DIGITAL TRANSFORMATION ADOPTION, STRATEGIC COLLABORATION AND OPERATIONAL EFFICIENCY IN DEPOSIT MONEY BANKS IN LAGOS STATE, NIGERIA

[1] Omofojoye Oyewole, [2] Kesinro R.O

Abstract

Digital transformation can change not only how banks serve customers but also how they coordinate internally, collaborate with technology partners and deliver work efficiently. This study examined the relationships between customer experience, cybersecurity, digital technology and business-process transformation and two non-financial performance outcomes—strategic collaboration and operational efficiency—in selected deposit money banks in Lagos State, Nigeria. The study used multiple regression to assess the joint and individual relationships. The SPSS output reported 379 cases, although the narrative described 378 returned questionnaires. For strategic collaboration, the fourpredictor model was statistically significant, $F(4, 374) = 30.288$, $p < .001$, $R^2 = .245$ and adjusted $R^2 = .237$. All four predictors were positive and statistically significant: customer experience ($\beta = .203$, $p < .001$), cybersecurity ($\beta = .149$, $p = .010$), digital technology ($\beta = .145$, $p = .017$) and business process ($\beta = .142$, $p = .014$). For operational efficiency, there was a significant model, $F(4, 374) = 42.448$, $p < .001$, with R^2 approximately .312 and adjusted R^2 approximately .305. The results suggested that digital transformation dimensions jointly related to perceived coordination and efficiency, while the strategic-collaboration model indicated positive unique contributions from all four dimensions. The findings highlighted the importance of integrated digital capabilities, clear governance and reliable process design. Because the data are cross-sectional and based on employee perceptions, conclusions are framed as associations rather than causal effects.

Keywords: *digital transformation; strategic collaboration; operational efficiency; deposit money banks; digital technology; Nigeria*

1. Introduction

Digital transformation has implications for the way banks organize work, share information and connect with external service providers. Digital platforms can improve collaboration by enabling faster communication, common data flows and more consistent coordination between departments. They may also support collaboration with fintech firms and other ecosystem partners through integrated services and shared digital infrastructure. At the operational level, automation and system integration can reduce delays, standardize repetitive activities and allow employees to focus on tasks requiring judgement. Yet these benefits depend on more than installing technology: systems must work together, processes must be redesigned and staff must understand how to use digital tools.

These issues are particularly relevant in Lagos State, Nigeria, the commercial nerves of the country, where selected deposit money banks operate in a competitive environment and rely on digital channels to deliver services at scale. Banks must balance efficiency objectives with cyber resilience, regulatory obligations and customer expectations. If digital systems remain fragmented, the organization may simply digitize existing bottlenecks. Conversely, if digital tools are combined with process redesign and effective collaboration, they may support more efficient operations and stronger organizational relationships.

This article focuses on two non-financial outcomes from the author's thesis: strategic collaboration and operational efficiency. Strategic collaboration refers to perceived improvements in coordination, communication, interdependence and partnership associated with digital transformation. Operational efficiency refers to perceived improvements in speed, workflow, productivity and the use of resources. The study assesses four digital-transformation dimensions—customer experience, cybersecurity, digital technology and business process—against these outcomes.

The study addresses two questions: (1) How are the four digital-transformation dimensions related to strategic collaboration in selected deposit money banks? (2) How are these dimensions related to operational efficiency? By distinguishing collaboration from efficiency, the article explores two connected but different pathways through which digital transformation may be associated with organizational performance.

2.0 Literature Review

2.1 Conceptual Review

2.1.1 Digital transformation as organizational change

Digital transformation involves changes to processes, service models and organizational routines through the use of digital technologies. It is therefore broader than technology acquisition. Rha and Lee (2022) map research trends in digital transformation within services, emphasizing the breadth of organizational and service-related change. Stalmachova et al. (2022) examine changes in business models associated with digital transformation, highlighting the importance of considering how organizations adapt their operating arrangements and how these changes are measured.

2.1.2 Strategic collaboration

Strategic collaboration includes coordination between departments and cooperation with external partners to support innovation, service delivery and shared objectives. Digital tools can facilitate collaboration by improving the timeliness of communication, enabling access to common information and reducing the friction associated with hand-offs between teams. Banks may also use digital integration to cooperate with fintech companies and other service providers. However, technology does not guarantee meaningful collaboration. Partnership value depends on aligned

objectives, data governance, security controls, clear accountability and the ability to integrate systems without compromising regulatory obligations.

2.1.3 Operational efficiency

Operational efficiency concerns the ability to deliver banking activities with appropriate speed, reliability and resource use. Digitized processes can reduce repetitive manual work, minimize avoidable delays and improve consistency in transaction processing. Digital tools can also support faster decision-making and increase visibility over workflows. At the same time, poorly integrated systems may create duplicate work, outages or expensive technical dependencies. Efficiency should therefore be assessed through a combination of perceived performance and objective indicators such as turnaround time, error rates, system availability and cost per transaction. The thesis primarily reports employee-perception survey scores, so the present findings should be interpreted accordingly.

2.2 Theoretical foundation

The Resource-Based View argues that organizational resources and capabilities can support competitive advantage when they are valuable and difficult to replicate (Barney, 1991). Digital infrastructure, cybersecurity capabilities, process knowledge and collaboration routines may be important resources, but their value depends on how they are integrated into the organization. Diffusion of Innovations explains how new practices are communicated and adopted across a social system over time (Rogers, 2003). It is relevant because collaboration and process improvements depend on the spread of digital routines across departments and partners.

The Technology Acceptance Model suggests that perceived usefulness and perceived ease of use influence technology acceptance (Davis, 1989). At the organizational level, ease of use and usefulness can affect whether employees adopt systems that support collaboration and work efficiency. Nevertheless, these individual-level perceptions do not replace the need for organizational leadership, interoperable systems, governance and investment.

2.3 Empirical Review do a review of at least 4 relevant and recent studies

3. Methodology

This manuscript draws on the quantitative survey findings reported in the author's PhD thesis on digital transformation adoption and performance of selected deposit money banks in Lagos State, Nigeria. The thesis identifies a staff population of 67,476 employees across ten selected banks. A multi-stage sampling strategy is described, with purposive selection of banks and purposive/stratified selection of staff from relevant departments such as information technology, operations, risk management and customer service.

The research instrument was a structured questionnaire using a five-point Likert-type response scale. The predictors were customer experience, cybersecurity, digital technology and business-process transformation. The outcomes relevant to this article were strategic collaboration and

operational efficiency. Questionnaires were administered physically and electronically. Although the wider thesis mentions interviews and secondary materials, this article reports the available quantitative regression models only.

The analysis used descriptive statistics, Pearson correlation and multiple regression. Cronbach's alpha coefficients reported for strategic collaboration and operational efficiency were .780 and .776, respectively. The four predictors were entered simultaneously in each regression model. For strategic collaboration, reported tolerance values ranged from .554 to .746 and VIF values from 1.340 to 1.806. The Durbin–Watson statistic was 1.551. These diagnostics do not suggest severe multicollinearity under conventional VIF thresholds, although the Durbin–Watson statistic should be interpreted in context and does not by itself establish that all regression assumptions are satisfied.

4. Results

4.1 Descriptive statistics and reliability

The thesis reports generally positive responses regarding digital transformation and non-financial performance. For strategic collaboration, reported item means include 4.34 for the statement that technology enhances interdepartmental collaboration, 4.32 for improved communication systems within the bank, 4.24 for effective collaboration with fintech companies and 4.31 for the statement that strategic digital partnerships improve innovation. The reported Cronbach's alpha for strategic collaboration was .780. Operational efficiency had a reported alpha of .776. The thesis reports positive perceptions that technology supports faster service delivery, efficient task completion and productivity, although some item-level percentages in the thesis appear inconsistent and should be checked against the original SPSS output before publication.

4.2 Strategic collaboration regression

The strategic-collaboration regression model was statistically significant, $F(4, 374) = 30.288$, $p < .001$. The model summary reported $R = .495$, $R^2 = .245$ and adjusted $R^2 = .237$, indicating that the four digital-transformation dimensions jointly accounted for 24.5% of variance in strategic-collaboration scores in the analyzed sample. Each predictor had a positive and statistically significant coefficient. Customer experience was associated with strategic collaboration ($B = .224$, $\beta = .203$, $t = 3.895$, $p < .001$); cybersecurity ($B = .137$, $\beta = .149$, $t = 2.599$, $p = .010$); digital technology ($B = .138$, $\beta = .145$, $t = 2.395$, $p = .017$); and business process ($B = .141$, $\beta = .142$, $t = 2.467$, $p = .014$).

These results indicate that strategic collaboration is associated with a broad set of digital capabilities rather than one isolated dimension. The relative coefficients are similar in magnitude, with customer experience having the largest standardized coefficient among the four predictors in the reported model.

4.3 Operational efficiency regression

The thesis reports that the operational-efficiency model was statistically significant, $F(4, 374) = 42.448$, $p < .001$, with R^2 approximately .312 and adjusted R^2 approximately .305. The thesis narrative also describes a positive and significant relationship between digital transformation and operational efficiency. However, the full coefficient table for this outcome must be checked carefully against the original SPSS output before the individual predictors and their p-values are reported. Accordingly, this draft reports the overall model result but does not infer individual coefficient significance where the full table is not clearly verified in the accessible narrative.

Taken together, the two outcomes suggest that digital transformation is associated with both coordination and operational performance, but the proportion of variance explained differs across outcomes. The strategic-collaboration model explains approximately one quarter of the variation, while the operational-efficiency model explains approximately three tenths, based on the thesis's reported R^2 values.

Table 1. Multiple regression results for strategic collaboration

Predictor	B	B	t	p
Customer experience	0.224	0.203	3.895	< .001
Cybersecurity	0.137	0.149	2.599	.010
Digital technology	0.138	0.145	2.395	.017
Business process	0.141	0.142	2.467	.014
Model fit	R^2 = .245; adj. R^2 = .237	F(4, 374) = 30.288		< .001

Note. Source: thesis SPSS output. N shown in output = 379; verify against the final dataset.

Table 2. Overall regression model for operational efficiency

Statistic	Reported value
F-statistic	F(4, 374) = 42.448
Significance	p < .001 (as reported in thesis narrative)
R^2	Approximately .312 (confirm exact modelsummary table)
Adjusted R^2	Approximately .305 (confirm exact modelsummary table)

Note. The individual coefficient table should be checked against the original SPSS output before reporting predictor-level effects.

5. Discussion

The strategic-collaboration results indicate that all four digital-transformation dimensions contribute positively to the outcome in the reported model. Customer experience had the largest standardized coefficient, followed by cybersecurity, digital technology and business process. One interpretation is that collaboration improves when banks design digital services around shared user needs, protect information exchanged across systems, deploy suitable tools and standardize the processes through which work moves between teams. The positive cybersecurity coefficient is particularly relevant because collaboration often requires information sharing; confidence in controls and data protection can support the willingness to connect systems and coordinate activity.

The findings align with a capability-based interpretation of digital transformation. From an RBV perspective, digital technology is more likely to be valuable when it works alongside customer knowledge, secure infrastructure and process routines (Barney, 1991). Diffusion of Innovations further suggests that the benefits of digital practices depend on their adoption across organizational units rather than isolated use by one department (Rogers, 2003). The results should nevertheless be understood as employee-reported associations. The model does not establish that digital transformation caused collaboration improvements, and it does not identify whether the collaboration is mainly internal, external or both.

The operational-efficiency model was significant and explained approximately 31.2% of the variation reported in the thesis. This supports the general proposition that digital transformation dimensions jointly relate to perceived efficiency. However, because the individual coefficient table requires verification, the manuscript avoids ranking specific predictors for operational efficiency. Before submission, the author should retrieve the exact table, confirm the coefficients and significance levels, and check that the model fit values match the thesis narrative.

The descriptive responses are broadly consistent with the regression results: respondents reported that technology enhances interdepartmental collaboration, communication and digital partnerships. The practical implication is that collaboration and efficiency require both technical and organizational alignment. Digital projects should not be assessed solely by implementation milestones or the number of channels introduced. They should also be assessed through service-level performance, reduction of duplicated work, speed of hand-offs, partner integration quality and reliability of controls.

6. Managerial and Policy Implications

Bank managers should treat digital transformation as an organizational integration programme. Collaboration initiatives should establish shared data definitions, clear ownership of processes,

common escalation paths and secure protocols for sharing information. Partnerships with fintech firms should be governed through due diligence, service-level agreements, cybersecurity requirements, dataprotection controls and exit/continuity plans.

For operational efficiency, banks should map processes before automating them. Automating a poorly designed workflow may preserve bottlenecks in digital form. Managers should set measurable indicators such as transaction turnaround time, failed transaction rates, processing errors, system uptime, complaint-resolution time and cost per transaction. These indicators should be reviewed alongside employee and customer feedback to establish whether digital transformation is generating meaningful improvements.

Regulators and industry bodies can support responsible integration by clarifying expectations for cybersecurity, third-party risk, operational resilience and digital service continuity. Because the study concerns selected banks in Lagos State, its implications are most directly relevant to similar institutions and should be tested in other regions and bank categories.

7. Limitations and Future Research

This study is limited by its cross-sectional survey design and reliance on employee perceptions. The reported results may be affected by common-method bias and cannot establish temporal order or causality. This manuscript therefore does not report unverified predictor-level operational-efficiency effects.

Future research should combine survey measures with objective operational data and partner-level measures of collaboration. Longitudinal studies could investigate whether digital integration precedes measurable improvements in workflow efficiency. Further studies may also distinguish internal collaboration from external fintech partnerships and examine whether cybersecurity capabilities strengthen or constrain the benefits of integration.

8. Conclusion

The study examined how four dimensions of digital transformation relate to strategic collaboration and operational efficiency in selected deposit money banks in Lagos State. The strategic-collaboration model was significant, and all four predictors—customer experience, cybersecurity, digital technology and business process—had positive statistically significant coefficients. The operational-efficiency model was also reported as significant, with an R^2 of approximately .312. The findings support a view of digital transformation as a coordinated organizational capability that combines customer orientation, secure technology and redesigned processes. Before the article is submitted, the final analytic sample and all model statistics should be checked against the source dataset, especially the operational-efficiency coefficient table.

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