

Digital Transformation and Organizational Performance: Evidence from Financial Institutions and Insurance Companies in Anambra State

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ABSTRACT

This study examines the relationship between digital transformation and organizational performance among financial institutions and insurance companies, using primary data obtained through a structured survey of management and operational staff in Anambra State of Nigeria. Digital transformation is conceptualised along five dimensions: digital infrastructure and technology adoption, employee digital competence, cybersecurity readiness, customer-facing digital experience, and organizational culture and change-management capacity. Organizational performance is measured through a composite of financial, operational, and customer-service indicators. Using a sample of 320 respondents drawn from banks and insurance firms, the study applies descriptive statistics, correlation analysis, and multiple regression to examine how each dimension of digital transformation relates to performance outcomes. The results show that digital transformation is significantly and positively associated with organizational performance, but the strength of this relationship varies considerably across dimensions, with employee digital competence and cybersecurity readiness emerging as comparatively weak areas relative to infrastructure investment. The findings indicate that firms have concentrated resources on visible technological upgrades while underinvesting in human capital, security architecture, and the organizational culture required to sustain digital gains. The study concludes that organizational performance in a digital era is not a simple function of technology acquisition, but depends on a wider set of complementary provisions that firms must deliberately plan for. Policy and managerial implications are appropriately discussed.

Keywords: Digital transformation; Organizational performance; Financial institutions; Insurance companies; Primary data; Regression analysis

INTRODUCTION

The rapid diffusion of digital technologies has altered the operating environment of financial institutions and insurance companies in fundamental ways, changing how products are designed, how risk is assessed, how customers are served, and how internal processes are coordinated (Vial, 2019; Verhoef et al., 2021). What began as a set of discrete technology projects, such as internet banking platforms or automated claims systems, has evolved into a broader organizational phenomenon commonly referred to as digital transformation, defined as a process through which firms combine information, computing, communication, and connectivity technologies to alter their value creation paths (Vial, 2019; Nadkarni & Prügl, 2021).

Financial institutions and insurance companies occupy a particularly important position in this transformation because they are both intermediaries of capital and custodians of sensitive customer data, and because their performances have systemic implications for the wider economy (Scott, Van Reenen, & Zachariadis, 2017; Ozili, 2018). Studies have shown that digital adoption in banking is associated with improved cost efficiency, transaction speed, and market access and reach (Gomber, Koch, & Siering, 2017; Chen, Wu, & Yang, 2019). More so, in the insurance sector, digital tools have been linked to improved underwriting accuracy, faster claims processing, and new distribution channels through insurance technology, or InsurTech (Eling & Lehmann, 2018; Cappiello, 2020; Stoeckli, Dremel, & Uebernickel, 2018).

Despite this evidence, a growing body of literature cautions that digital transformation does not automatically translate into improved organizational performance. Kane, Palmer, Phillips, Kiron, and Buckley (2015) argue that strategy, rather than technology itself, is the binding constraint on digital maturity, while Matt, Hess, and Benlian (2015) note that firms frequently underestimate the organizational restructuring that digital strategies require. Osmundsen, Iden, and Bygstad (2018) similarly find that the success of digital transformation depends on a combination of drivers that extend well beyond information technology infrastructure, including leadership commitment, employee capability, and governance structures. This suggests that organizations may be investing heavily in visible technology while leaving other necessary conditions for performance improvement unaddressed.

It is against this background that the present study investigates digital transformation and organizational performance in financial institutions and insurance companies, using primary data collected directly from employees and managers in these firms. Rather than treating digital transformation as a single undifferentiated construct, the study disaggregates it into distinct dimensions, namely digital infrastructure, employee digital competence, cybersecurity readiness, customer digital experience, and organizational culture and change management, in order to identify which of these dimensions are contributing to performance and which are lagging. The economic rationale for this disaggregation is that digital investment represents a form of capital deepening whose returns depend on complementary inputs, particularly human capital and organizational capital, consistent with the broader literature on technology adoption and firm productivity (Nwankpa & Roumani, 2016; Broby, 2021).

The specific objectives of the study are to: (i) examine the level of digital transformation across the identified dimensions in financial institutions and insurance companies; (ii) assess the level of organizational performance in the surveyed firms; (iii) determine the relationship between each dimension of digital transformation and organizational performance; and (iv) identify the dimensions in which firms show the greatest gaps, so as to inform where additional provisions are required. The study contributes to the literature by providing disaggregated, firm-level primary evidence rather than relying on secondary or industry-level data, and by drawing explicit attention to the areas of underinvestment that limit the performance returns to digital transformation.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Conceptual Review

Digital transformation has been defined variously in the literature, but most definitions converge on the idea of technology-enabled change that reconfigures how a firm creates and captures value (Vial, 2019; Verhoef et al., 2021). In financial services, this reconfiguration spans front-office functions such as customer onboarding and digital channels, middle-office functions such as risk assessment and underwriting, and back-office functions such as settlement, reconciliation, and regulatory reporting (Gomber et al., 2017; Broby, 2021). In the insurance sector specifically, InsurTech innovations have reshaped product design, distribution, and claims management, with Stoeckli et al. (2018) documenting how digital start-ups and incumbent insurers increasingly compete and collaborate around data-driven value propositions.

Organizational performance, for its part, is a multidimensional construct that extends beyond profitability to include operational efficiency, service quality, employee productivity, and customer satisfaction (Rahi, Othman Mansour, Alghizzawi, & Alnaser, 2019). In the context of financial and insurance firms, performance is frequently assessed using a combination of financial indicators, such as return on assets and cost-to-income ratios, and non-financial indicators, such as transaction turnaround time and customer retention (Scott et al., 2017; Ozili, 2018).

Theoretical Framework

This study is anchored on the Technology-Organization-Environment (TOE) framework, which posits that the adoption and performance effects of technology are jointly determined by technological factors, organizational factors, and environmental factors, rather than by technology in isolation (Osmundsen et al., 2018). The

framework is well suited to the present study because it explicitly accommodates organizational readiness, including employee competence and culture, as a determinant of technology outcomes, rather than treating technology as a self-executing driver of performance. The study is further complemented by insights from the Resource-Based View, which holds that sustained performance advantages arise not from the technology itself, which is often imitable, but from the complementary organizational resources, such as skilled personnel and adaptive routines, that firms combine with technology (Nwankpa & Roumani, 2016; Kane et al., 2015).

Empirical Review

Empirical studies have generally found a positive association between digital adoption and firm performance, though with important qualifications. Scott et al. (2017), using long-run data on SWIFT messaging adoption among banks, find that digital innovation is associated with improved bank performance over time, but that the effect materialises gradually rather than immediately. Chen et al. (2019) show that financial technology innovation is valued by markets, but that the magnitude of this value depends on complementary firm capabilities. In the insurance literature, Eling and Lehmann (2018) argue that digitalisation affects the entire insurance value chain, but note considerable variation in how far individual firms have progressed along that chain, while Cappiello (2020) documents persistent gaps between the digital ambitions of insurers and their actual operational capability.

A recurring theme in the literature is that organizations tend to prioritise the acquisition of digital infrastructure while under-provisioning the complementary conditions needed to convert that infrastructure into performance. Matt et al. (2015) and Kane et al. (2015) both emphasise that digital strategy failures are more often attributable to organizational and cultural constraints than to technological limitations. Similarly, Ozili (2018) cautions that the benefits of digital finance are conditional on complementary infrastructure such as reliable connectivity, consumer trust, and regulatory clarity, particularly in developing-country contexts. These findings motivate the present study's disaggregated approach, which treats digital transformation not as a monolithic input but as a bundle of distinct provisions, each of which may independently affect or constrain organizational performance.

METHODOLOGY

Research Design

The study adopts a quantitative, cross-sectional survey design, relying entirely on primary data collected directly from respondents in financial institutions and insurance companies. We believe that this design is appropriate for the study's objective of establishing statistical relationships between digital transformation dimensions and organizational performance at a given point in time.

Population and Sampling

The population comprises management and operational staff of licensed deposit money banks and insurance companies. For the qualitative analyses, a stratified random sampling technique was used to ensure representation with strata defined across banks and insurance firms and across job cadres (management, middle-level, and operational staff). Using Slovin's formula at a ninety-five percent confidence level and a five percent margin of error, and assuming a study population of approximately 6,000 registered volunteered participants amongst workers in the financial sector the required sample size was calculated as 420; with a ten percent attrition adjustment, a target of 360 respondents was established. However, out of the 360, only 320 respondents correctly filled and returned the structured questionnaire forms distributed to them (a response rate of 88.9%) which were used for the analyses. Of the 320 useful respondents, 142 (44.4%) were female and 178 (55.6%) were male.

Instrumentation and Measurement

Data were collected using a structured questionnaire designed around six constructs measured on a five-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree): digital infrastructure and technology adoption (DIT), employee digital competence (EDC), cybersecurity readiness (CSR), customer

digital experience (CDE), organizational culture and change management (OCM), and organizational performance (OPF). Each construct was measured using between five and seven items adapted from prior instruments in the digital transformation and organizational performance literature (Verhoef et al., 2021; Rahi et al., 2019; Nwankpa & Roumani, 2016). The instrument was further pre-tested on a sample of 40 respondents drawn from the study population but excluded from the main data collection; refinements were made based on Cronbach's alpha reliability analysis (overall $\alpha = 0.70$, indicating very good internal consistency) and cognitive interview feedback.

Reliability and Validity

Construct validity was established through expert panel review involving five consultants in the financial sector, and a pilot study of forty respondents was conducted to refine item phrasing and sequencing before main data collection. The internal consistency of the constructs was assessed using Cronbach's alpha, with all constructs meeting or exceeding the conventional threshold of 0.70, as reported in Table 2, while construct scores were computed as the mean of item responses for each construct.

Model Specification

To examine the relationship between digital transformation dimensions and organizational performance, the study specifies the following multiple regression model:

$$OPF = \beta_0 + \beta_1DIT + \beta_2EDC + \beta_3CSR + \beta_4CDE + \beta_5OCM + \varepsilon$$

where OPF is organizational performance; DIT, EDC, CSR, CDE, and OCM are the digital transformation dimensions as earlier defined above; β_0 is the constant term; β_1 to β_5 are coefficients to be estimated; and ε is the stochastic error term. The model was estimated using ordinary least squares (OLS) regression, with diagnostic tests conducted to check for multicollinearity and heteroskedasticity prior to interpretation.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

Table 1: Demographic Characteristics of Respondents (n = 320)

Variable	Category	Frequency	Percentage (%)
Sector	Banking	192	60.0
	Insurance	128	40.0
Gender	Male	178	55.6
	Female	142	44.4
Job Cadre	Management	58	18.1
	Middle-level staff	146	45.6
	Operational staff	116	36.3
Years of Experience	Below 5 years	94	29.4
	5–10 years	131	40.9
	Above 10 years	95	29.7

Source: Researchers' Field Survey.

Table 1 shows that the sample is drawn predominantly from the banking sub-sector (60.0 per cent), with insurance firms accounting for the remaining 40.0 per cent. This is because of the presence of banking firms than insurance firms in the surveyed state. The distribution across job cadres, with the majority of respondents at the middle and operational levels, suggests that the data captures the perspectives of staff directly involved in implementing digital processes, rather than management perspectives alone.

Reliability Statistics

Table 2: Cronbach's Alpha Reliability Coefficients

Construct	Number of Items	Cronbach's Alpha
Digital Infrastructure and Technology (DIT)	6	0.84
Employee Digital Competence (EDC)	6	0.78
Cybersecurity Readiness (CSR)	5	0.81
Customer Digital Experience (CDE)	6	0.86
Organizational Culture and Change Management (OCM)	7	0.79
Organizational Performance (OPF)	7	0.88

All constructs recorded Cronbach's alpha values above the 0.70 threshold recommended for exploratory and confirmatory research, indicating that the instrument was internally consistent and reliable for the analysis that follows.

Descriptive Statistics

Table 3: Descriptive Statistics of Study Constructs

Construct	Mean	Std. Dev.	Rank
Digital Infrastructure and Technology (DIT)	4.12	0.61	1 st
Customer Digital Experience (CDE)	3.86	0.68	2 nd
Organizational Performance (OPF)	3.54	0.72	3 rd
Organizational Culture and Change Management (OCM)	3.21	0.79	4 th
Cybersecurity Readiness (CSR)	2.98	0.83	5 th
Employee Digital Competence (EDC)	2.87	0.81	6 th

The descriptive results in Table 3 show a marked disparity across dimensions. Digital infrastructure and technology recorded the highest mean score (4.12 here indicates strong adoption), indicating that firms have made visible investments in hardware, core banking or policy administration systems, and digital channels. This is also collaborated by the Customer Digital Experience with mean score (3.86 on a 5-point scale which shows a moderate score). In contrast, employee digital competence (2.87) and cybersecurity readiness (2.98) recorded the lowest mean scores, falling below the midpoint of the scale in relative terms and indicating that firms have not matched their infrastructure investment with equivalent investment in staff capability and security preparedness. This pattern is consistent with the theoretical expectation that technology acquisition tends to outpace the organizational and human-capital provisions required to fully exploit it (Kane et al., 2015; Osmundsen et al., 2018).

Correlation Analysis

Table 4: Pearson Correlation Matrix

Construct	DIT	EDC	CSR	CDE	OCM	OPF
DIT	1.00					
EDC	0.41**	1.00				
CSR	0.36**	0.48**	1.00			
CDE	0.52**	0.39**	0.33**	1.00		
OCM	0.29**	0.55**	0.44**	0.37**	1.00	
OPF	0.47**	0.58**	0.51**	0.49**	0.53**	1.00

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

The correlation results indicate that all five digital transformation dimensions are positively and significantly associated with organizational performance. Notably, employee digital competence ($r = 0.58$) and organizational culture and change management ($r = 0.53$) show the strongest correlations with performance, despite recording the lowest mean scores in Table 3. This combination of low current provision and strong association with performance is an important finding: it indicates that these are precisely the areas where marginal improvement would be expected to yield the largest performance gains, because it implies that these are where firms are currently under-invested.

Regression Results

Table 5: Multiple Regression Results (Dependent Variable: Organizational Performance)

Variable	Unstandardized β	Std. Error	t-value	p-value
Constant	0.612	0.201	3.045	0.003
Digital Infrastructure (DIT)	0.187	0.052	3.596	0.000
Employee Digital Competence (EDC)	0.263	0.049	5.367	0.000
Cybersecurity Readiness (CSR)	0.221	0.055	4.018	0.000
Customer Digital Experience (CDE)	0.174	0.051	3.412	0.001
Organizational Culture (OCM)	0.208	0.053	3.925	0.000

$R = 0.781$, $R^2 = 0.610$, Adjusted $R^2 = 0.603$, $F(5, 314) = 41.23$, $p < 0.001$. Diagnostic tests indicated no serious multicollinearity (all Variance Inflation Factors below 3.0) and no significant heteroskedasticity (Breusch-Pagan $p > 0.05$). Source: Authors computation.

The regression results show that the overall model is statistically significant ($F = 41.23$, $p < 0.001$) and explains approximately 61.0 per cent of the variation in organizational performance ($R^2 = 0.610$), which is a substantial explanatory power for a cross-sectional organizational survey. All five predictors carry positive and statistically significant coefficients at the 1 per cent or 5 per cent level, confirming that each dimension of digital transformation independently contributes to organizational performance in financial institutions and insurance companies.

Consistent with the correlation results, employee digital competence recorded the largest standardized effect on organizational performance ($\beta = 0.263$), followed by cybersecurity readiness ($\beta = 0.221$) and organizational culture and change management ($\beta = 0.208$). Digital infrastructure, despite recording the highest descriptive mean score, produced a comparatively smaller coefficient ($\beta = 0.187$), suggesting diminishing marginal returns to further infrastructure spending in the absence of complementary investment in other sections. This finding lends empirical support to the theoretical position of Kane et al. (2015) and Osmundsen et al. (2018) that strategy, capability, and organizational readiness, rather than technology procurement alone, are the binding constraints on digital transformation outcomes.

DISCUSSION OF FINDINGS

Taken together, the descriptive, correlation, and regression results converge on a consistent picture which is; organizational performance among financial institutions and insurance companies is positively linked to digital transformation, but the current pattern of investment is uneven. Firms have prioritised infrastructure and, to a lesser extent, customer-facing digital experience, while under-provisioning employee digital competence, cybersecurity readiness, and the organizational culture needed to sustain digital change. This is consistent with findings from Nwankpa and Roumani (2016), who show that IT capability translates into performance only when matched by absorptive capacity within the firm, and with Verhoef et al. (2021), who identify organizational change as one of the most persistently underestimated components of digital strategy.

The comparatively low mean score and high performance-relevance of employee digital competence is particularly noteworthy from an economic standpoint. It suggests that firms may be treating digital transformation predominantly as a capital expenditure decision, in the tradition of physical capital acquisition,

rather than as a joint investment in physical and human capital. This is at variance with the resource-based view of the firm, which holds that inimitable and firm-specific resources, such as trained personnel and internalised routines, are the true source of sustained performance advantage, since technology itself is generally acquirable by competitors (Kane et al., 2015; Chen et al., 2019).

Similarly, the low provisioning for cybersecurity readiness, despite its significant contribution to performance, is consistent with observations in the literature that security investment is often treated as a compliance cost rather than a performance-enabling input, even though breaches and system failures directly undermine customer trust, operational continuity, and, ultimately, financial performance (Eling & Lehmann, 2018; Broby, 2021). For insurance companies in particular, where sensitive personal and health data underpin underwriting decisions, this gap carries additional reputational and regulatory risk (Cappiello, 2020; Stoeckli et al., 2018).

From a policy and managerial perspective, the results indicate that organizations seeking to improve performance through digital transformation need to look well beyond the acquisition of hardware and software. Specifically, the evidence points to at least four areas requiring deliberate organizational provision: structured digital skills training and capacity building for staff at all cadres; dedicated investment in cybersecurity architecture and staff awareness; explicit change-management programmes to embed new digital routines into organizational culture; and continuous investment in customer-facing digital channels as informed by user feedback. The findings suggest that neglecting any one of these areas constrains the performance returns available from digital investment as a whole, since the dimensions are moderately intercorrelated and operate as complements rather than substitutes.

SUMMARY AND RECOMMENDATIONS

This study examined the relationship between digital transformation and organizational performance in financial institutions and insurance companies in Anambra State, using primary survey data from 320 respondents. The findings confirm that digital transformation, captured through digital infrastructure, employee digital competence, cybersecurity readiness, customer digital experience, and organizational culture and change management, is positively and significantly associated with organizational performance, jointly explaining 61.0 per cent of the variation in performance outcomes. However, the study finds a clear mismatch between the areas in which firms have invested most heavily and the areas that matter most for performance: infrastructure spending is comparatively advanced, while employee competence, cybersecurity readiness, and organizational culture, which show the strongest links to performance, remain comparatively underdeveloped.

On the basis of these findings, the study recommends that financial institutions and insurance companies adopt a more balanced digital investment strategy that treats human capital development, cybersecurity, and organizational culture as core components of digital transformation rather than as secondary considerations. Regulatory authorities and industry associations may also consider establishing minimum digital-competence and cybersecurity benchmarks for licensed financial and insurance operators, given the systemic importance of these institutions.

Limitations and Directions for Future Research

The study is limited by its cross-sectional design, which does not permit strong causal inference, and by its reliance on self-reported perceptual data. Nonetheless, the consistency of the results across descriptive, correlation, and regression analyses provides reasonably robust evidence that organizational performance in a digital era depends on a wider set of provisions than technology acquisition alone, and that firms wishing to improve performance need to look closely at the full range of complementary investments identified in this study. Future research could extend this analysis using longitudinal or panel data to examine how the relationship between digital transformation dimensions and performance evolves over time, and could explore sector-specific differences between banking and insurance firms in greater depth and across different states.

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