“Change management strategies and performance of commercial banks in Nigeria: The moderating role of technology”

AUTHORS	John Otalor Alfred Edema Celestine Igwebe Alphonsus Kankpang Grace Pepple Fabrice Ashu Francis Enya

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John Otalor (Nigeria), **Alfred Edema** (Nigeria), **Celestine Igwebe** (Nigeria), **Alphonsus Kankpang** (Nigeria), **Grace Pepple** (Nigeria), **Fabrice Ashu** (Nigeria), **Francis Enya** (Nigeria)

CHANGE MANAGEMENT STRATEGIES AND PERFORMANCE OF COMMERCIAL BANKS IN NIGERIA: THE MODERATING ROLE OF TECHNOLOGY

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John Otalor, Ph.D., Senior Lecturer, Faculty of Management Sciences, Department of Accounting, University of Calabar, Nigeria. (Corresponding author)

Alfred Edema, Ph.D., Professor, Faculty of Management Sciences, Department of Business Management, University of Calabar, Nigeria.

Celestine Igwebe, Ph.D., Faculty of Management Sciences, Department of Business Management, University of Calabar, Nigeria.

Alphonsus Kankpang, Ph.D., Senior Lecturer, Faculty of Management Sciences, Department of Accounting, University of Calabar, Nigeria.

Grace Pepple, Ph.D., Lecturer I, Faculty of Management Sciences, Department of Business Management, University of Calabar, Nigeria.

Fabrice Ashu, Ph.D., Faculty of Management Sciences, Department of Accounting, University of Calabar, Nigeria.

Francis Enya, MSc, Lecturer II, Faculty of Management Sciences, Department of Accounting, University of Calabar, Nigeria.

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Abstract

Effective change management is essential for navigating the constantly changing business environment. This study examines the impact of change management strategies on the performance of commercial banks in Nigeria, focusing on the moderating role of technology. The research employs a survey method, collecting data from 354 senior and management staff across 17 commercial banks. An exploratory factor analysis was conducted to validate the research instrument, followed by an ordered regression technique to estimate the specified model due to the rank-ordered nature of the criterion variable. The results reveal that reactive, proactive, and incremental changes are significantly associated with the performance of commercial banks in Nigeria. However, transitional change does not affect performance substantially, unless moderated by technology. The study highlights the critical role of technology in bridging the gap between transitional change and improved performance, underscoring its importance in the Nigerian banking sector. The findings suggest that Nigerian commercial banks should adopt proactive change strategies and continuously invest in relevant technology to manage transitional changes effectively and enhance performance. The study's generalizability may be limited due to its focus on commercial banks, which constitute a small subset of the financial sector. Nonetheless, the large sample size enhances the robustness of the findings.

Keywords competition, business environment, proactive, transitional, incremental, reactive change

JEL Classification G21, L16, L25, O14

INTRODUCTION

Over the past two decades, the global business environment has experienced phenomenal changes at an unprecedented rate, intensifying competition across industries. To succeed in this highly competitive landscape, organizations must serve their clients better, innovate, and create new opportunities to ensure their survival in the marketplace (Schnackenberg et al., 2019; Mulwa, 2015). For commercial banks in Nigeria, this means adopting a proactive approach to managing change, anticipating future challenges, and preparing to address them effectively (Zhigang et al., 2013). Like their counterparts globally, commercial banks in Nigeria operate within an open system that necessitates continuous interaction with their environment (Joshi, 2021; Scholes et al., 2002). The constant evolution of the business environment impacts banks and how they conduct their business activities, compelling them to adapt to survive, thrive, and remain competitive (Hussain et al., 2018). This study is important for Nigerian banks, which are facing unique challenges in a fiercely competitive industry.

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Several factors are responsible for the stiff competition in the Nigerian banking sector. These include changes in customer behavior, shifting social attitudes, corporate takeovers, mergers and acquisitions, government interventions, technological advancements, and the liberalization of global economies. These factors, combined with regulatory-induced changes, have significantly transformed the banking landscape in Nigeria (Dogarawa, 2011; DeYoung et al., 2004). Despite the apparent benefits of embracing change, research indicates that a substantial proportion of organizational change efforts – estimated at two-thirds – fail to achieve their intended outcomes or sustain long-term improvements (Errida & Lofti, 2021; Jones et al., 2018; Okonji et al., 2017; Sturdy & Grey, 2003). This high failure rate underscores the importance of understanding how different change management strategies impact organizational performance, particularly within the context of the Nigerian banking sector.

1. LITERATURE REVIEW

Effective change management is essential for organizations to attain and maintain a competitive advantage in the marketplace. This study is based on two prominent organizational change theories: Burke-Litwin's model of organizational change and Kurt Lewin's change model. Kurt Lewin's change model, introduced in 1947 (Lewin, 1947), outlines the dynamics of organizational change by identifying factors that promote and resist change. He termed the forces that drive change as "driving forces" and those that resist change as "restraining forces." Lewin's model emphasizes that for change to occur within an organization, there must be a shift in the behavior of its members, which can be achieved through a three-step process: unfreezing, changing, and refreezing (Kaminski, 2011). This model is relevant to this study as it highlights the necessity for organizations and individuals to acknowledge the inevitability of change and prepare to abandon old habits and practices that could hinder competitiveness. By raising awareness about change and preparing adequately, organizations can overcome uncertainty and fear, thereby reducing the likelihood of resistance to change.

Burke and Litwin's model, developed in 1992, provides a comprehensive framework for understanding how different aspects of an organization influence its ability to change. The Burke-Litwin model emphasizes the causal relationship between organizational change and performance, explaining how internal and external factors affect performance outcomes (Burke & Noumair, 2015). Burke and Litwin (1992) posit that a positive work environment is strongly linked with high organizational performance. This study is anchored on this model as it illustrates how change impacts the work environment and, ultimately, organizational performance.

Change is fundamentally about introducing something new and is the opposite of remaining static or doing things the same way. Junnaid et al. (2020) and Schnackenberg et al. (2019) opine that change involves transforming an organization from its current state to a new one, which may include planned or unplanned changes. Change is inevitable and catalyzes growth and competitive positioning. It has become integral to organizational life, introducing challenges and opportunities that influence performance. Failure to embrace and manage change effectively can result in diminished competitiveness and potential decline (Junnaid et al., 2020). Change management refers to the process of change: the planning, coordinating, organizing, and directing of the process through which change is implemented to transform an organization for a better future (Spicker, 2012). In other words, change management is crucial for continually renewing an organization's direction, structure, and capabilities to meet the evolving needs of customers, employees, and other stakeholders (Khalifa & Fawzy, 2017; Alsalami et al., 2014). While understanding strategies is critical, their success hinges on effective leadership and employee engagement (Ford et al., 2021; Harold et al., 2008).

Therefore, changes in social and demographic trends and breathless technological innovations demand that organizations' leaders channel efforts toward bringing organizational change and transformation (Teece, 2018; Yasir et al., 2016). This is because leadership, as one of the most important factors for a successful transformation, contrib-

utes significantly to building organizational capacity for change (Judge et al., 2015; McLaren et al., 2024), and as posited by Ramezan et al. (2013) and Orishede et al. (2024), change capacity is a strong predictor of organizational performance. Change management is, therefore, a key driver of organizational efficiency, effectiveness, strategic positioning, and sustainable competitive advantage (Thomas, 2014; Okeke et al., 2019). Given its importance, change management experts advocate that organizations should always be prepared for change by developing strategies to cope with the evolving business environment (Mellert et al., 2015; Mulwa, 2015; Thomas, 2014). Often, change is prompted by significant shifts in the external environment, requiring management to respond with new procedures, rules, values, processes, and belief systems (Seeger et al., 2005; Porras & Silvers, 1991). The need for strategic change arises from the desire to capitalize on existing or emerging opportunities, while also addressing threats in the external environment (Nwinyokpugi, 2018). This shows how crucial it is for organizations to prepare for and implement change when necessary. Organizations must proactively adapt their operations, policies, and strategies to thrive in today's dynamic business environment. Consequently, effective change management has become a critical element of strategic management (Mellert et al., 2015). Commercial banks in Nigeria have undergone multiple recapitalization exercises and operational transformations. Examples are the adoption of online real-time banking and the implementation of the universal banking model during the consolidation era. These changes have redefined the size, structure, and operational dynamics of banks in Nigeria, necessitating continuous adaptation to maintain competitiveness (Dogarawa, 2011). Moreover, technology has emerged as a significant driver of change within the Nigerian banking system. The recent introduction of e-Naira, Nigeria's digital currency, and the licensing of telecommunications operators to provide financial services and mobile transfers are some technological disruptions reshaping the industry. These examples underscore how technological advancements can shape and moderate change management effectiveness. If banks fail to adapt, they risk losing their competitive edge and potentially facing extinction (Hussain et al., 2018; Scholes et al., 2002).

Since the global financial crisis that occurred in 2008, organizations across both developed and emerging economies have undergone significant transformations. These changes have been necessary to maintain competitiveness in an increasingly challenging business environment (Archibong & Ibrahim, 2021). The success of organizations often hinges on how effectively they manage change and adapt to the challenges confronting them (Khalifa & Fawzy, 2017; Alsalami et al., 2014). For instance, before the COVID-19 pandemic, virtual meetings were not widely embraced. However, the pandemic led to the widespread adoption of online meeting platforms such as Zoom, Google Meet, and others. Organizations that recognize the competitive advantage offered by these platforms quickly adapted to the new working environment and conducted virtual meetings and classes.

Organizational performance is a critical concern for all types of organizations, particularly commercial banks. It can be assessed using various metrics, including goal achievement, resource acquisition, operational effectiveness, and stakeholder satisfaction (Yıldız et al., 2014). The specific measures of performance depend on the concept of performance being applied. Performance can be evaluated using financial metrics such as profitability, return on assets (ROA), return on investment (ROI), and return on equity (ROE), which are central to a firm's success (Yıldız, 2010). Alternatively, operational performance metrics such as sales growth and market share provide a broader view of performance, focusing on factors that ultimately drive financial outcomes (Fukey et al., 2014; Yıldız et al., 2014). This study measured performance by proxies such as operational efficiency, organizational growth, quality service delivery, and market share.

The change management literature shows that organizations implement change through different approaches, strategies, interventions, and actions (van der Voet, 2014). However, extant literature distinguishes between planned and emergent change processes (By, 2005). Planned change occurs gradually, where goals are set and objectives are agreed on and implemented using the top-down approach. Thus, the organization goes through a series of phases to successfully implement change

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to achieve the set goals (Burnes, 2004; 2009). On the other hand, emergent change is implemented through a bottom-up approach where responsibilities are decentralized because management recognizes its limitations in responding effectively to all the challenges (By, 2005; Chan et al., 2022). According to Mahmutaj and Grubi (2020, p. 409), "emergent change is a processual approach to change that involves deeper analysis to understand the complexity of problems, strategy, structure, culture, and people in organizations". Unlike the planned approach, the outcome of emergent change reflects the content of the change, where employees are seen as active participants in the change process and are motivated to contribute to the success of the process (Russ, 2008). While technological change can be planned or emergent, reactive change is strictly emergent. On the other hand, incremental change, transitional change, and proactive change are planned.

Reactive change refers to organizational changes implemented in response to external events or significant internal problems. These changes are often unplanned and occur as a direct reaction to pressures from external forces (Chan et al., 2022). Reactive change is a strong predictor of innovative performance, and it forces organizations to act swiftly to adapt to environmental shifts, threats, or opportunities (Chan et al., 2022; Zhigang et al., 2013; Isern & Pung, 2006). Reactive change is most relevant to organizations experiencing a high turbulence of environmental change (Zhigang et al., 2013).

Proactive change management is vital for organizational growth and achieving competitive advantage; it enables organizations to exploit opportunities while mitigating external threats (Pepple et al., 2024; Hussain et al., 2018). Proactive change like business process re-engineering entails a radical redesign and reconsideration of business processes to optimize current operations in cost, quality, and time (Asher et al., 2024; Camara et al., 2008). Proactive change occurs when an organization anticipates the need for change before serious problems arise. This approach involves taking preemptive steps to improve the organization's position or to address potential issues before they become critical (Jalagat, 2016; Onugha & Onuoha, 2019), and it is most useful during periods of high rates of environmental change (Zhigang et al., 2013). Although proactive change is generally preferred, many organizations tend to adopt a reactive approach, often due to the belief that there is no need for change if the current performance is satisfactory (Wonah et al., 2020). The unpredictable regulatory environment of the Nigerian banking industry highlights the importance of proactively preparing for change. For instance, between 2005 and 2024, Nigerian banks underwent two major recapitalization phases. A proactive environmental strategy enhances market performance, and this positive effect becomes even more significant as competitive intensity increases (Chan et al., 2022; Onugha & Onuoha, 2019).

Incremental change refers to frequent changes that may not necessarily be small but occur within the organization's existing framework (Johnson & Priest, 2008). It is a gradual change aimed at modifying the operational landscape slightly (Roggema et al., 2012). Incremental change can include alterations in organizational structure, the introduction of new technology, or modifications in personnel practices. Incremental change also encompasses continuous improvement initiatives focusing on quality management processes or implementing new systems requiring ongoing training and adjustments (Carter et al., 2013). By making incremental changes, organizations can respond more effectively to environmental changes, improve performance, and secure their future (Král & Králová, 2016; Mellert et al., 2015).

Transitional change involves replacing existing methods or processes with new ones. It often requires significant reorganization or the dismantling of current operating methods. Thus, it is a fluent change with future orientation, usually an improved version of the existing methods, processes, and procedures (Roggema et al., 2012). Transition is seen as a fluent change towards a new future, which is an improved version of the existing, and transformation is seen as a change towards a future that is fundamentally different from the existing. Transitional changes are usually implemented over a defined period, and their success depends heavily on the cooperation and involvement of all organization members (Thomas, 2014; Wonah et al., 2020). Examples of transitional change include the introduction of new products, the com-

puterization of management information systems, corporate restructuring through mergers, and the adoption of new technologies. Transitional change becomes necessary when an organization must respond to environmental shifts, when existing problems cannot be solved, or when opportunities cannot be exploited (Thomas, 2014).

The level of technological advancement in an organization significantly impacts both the quality and quantity of its products or services, and it is closely linked to overall firm performance (Zhang & Aumeboonsuke, 2022; Arts et al., 2021). However, the relationship between technological change and organizational performance is mixed because technology has either positive or negative effects on performance (Sait et al., 2018). Technological change is especially crucial in the banking industry as it shapes competitive dynamics (Král & Králová, 2016; Carter & McNulty, 2005). The rapid, unpredictable nature of technological advancements, the shifts in customer expectations, and fierce competition underscore the need for effective change management. Effective management of technological change is key to an organization's long-term survival (Mellert et al., 2015; Akingbade, 2011).

The chaotic nature of change suggests a multidimensional approach to managing it, therefore, managers must explore various models and frameworks when implementing chosen change management strategies (Phillips & Klein, 2022). To remain competitive, organizations must embrace change as a catalyst for growth and continuously adapt their structure and capabilities to meet evolving stakeholder needs (Junnaid et al., 2020; Khalifa & Fawzy, 2017). Change management can have both positive and negative outcomes. On the positive side, effective change can boost employee confidence, foster competitive advantage, drive growth, and enhance operational efficiency and overall performance. However, poorly managed change can lead to employee resistance, low morale, and excessive demands on productivity (Daniel, 2019). Given these challenges, this study examined the impact of various change management strategies – specifically reactive, proactive, incremental, and transitional changes – on the performance of commercial banks in Nigeria. Additionally, it explores the role of technology as a moderating factor that can enhance the effectiveness of these strategies and improve overall organizational performance. By examining these dynamics, the study aims to contribute valuable insights into how Nigerian banks can better manage change to remain competitive and achieve sustained success in a rapidly evolving business environment.

Since modern banking operations are increasingly reliant on technology, we predict that technology will moderate the association between change management strategies and the performance of banks in Nigeria. The literature review shows that change management is strongly linked with organizational performance (Okeke et al., 2019; Thomas, 2014; Orishede et al., 2024). Moreover, technology has been found to play a decisive role in the association between change management and performance, especially in the banking industry (Zhang & Aumeboonsuke, 2022). In conclusion, effective change management is critical for sustaining competitive advantage in a rapidly evolving environment. For banks in Nigeria, integrating technological advancements and proactive strategies is key to long-term success.

This study examines the impact of change management strategies on the performance of commercial banks in Nigeria, focusing on the moderating role of technology.

This study investigated how different types of change affect the performance of banks in Nigeria and found that reactive change, proactive change, incremental change, and technological change are strong predictors of performance. While reactive, proactive, and incremental changes significantly affect performance, technological change moderates the association between transitional change and performance.

Hypotheses development:

H_{01}: *Reactive change exerts a considerable influence on performance.*

H_{02}: *Proactive change has a strong association with performance.*

H_{03}: *Incremental change has a significant effect on performance.*

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H_{04}: *Transitional change significantly impacts performance.*

H_{05}: *Technological change moderates the relationship between change management strategies and performance.*

2. METHOD

This study employed a descriptive cross-sectional survey design to gather data from a sample of 354 respondents selected from a population of 3,408 senior and management staff across 17 commercial banks in Nigeria. To ensure the reliability of the research instrument, an exploratory factor analysis was first conducted on a pilot sample of 17 respondents. These participants were excluded from the final survey to maintain the integrity of the study. The data analysis used descriptive statistics and factor analysis to validate the test items. Additionally, regression analysis was employed to estimate the specified models and address the research questions. Two models were used in this study:

2.1. Model A (Without moderation)

The performance of commercial banks (*PERFMCB*) is modelled as a function of reactive change (*RCHANG*), proactive change (*PROCHANG*), incremental change (*INCHANG*), and transitional change (*TRACHANG*):

$$PERFMCB = f\begin{pmatrix} RCHANG, \\ PROCHANG, \\ INCHANG, \\ TRACHANG \end{pmatrix}. \quad (1)$$

The regression equation is:

$$PERFMCB = \alpha_0 + \alpha_1 RCHANG + \alpha_2 PROCHANG + \alpha_3 INCHANG + \alpha_4 TRACHANG + \mu. \quad (2)$$

2.2. Model B (With technology as a moderating variable)

Here, technological change (*TCHANG*) is introduced as a moderator in the relationship between change management strategies and bank performance:

$$PERFMCB = f\begin{pmatrix} RCHANG, PROCHANG, \\ INCHANG, TRACHANG, \\ TCHANG, \\ TCHANGRCHANG, \\ TCHANGPROCHANG, \\ TCHANGINCHANG, \\ TCHANGTRACHAN \end{pmatrix}. \quad (3)$$

The regression equation is:

$$PERFMCB = \beta_0 + \beta_1 RCHANG + \beta_2 PROCHANG + \beta_3 INCHANG + \beta_4 TRACHANG + \beta_5 TCHANG + \beta_6 TCHANGRCHANG + \beta_7 TCHANGPROCHANG + \beta_8 TCHANGINCHANG + \beta_9 TCHANGTRACHANG + \mu, \quad (4)$$

where *PERFMCB* represents the performance of commercial banks, measured by customer satisfaction; *RCHANG* represents reactive change; *PROCHANG* stands for proactive change; *INCHANG* = incremental change; *TRACHANG* represents transitional change; *TCHANG* stands for technological change; $ß_0$ to $ß_9$ are the regression coefficients, and μ stands for the stochastic error term.

3. RESULT

The analysis begins with a summary of the descriptive statistics. The mean of the criterion variable, performance of commercial banks (*PERFMCB*), is 4.67. The predictor variables – reactive change (*RCHANG*), proactive change (*PROCHANG*), incremental change (*INCHANG*), and transitional change (*TRACHANG*) – have mean values ranging between 4.25 and 4.54, which are close to the maximum possible values. This suggests that respondents generally agree that the change management strategies explored in this study are strong predictors of bank performance. The low standard deviation values indicate a consensus among re-

Table 1. Summary statistics and regression diagnostic tests

Variable	PERFMCB	RCHANG	PROCHANG	INCHANG	TRACHANG	TCHANG
Mean	4.67	4.54	4.25	4.53	4.43	4.40
Median	5.00	4.60	4.40	4.50	4.50	4.40
Maximum	5.00	5.00	5.00	5.00	5.00	5.00
Minimum	3.00	3.00	2.40	2.30	2.80	3.40
Std. Dev.	0.51	0.37	0.52	0.41	0.49	0.39
Skewness	–1.13	–1.02	–0.68	–1.93	–0.84	–0.45
Kurtosis	3.10	4.67	3.28	10.02	3.31	2.51
Jarque-Bera	74.94	102.18	28.49	947.08	43.49	15.42
Probability	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*
VIF	–	1.23	1.34	1.33	1.36	1.35
Breusch-Pagan-Godfrey Heteroscedasticity test	F= 0.767; Prob F (5,139) = 0.575; Obs* R-squared = 3.89; χ^2 = 0.564					

Note: * Significant at >1%.

spondents across different units of analysis. The Jarque-Bera test, used to assess the normality of the data distribution, reveals that the data set is non-normally distributed, with probabilities significant at less than the 1% level.

The factor analysis conducted to assess the validity of the test items shows that four items measuring performance loaded highly with factor loadings (λ) greater than 0.70, and an eigenvalue of 2.55, explaining about 64% of the variance (average variance extracted, AVE). These results indicate a well-defined factor structure for the performance construct. The Kaiser-Meyer-Olkin (KMO) value of 0.68, alongside a chi-square (χ2) value of 82.21 (p = 0.000), suggests that the sample size is adequate. Furthermore, the Cronbach-Alpha value of 0.81 confirms the internal consistency and reliability of the performance measures. Similarly, the test items measuring reactive, proactive, incremental, transitional, and technological changes all show factor loadings of ≥ 0.50, demonstrating the validity of these constructs. The Cronbach's alpha values for these variables exceed the lower threshold of 0.60, further confirming the reliability of the measurement instruments. Additionally, the KMO values of ≥ 0.600 confirm the sample size's adequacy, while Bartlett's test of sphericity, signif-

Table 2. Result of the exploratory factor analysis for the test items measuring the variables

Variable	Item code	SFL (λ)	λ^2	Cronbach's α	Eigen-value	AVE	KMO	χ^2
Performance (PM)								
There has been an improvement in operational efficiency in my organization as a result of changes made in response to environmental threats	PM1	.91	.83	.81	2.55	63.7	.68	82.21*
Unplanned change can be a drain on organizational resources	PM2	.83	.68					
Reactive change can save the organization from losing patronage	PM5	.73	.53					
Proactive change saves time and money for the organization	PM6	.71	.51					
Reactive change (RC)								
Reactive change can be very demanding on both the organization and its people because it gives no time to prepare for or analyze the situation	RC1	.80	.64	.81	2.56	63.89	.78	62.5*
Reactive change can be a very useful damage control tool	RC2	.87	.75					
In my organization, unplanned change is handled quickly and in a routine manner	RC3	.75	.56					
In my organization, management responds as soon as any lapse is noticed in operations	RC4	.77	.60					
Proactive change (PRC)								
My organization anticipates change	PC1	.83	.70	.66	1.79	59.64	.62	21.85*
In my organization, a contingency plan is in place	PC2	.69	.51					
In my organization, a risk committee is in place that monitors the effectiveness of operations	PC3	.79	.62					

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Table 2 (cont.). Result of the exploratory factor analysis for the test items measuring the variables

Variable	Item code	SFL (λ)	λ²	Cronbach's α	Eigen-value	AVE	KMO	χ²
Incremental change (IC)								
Modest changes to the management approach in response to customers' complaints gradually improve service delivery in my organization	IC1	.85	.77	78	2.70	53.92	.69	79.21*
Notable modifications to my organization's management strategies are fundamental to quality service	IC2	.50	.80					
Gradual and small improvements are good for the well-being of my organization	IC3	.80	.65					
Innovating existing systems at our pace and style has helped my organization improve service quality	IC4	.74	.70					
In my organization, employees are encouraged to be innovative and make modest changes that can give their operating environment the semblance of a new working environment	IC5	.74	.83					
Transitional change (TS)								
In my organization, employees are informed of planned changes well ahead of time	TS1	.74	.55	.76	2.34	58.44	.74	47.73*
My organization trains employees on the modus operandi of new products/services	TS2	.76	.58					
In my organization, customers are informed about new products/ services	TS3	.83	.69					
In my organization, customers are given sufficient time before key changes are implemented	TS4	.72	.52					
Technological change (TC)								
In my organization, technology is a key driver of change	TC1	.55	.79	.64	1.74	43.11	.60	18.18*
In the industry where my organization operates, changes in technology are frequent	TC2	53	.81					
Technological change in the banking industry is dictated by both competition and regulatory authorities	TC4	.76	.54					
In my organization, technological change is both a curse (increases costs) and a blessing (leads to efficiency)	TC5	.78	62					

Note: * Significant at <1%.

icant at the 5% level, indicates strong correlations among the test items. Test items that failed the validity and reliability criteria were excluded from further analysis. The regression analysis conducted to examine the effect of change management strategies on the performance of commercial banks is presented in several models (see Table 3).

The analysis begins with Model A, where the impact of the four change management strategies (RCHANG, PROCHANG, INCHANG, and TRACHANG) on bank performance is examined without the moderating effect of technological change. The results indicate that the coefficients for RCHANG (1.87, z = 4.02, p = 0.000), PROCHANG (2.02, z = 5.47, p = 0.000), and INCHANG (2.99, z = 6.28, p = 0.000) are all significant at the <1% level, suggesting that these strategies are strong predictors of bank performance. The positive coefficients indicate that reactive, proactive, and incremental changes positively influence the performance of commercial banks. This finding is consistent with previous studies by Isern and Pung (2006), Mellert et al. (2010), and Thomas (2014), which also reported positive relationships between these change management strategies and performance. However, the coefficient for TRACHANG (–0.15, z = –0.47, p = 0.640) is negative and not statistically significant at the 5% level, indicating that transitional change does not significantly impact bank performance in the absence of technological moderation.

Evidence in the literature shows that technological change is frequent and inevitable due to the rapid and unpredictable change in customers' needs (Mellert et al., 2015). Therefore, this study considers technological change as critical to the success and survival of commercial banks in Nigerian, as technology enables banks to cope with changes in customer needs. Following Baron and Kenny (1986) and Mackinnon (2011), the study conduct-

Table 3. Ordered logit results for the dependent variable and the predictors

Variable	Panel A			Panel B: Moderated Model			Panel C: Moderated model with interaction terms		
	Coef.	z-stat.	Prob.	Coef.	z-stat.	Prob.	Coef.	z-stat.	Prob.
RCHANG	1.87	4.02	0.000†	2.01	4.18	0.000†	5.86	1.09	0.27
PROCHANG	2.02	5.47	0.000†	2.19	5.70	0.000†	–3.69	–0.82	0.41
INCHANG	2.99	6.28	0.000†	2.90	5.92	0.000†	8.86	1.80	0.07
TRACHANG	–0.15	–0.47	0.640	–0.78	–1.96	0.049*	–9.54	–2.14	0.03*
TCHANG	–	–	–	1.52	3.04	0.002†	–3.14	–0.41	0.68
TCHANG*RCHANG	–	–	–	–	–	–	–0.86	–0.70	0.48
TCHANG*PROCHANG	–	–	–	–	–	–	1.35	1.32	0.19
TCHANG*INCHANG	–	–	–	–	–	–	–1.35	–1.19	0.24
TCHANG*TRACHANG	–	–	–	–	–	–	2.04	1.97	0.05*
Pseudo R^2	–	0.44	–	–	0.46	–	–	0.48	
LR statistic	–	25.83	0.000†	–	225.59	0.000†	–	232.69	0.000†
Akaike info criterion (AIC)	–	0.795	–	–	0.773	–	–	0.776	–

Note: † Significant at less than 0.01 per cent. * Significant at 5 per cent.

ed a regression analysis estimating the relationship between change management strategies and the performance of commercial banks, followed by regressing change management strategies and the moderating variable (technological change) on the criterion variable and lastly, estimating the relationship between the predictors, technological change, the interaction terms and the criterion variable. The analysis is extended in Model B by incorporating technological change (*TCHANG*) as a moderating variable. The results show that while the coefficients for *RCHANG*, *PROCHANG*, and *INCHANG* remain significant, the introduction of *TCHANG* alters the significance of *TRACHANG*. Specifically, the coefficient for *TRACHANG* becomes significant when moderated by technology (c = –0.78, z = –1.96, p = 0.049). Additionally, the coefficient for *TCHANG* is positive and significant (c = 1.52, z = 3.04, p = 0.002), suggesting that technological change enhances the impact of other change strategies on bank performance. The model shows a significant increase in the explanatory power (ΔR2 = 0.537, ΔF = 80.76, p = 0.000) when technological moderation is included.

Further analysis explores the interaction between technological change and transitional change. The results reveal that the interaction term *TCHANG*TRACHANG* is significant (c = 2.04, z = 1.97, p = 0.048), indicating that technology significantly moderates the relationship between transitional change and bank performance. However, the negative coefficient for TRACHANG (c = –9.54, z = –2.14, p = 0.032) suggests that while technological change enhances the impact of transitional change, the cost associated with implementing such change may initially offset its benefits. The overall model shows a significant increase in explanatory power (ΔR2 = 0.547, ΔF = 46.13, p = 0.000).

In summary, the result of the test of the hypotheses is as follows:

$H_{02:}$ *Reactive change has a significant positive effect on performance of commercial banks in Nigeria.*

H_{02}: *Proactive change positively and significantly affects the performance of commercial banks in Nigeria.*

Table 4. Model summary on the moderating effect of technological change on the relationship between change management strategies and the performance of commercial banks in Nigeria

Model	R	R2	Adj. R2	Std. error	Change statistics				p-value of F change
					R2 change	F change	df 1	df 2	
A: DV & IVs	0.724	0.524	0.519	0.350	0.524	96.2	4	349	0.000**
B: DV, IVs & Moderator	0.733	0.537	0.530	0.346	0.537	80.76	5	348	0.000**
C: B with interaction terms	0.740	0.547	0.535	0.344	0.547	46.13	9	344	0.000**

Note: ** Significant at less than 1 per cent.

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H_{03}: *Incremental change has a strong positive significant effect on performance of commercial banks in Nigeria.*

H_{04}: *Transitional change has a negative significant impacts on performance of commercial banks in Nigeria, and lastly.*

H_{05}: *Technological change moderates the relationship between change management.*

4. DISCUSSION

The results of this study align with theoretical expectations, confirming that the change management strategies investigated, namely, reactive, proactive, and incremental changes, are significantly associated with the performance of commercial banks in Nigeria. The analysis confirms that reactive change positively impacts commercial banks' performance. This suggests that commercial banks in Nigeria are adept at responding quickly to environmental changes, such as threats and opportunities, which are critical aspects of strategic flexibility. These changes are often unplanned, driven by external pressures or mimicking competitors, yet they effectively enhance performance by allowing banks to adapt swiftly to changing circumstances. This finding is consistent with previous research by Zhigang et al. (2013) and Ashmos et al. (2016), which found that organizations that respond promptly to environmental changes perform better. However, Chan et al. (2022) suggest that while reactive strategies are beneficial, they may be constrained by performance-based motivations that limit the practice of reactive strategies. In the case of proactive change (*PROCHANG*), the significant coefficient underscores the importance of foresight in managing organizational change. Proactive change allows organizations to anticipate and mitigate potential problems before they escalate, which is particularly crucial in a volatile industry like banking. For example, proactive planning for the potential departure of key staff can prevent operational disruptions. This finding aligns with the work of Onugha and Onuoha (2019), Thomas (2014), and Ramezan et al. (2013), who argue that proactive change helps organizations avoid the pitfalls of sudden, unanticipated events. Moreover, Chan et al. (2022) highlight that proactive change strategies are closely associated with performance-based motivation, further supporting the benefits of anticipatory change. Incremental change, characterized by continuous and gradual improvements, is shown to have a significant positive impact on performance. This finding supports the notion that in a dynamic environment, organizations must continuously adapt and make small improvements to maximize short-term gains. Studies by Johnson and Priest (2008) and Carter et al. (2013) reinforce the idea that incremental change is essential for improving organizational performance and ensuring long-term success.

The moderating effect of technological change is particularly noteworthy. While transitional change alone does not significantly impact performance, the inclusion of technology as a moderating variable reveals its critical role in enhancing the effectiveness of change management strategies. The negative association between transitional change and performance suggests that such changes come with costs, as seen during the 2005 consolidation exercise and the implementation of online real-time banking in Nigeria. However, when supported by technological advancements, the benefits of transitional change can outweigh these costs. This finding is supported by research from Carter and McNulty (2005), Sait et al. (2018), Arts et al. (2021), and Zhang and Aumeboonsuke (2022), all of whom emphasize the significant impact of technology on organizational performance.

In summary, the findings of this study highlight the importance of adopting a multi-faceted approach to change management, particularly in the context of the Nigerian banking sector. Reactive, proactive, and incremental changes all contribute positively to performance, thus supporting the proposed hypotheses. The study also shows that the successful implementation of transitional change relies heavily on technology. Therefore, the hypothesis that predicted that technology moderates the association between change management strategies and the performance of commercial banks in Nigeria is also supported. These insights have important implications for commercial banks, suggesting that investment in technology is crucial for maximizing the benefits of change management strategies. The study recommends

that commercial banks in Nigeria should continually scan their business environment to enable them react appropriately to changes in the business environment, continually conduct resource audit especially for their key resources and put contingency plans in place to cope with sudden changes in the configuration of the key resources such as the exit of a key staff, and continue to innovate and improve their operations by effecting incremental changes in processes and procedures.

CONCLUSION

This study examines the impact of change management strategies on the performance of commercial banks in Nigeria, focusing on the moderating role of technology. The results show that the change management strategies investigated significantly affect the performance of commercial banks in Nigeria. The findings indicate that these strategies significantly enhance performance. The study also found that technology is a key driver of transitional change in the Nigerian banking industry. This implies that transitional change alone may not significantly impact performance unless supported by technological advancements. Organizations worldwide are increasingly challenged by a dynamic business environment that demands continuous adaptation. To remain competitive and successful, businesses must constantly adjust their strategies and operations in response to these changes. Effective change management is critical because it mitigates potential threats and leverages opportunities that significantly enhance organizational performance. Change management has thus become a vital strategy for continuously renewing an organization's focus, structure, and capabilities to meet the evolving needs of stakeholders. It ensures that resources are deployed effectively, allowing organizations to confront challenges and capitalize on opportunities to achieve their objectives. Change is inevitable, and as a key catalyst for growth and staying competitive, it has become an integral part of organizational life. Change comes with unique challenges and new opportunities and affects organizational performance; thus, failure to embrace change portends a bleak future. In other words, change management has been recognized as one of the methods of continually enhancing the organization's capabilities to meet the ever-changing needs of stakeholders.

The Nigerian banking industry has undergone significant transformations over the past few decades, including the indigenization decree of 1972, recapitalization exercises in 2001 and 2005, and the implementation of the universal banking model. These changes underscore the importance of understanding how various change management strategies affect organizational performance. Therefore, the study investigated how change management strategies, such as reactive, proactive, incremental, and transitional change, affect the performance of commercial banks in Nigeria, including determining how technology accentuates the association between change management strategies and organizational performance. The study contributes to the empirical literature by demonstrating that reactive, proactive, and incremental changes are crucial management strategies for Nigerian commercial banks. A key limitation of this study is its focus on a relatively small number of commercial banks, which may limit the generalizability of the findings. Nonetheless, the large sample size and the diversity in respondents' orientations helped ensure the robustness and variability of the data. Overall, this research provides valuable insights into the Nigerian banking industry, emphasizing the critical role of technology in successful change management.

AUTHOR CONTRIBUTIONS

Conceptualization: John Otalor, Alfred Edema, Celestine Igwebe, Fabrice Ashu.
Data curation: John Otalor, Alphonsus Kankpang, Grace Pepple, Fabrice Ashu, Francis Enya.
Formal analysis: John Otalor, Celestine Igwebe, Alphonsus Kankpang.
Funding acquisition: John Otalor, Alfred Edema, Celestine Igwebe, Alphonsus Kankpang, Grace Pepple, Fabrice Ashu, Francis Enya.

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Investigation: John Otalor, Alfred Edema, Celestine Igwebe, Alphonsus Kankpang, Grace Pepple, Fabrice Ashu, Francis Enya.
Methodology: John Otalor, Alphonsus Kankpang, Grace Pepple.
Project administration: John Otalor, Alfred Edema.
Resources: John Otalor, Celestine Igwebe, Alphonsus Kankpang, Grace Pepple, Fabrice Ashu, Francis Enya.
Software: John Otalor.
Supervision: Alfred Edema, Celestine Igwebe, Alphonsus Kankpang.
Validation: Alphonsus Kankpang, Grace Pepple, Fabrice Ashu, Francis Enya.
Visualization: John Otalor, Alfred Edema.
Writing – original draft: John Otalor, Celestine Igwebe.
Writing – reviewing & editing: Alfred Edema, Alphonsus Kankpang, Grace Pepple, Francis Enya.

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APPENDIX

RESEARCH INSTRUMENT

Change management strategies and the performance of commercial banks in Nigeria: The moderating role of technology

SECTION I: RESPONDENT BIODATA

1. Age (a) 25-40 years ☐, (b) 41-50 years ☐, (c) 51 years and above ☐.
2. Sex: (a) Male ☐, (b) Female ☐.
3. Academic Discipline: (a) Sciences ☐, (b) Social Sciences ☐, (c) Art ☐, (d) Humanities ☐.
4. Educational Qualification: (a) HND ☐, (b) B. Sc and others ☐.
5. Job Experience: (a) 10-15 years ☐, (b) 16-25 years ☐, (c) 26-30 years ☐, (d) 31 years and above ☐.
6. Official Status: (a) Senior staff ☐, (b) Management staff ☐, (c) MD/Chief Executive ☐.
7. Place of work/Location: _____

SECTION II

Please tick as appropriate. NB: **SA** stands for strongly agree, **A** for Agree, **U** stands for Undecided, **D** for Disagree, and **SD** for Strongly Disagree

Performance of the organization

1. There has been an improvement in operational efficiency in my organization as a result of changes made in response to environmental threats. SA ☐, A ☐, U ☐, D ☐, SD ☐
2. Unplanned change can be a drain on organizational resources. SA ☐, A ☐, U ☐, D ☐, SD ☐
3. Incremental change leads to improved operational efficiency at no cost to the organization.
4. SA ☐, A ☐, U ☐, D ☐, SD ☐
5. Proactive change in the form of quality control through monitoring reduces the incidence of service failure. SA ☐, A ☐, U ☐, D ☐, SD ☐
6. Reactive change can save the organization from losing patronage. SA ☐, A ☐, U ☐, D ☐, SD ☐
7. Proactive change saves time and money for the organization. SA ☐, A ☐, U ☐, D ☐, SD ☐
8. In my organization, technology is both a cash cow and a cash guzzler. SA ☐, A ☐, U ☐, D ☐, SD ☐

CHANGE MANAGEMENT STRATEGIES

A. Reactive change

1. Reactive change can be very demanding on both the organization and its people because it gives no time to prepare for or analyze the situation. SA ☐, A ☐, U ☐, D ☐, SD ☐
2. Reactive change can be a very useful damage control tool. SA ☐, A ☐, U ☐, D ☐, SD ☐
3. In my organization, unplanned change is handled quickly and in a routine manner. SA ☐, A ☐, U ☐, D ☐, SD ☐
4. In my organization, management responds as soon as any lapse is noticed in operations. SA ☐, A ☐, U ☐, D ☐, SD ☐

B. Proactive change

1. My organization anticipates change. SA ☐, A ☐, U ☐, D ☐, SD ☐
2. In my organization, a contingency plan is in place. SA ☐, A ☐, U ☐, D ☐, SD ☐ In my organization, a risk committee is in place that monitors the effectiveness of operations. SA ☐, A ☐, U ☐, D ☐, SD ☐
3. Proactive change is good for my organization. SA ☐, A ☐, U ☐, D ☐, SD ☐

C. Incremental change

1. Modest changes to the management approach in response to customers' complaints gradually improve service delivery in my organization. SA ☐, A ☐, U ☐, D ☐, SD ☐
2. Notable modifications to my organization's management strategies are fundamental to quality service. SA ☐, A ☐, U ☐, D [SD ☐
3. Gradual and small improvements are good for the well-being of my organization. SA ☐, A ☐, U ☐, D ☐, SD ☐
4. Innovating existing systems at our pace and style has helped my organization improve service quality. SA ☐, A ☐, U ☐, D ☐, SD ☐
5. In my organization, employees are encouraged to be innovative and make modest changes that can give their operating environment the semblance of a new working environment. SA ☐, A ☐, U ☐, D ☐, SD ☐

D. Transitional change

1. In my organization, employees are informed of planned changes well ahead of time. SA ☐, A ☐, U ☐, D ☐, SD ☐
2. My organization trains employees on the modus operandi of new products/services. SA ☐, A ☐, U ☐, D ☐, SD ☐
3. In my organization, customers are informed about new products/ services. SA ☐, A ☐, U ☐, D [SD ☐
4. In my organization, customers are given sufficient time before key changes are implemented. SA ☐, A ☐, U ☐, D ☐, SD ☐

E. Technological change

1. In my organization, technology is a key driver of change. SA ☐, A ☐, U ☐, D ☐, SD ☐
2. In the industry where my organization operates, changes in technology are frequent. SA ☐, A ☐, U ☐, D ☐, SD ☐
3. In the industry where my organization operates, survival is a function of embracing the frequent changes in technology.SA ☐, A ☐, U ☐, D ☐, SD ☐
4. Technological change in the banking industry is dictated by both competition and regulatory authorities. SA ☐, A ☐, U ☐, D ☐, SD ☐
5. In my organization, technological change is both a curse (increases costs) and a blessing (leads to efficiency). SA ☐, A ☐, U ☐, D ☐, SD ☐

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