integrated into strategic processes or lacking human expertise to derive insights. Additionally, within the RBV framework, analytics tools alone are not inherently valuable unless embedded in unique routines or combined with complementary assets (skilled personnel, leadership support).

5. Conclusions and Recommendations

Based on the empirical findings and their relevance to commercial banks operating in Bauchi State, the following conclusions are drawn: The study establishes that Digital Marketing is a strong and statistically significant determinant of Business Performance in the banking sector. This influence is both direct and indirectly mediated by IT Capability, indicating that banks with well-developed IT infrastructure and expertise are more likely to experience enhanced returns from their digital marketing initiatives. Tools such as customer relationship management (CRM) systems, automated messaging platforms, and personalized content delivery are particularly effective when backed by reliable IT systems. Furthermore, Digital Transformation (DT) has a meaningful and significant direct effect on performance, but this relationship is not mediated by IT Capability. This suggests that the impact of DT in commercial banks may stem from other organizational factors such as change management processes, leadership engagement, customer-centric culture, or operational agility elements that are prevalent in institutions adapting to dynamic regulatory and market conditions in Bauchi State. In contrast, Digital Analytics does not directly influence performance. However, it shows a significant indirect effect when mediated by IT Capability. This implies that the usefulness of data analytics tools in banking institutions hinges on the capacity of banks to interpret, integrate, and act on data insights a capability that depends heavily on internal IT infrastructure and skilled personnel.

In light of the above conclusions, the following recommendations are made specifically for commercial banks in Bauchi State:

- i. Invest in IT Capability Development
- ii. Strengthen Digital Marketing Infrastructure

- iii. Align Digital Transformation with Organizational Strategy
- iv. Leverage Digital Analytics through IT Integration
- v. Develop a Holistic Digital Strategy

Contribution of the Study

Practical Contribution of the Study

This study offers actionable insights to bank executives, IT managers, and regulators in Bauchi State on how to enhance organizational performance through targeted digital investments. By identifying which digital domains require IT mediation to be effective, the study provides a roadmap for banks to prioritize digital initiatives. For instance, banks can focus resources on digital marketing and analytics initiatives but only if IT capacity is concurrently strengthened. This has direct implications for banks pursuing financial inclusion, customer acquisition, and service optimization in a competitive and digitally evolving landscape like Bauchi.

Theoretical Contribution of the Study

Theoretically, this research advances understanding by integrating IT Capability Theory and the Resource-Based View to explain how digital technologies

influence firm performance. It extends prior literature by empirically showing that IT Capability is not merely a supporting asset but a critical mediator that determines whether digital tools translate into business value. Moreover, the study adds nuance to existing theories by demonstrating that not all digital constructs operate through the same mechanisms. While Digital Marketing and Analytics require IT Capability as a conduit for performance, Digital Transformation may leverage alternative institutional or strategic pathways. This contribution helps refine existing digital performance models, particularly in the context of financial services in developing economies like Nigeria.

Suggestions for Further Studies

While this study has provided meaningful insights into the relationship between digital capabilities and business performance in the commercial banking sector of Bauchi State, several areas remain open for further academic exploration. The following suggestions are offered for future research:

- i. Expand the Geographical Scope Beyond Bauchi State
- ii. Sectoral Comparison Studies
- iii. Longitudinal Analysis
- iv. Inclusion of Additional Mediating or Moderating Variables
- v. Customer-Centric Performance Measures

REFERENCES

- Ainin, S., Parveen, F., Moghavvemi, S., Jaafar, N. I., & Mohd Shuib, N. L. (2020). Factors influencing the use of social media by SMEs and its performance outcomes. *Industrial Management & Data Systems*, 115(3), 570–588. <https://doi.org/10.1108/IMDS-07-2014-0205>
- Akter, S., Wamba, S. F., Gunasekaran, A., Dubey, R., & Childe, S. J. (2021). How to improve firm performance using big data analytics capability and business strategy alignment. *International Journal of Production Economics*, 182, 113–131. <https://doi.org/10.1016/j.ijpe.2016.08.018>
- Alchian, A. A., & Demsetz, H. (2022). Production, information costs, and economic organization. *The American Economic Review*, 62(5), 777–795.
- Al-Marri, K., Al-Swidi, A., & Al-Hosani, A. (2021). The impact of organizational capabilities on business performance. *International Journal of Business Performance Management*, 22(2), 145–162.
- Amit, R., & Schoemaker, P. J. H. (2023). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33–46. <https://doi.org/10.1002/smj.4250140105>
- Akinyele, S. T., & Fasogbon, O. I. (2020). Impact of digital marketing on business performance among small and medium enterprises in Nigeria. *Nigerian Journal of Management Sciences*, 8(1), 45–58.

- Banking Technology Vision. (2020). *Digital banking transformation report*. Accenture.
- Barney, J. B. (1986). Strategic factor markets: Expectations, luck, and business strategy. *Management Science*, 32(10), 1231–1241. <https://doi.org/10.1287/mnsc.32.10.1231>
- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2021). Digital business strategy: Toward a next generation of insights. *MIS Quarterly*, 37(2), 471–482. <https://doi.org/10.25300/MISQ/2013/37.2.3>
- Bharadwaj, A., Sambamurthy, V., & Zmud, R. W. (2022). IT capabilities and firm performance. *Information Systems Research*, 10(2), 169–196.
- Chaffey, D. (2022). *Digital business and e-commerce management* (8th ed.). Pearson Education.
- Chaffey, D., & Ellis-Chadwick, F. (2024). *Digital marketing: Strategy, implementation and practice* (9th ed.). Pearson Education.
- Chen, I. J., & Paulraj, A. (2023). Towards a theory of supply chain management: The constructs and measurements. *Journal of Operations Management*, 22(2), 119–150.
- Collis, D. J., & Montgomery, C. A. (2020). Competing on resources: Strategy in the 1990s. *Harvard Business Review*, 73(4), 118–128.
- Daft, R. L. (2020). *Organization theory and design* (13th ed.). Cengage Learning.
- Davenport, T. H., & Harris, J. G. (2022). *Competing on analytics: The new science of winning*. Harvard Business Review Press.
- El-Gohary, H. (2021). The impact of digital transformation on business performance. *International Journal of Business and Management*, 16(4), 1–15.
- Ferrer, E. (2021). Digital transformation and business innovation. *Journal of Digital Economy*, 5(2), 25–37.
- Flynn, B. B., Huo, B., & Zhao, X. (2021). The impact of supply chain integration on performance. *Journal of Operations Management*, 28(1), 58–71.
- Gera, S., & Gu, W. (2023). The effect of innovation on firm performance in Canada. *Economics of Innovation and New Technology*, 13(2), 121–138.
- Global Digital Banking Survey. (2023). *Global digital banking report 2023*. Deloitte Insights.
- Grandon, E. E., & Pearson, J. M. (2023). Electronic commerce adoption: An empirical study of small and medium enterprises. *Information & Management*, 42(1), 197–216.
- Grover, V., & Kohli, R. (2023). Revealing your hand: Caveats in implementing digital business strategy. *MIS Quarterly Executive*, 12(2), 87–102.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2019). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2020). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage Publications.
- Hafiz, M. A. (2023). Digital marketing and organizational competitiveness. *International Journal of Marketing Studies*, 15(1), 44–57.
- Hakala, H., & Kohtamäki, M. (2021). Configurations of entrepreneurial-customer-and technology orientation. *International Journal of Entrepreneurial Behavior & Research*, 17(1), 64–81.
- Holopainen, M., Toivonen, M., & Tuominen, T. (2023). Digital business strategy and firm competitiveness. *Journal of Business Strategy*, 44(2), 78–90.
- Järvinen, J. (2021). The use of digital analytics for measuring and optimizing marketing performance. *Industrial Marketing Management*, 50, 117–127.
- Korsen, M., & Ingvaldsen, J. A. (2022). Challenges of digital transformation and IT integration in emerging economies. *Technology in Society*, 68, 101835.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Li, F. (2020). The digital transformation of business models in the banking industry. *Journal of Financial Services Marketing*, 25(1), 45–57.
- Malhotra, N. K. (2020). *Marketing research: An applied orientation* (7th ed.). Pearson Education.
- McKinsey & Company. (2022). *African banking industry outlook 2022: Digital transformation and growth*. McKinsey Global Institute.
- Nadeem, W., Alhawari, S., & Aljuhmani, H. (2023). Digital business strategy and organizational capability development. *Journal of Business Research*, 158, 113–126.

- Naod Rezene, T. (2022). Digital skills and business performance in developing economies. *International Journal of Information Management*, 63, 102–118.
- Paniagua, J., & Sapena, J. (2023). Business performance and social media: Love or hate? *Business Horizons*, 57(6), 719–728.
- Parveen, F., Jaafar, N. I., & Ainin, S. (2023). Social media usage and organizational performance. *Industrial Management & Data Systems*, 116(3), 570–588.
- Pavlou, P. A., & El Sawy, O. A. (2021). Understanding the elusive black box of dynamic capabilities. *Decision Sciences*, 42(1), 239–273.
- Penrose, E. T. (1959). *The theory of the growth of the firm*. Oxford University Press.
- Peteraf, M. A. (2023). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179–191.
- Phippen, A., Sheppard, L., & Furnell, S. (2023). The role of analytics in achieving digital business goals. *Journal of Information Security*, 12(1), 21–34.
- Rindfleisch, A., Malter, A. J., Ganesan, S., & Moorman, C. (2023). Cross-sectional versus longitudinal survey research. *Journal of Marketing Research*, 45(3), 261–279.
- Rodriguez, M., Peterson, R. M., & Krishnan, V. (2022). Social media's influence on business performance. *Journal of Personal Selling & Sales Management*, 32(3), 365–378.
- Sabri, H. A. (2023). Digital marketing adoption and competitive advantage. *Journal of Marketing Development*, 14(2), 66–81.
- Schryen, G. (2023). Revisiting IS business value research. *Business & Information Systems Engineering*, 55(2), 139–149.
- Sharma, R., Mithas, S., & Kankanhalli, A. (2014). Transforming decision-making processes through analytics. *Information Systems Research*, 25(2), 433–456.
- Stock, G. N., Greis, N. P., & Kasarda, J. D. (2021). Enterprise logistics and supply chain structure. *Journal of Operations Management*, 18(5), 531–547.
- Story, D. A., & Tait, A. R. (2019). Survey research and response rates. *Anaesthesia*, 74(3), 280–285.
- Surrah, M. H. (2023). Digital marketing and electronic commerce development. *International Journal of E-Commerce Studies*, 15(2), 88–102.
- Tiago, M. T. P. M. B., & Veríssimo, J. M. C. (2024). Digital marketing and social media: Why bother? *Business Horizons*, 57(6), 703–708.
- Turulja, L., & Bajgoric, N. (2021). Innovation, firms' performance and environmental turbulence. *European Journal of Innovation Management*, 22(2), 232–253.
- Ukko, J., Nasiri, M., Saunila, M., & Rantanen, H. (2022). Sustainability strategy and performance in digital environments. *Management Decision*, 60(4), 915–934.
- Venkatraman, N., & Zaheer, A. (2021). Digital strategy and organizational performance. *Strategic Management Journal*, 42(5), 893–915.
- Vial, G. (2024). Understanding digital transformation: A review and research agenda. *Journal of Strategic Information Systems*, 28(2), 118–144.
- Wang, Y., Kung, L., & Byrd, T. A. (2023). Big data analytics and firm performance. *Information & Management*, 60(1), 103–118.
- Westerman, G., Bonnet, D., & McAfee, A. (2024). *Leading digital: Turning technology into business transformation*. Harvard Business Review Press.
- Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, 24(1), 1–32.
- Zumstein, D., Peltier, J., & West, D. (2022). The effectiveness of digital analytics in organizational performance. *Journal of Digital Business*, 10(1), 55–71.