



## Influence of Organizational Innovation on Management Strategy: Strategic Change as a Mediator in the Education

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**Abstract.** *This study investigates the influence of organizational innovation on management strategy in the education sector, focusing on the mediating role of strategic change. Quantitative data were collected through a structured survey (Cronbach's Alpha > 0.7) and analyzed using Structural Equation Modeling (SEM) with a sequential explanatory mixed-methods approach. Key relationships were identified: organizational innovation significantly impacts management strategy ( $\beta = 0.45, p < 0.01$ ), while strategic change mediates this relationship ( $\beta = 0.30, p < 0.01$ ). Qualitative data from semi-structured interviews with 20 educational leaders revealed three critical themes: strategic alignment with institutional goals, the importance of participative leadership, and barriers such as resource constraints and bureaucratic inertia. These findings highlight the necessity of integrating innovation with strategic change to optimize management practices. The study contributes to literature by validating the dynamic capabilities framework in the education sector and addressing gaps related to the operationalization of innovation. Practical implications include fostering participative leadership, aligning innovation with institutional objectives, and streamlining resources to support transformative strategies. Policymakers and educational leaders are advised to implement context-sensitive frameworks to sustain innovation and enhance institutional adaptability.*

**Keywords** *Organizational innovation, strategic change, management strategy, SEM, participative leadership*

### INTRODUCTION

Organizational innovation, a critical enabler of institutional adaptability, competitive advantage, and sustainability, plays a pivotal role in navigating dynamic environments (Dias & Ferreira, 2019; Lestari et al., 2020). Drawing from the dynamic capabilities framework (Teece, 2007) this study underscores the necessity for emphasizes the adaptability of organizations to adapt swiftly to volatile contexts, while institutional theory (DiMaggio & Powell, 1983) illuminates the influence of external pressures in shaping organizational practices. Together, these theoretical foundations offer a robust framework to analyze the interplay between innovation, strategic change, and management strategy.

In the education industry, the urgency to innovate has become more pronounced in response to technological advancements, globalization, and heightened demands for

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inclusivity and quality (Jemmy et al., 2023). The post-pandemic landscape has accelerated the adoption of digital transformation, exemplified by technology-enhanced learning and hybrid educational models, which present opportunities for improved operational outcomes (Criollo-C et al., 2021). However, systemic barriers, such as bureaucratic inertia and resource constraints, continue to impede the implementation of innovative and strategic changes (Balta et al., 2013; Steele, 2008).

This research investigates the impact of organizational innovation on management strategy, with a particular focus on the mediating role of strategic change to address these challenges. By investigating this relationship, it bridges critical gaps in the literature, particularly the mechanisms through which innovation can be operationalized to enhance management practices in educational institutions. Moreover, this research provides actionable insights to promote innovation-driven transformation, tailored to the post-pandemic context (UNESCO, 2023).

Employing a mixed-methods approach, the study integrated qualitative case studies and quantitative modeling to deliver a comprehensive analysis (Byrne, 2016; Kline, 2016). A structured questionnaire, adapted from previous studies by Dias & Ferreira (2019) and Owusu-Agyeman (2019), was used to collect quantitative data. Utilizing a 5-point Likert scale ranging from strongly disagree to strongly agree, the survey's reliability was established through a Cronbach's Alpha analysis, which exceeded the recommended threshold of 0.7.

The qualitative phase involved semi-structured interviews with 20 educational leaders selected through purposive sampling, representing diverse institutional contexts. These interviews explore contextual nuances of innovation strategies, enriching the quantitative findings and providing deeper insight into the practical mechanisms that drive strategic transformation.

## **LITERATURE REVIEW**

Organizational innovation involves the adoption of novel ideas, processes, or technologies that enhance an organization's operations or outcomes significantly (Khanagha et al., 2013). In the education sector, innovation takes various forms, such as

implementing technology-enhanced learning, redesigning curriculum delivery methods, and adopting hybrid learning models. However, the successful implementation of these innovations often depends on supportive leadership and strategic alignment (Owusu-Agyeman, 2021).

Strategic change is defined as the transformation of an organization's structure, processes, or goals to adapt to internal and external pressures (Alves et al., 2018). In the context of education, strategic change ensures that innovative initiatives are aligned with institutional objectives and integrated into the organization's long-term vision.

Existing studies have explored the mediating role of strategic change in sectors like healthcare and technology, however, its application in education remains underexplored (Eddie & Peter, 2014; Yemini, 2012). While numerous studies emphasize innovation as a driver of institutional success, there are gaps in understanding its integration into management strategies. For example, Dias and Ferreira (2019) discuss innovation in improving organizational performance but provide limited insight into how strategic change mediates this relationship (Dias & Ferreira, 2019). Similarly, Owusu-Agyeman (2019) identifies participative leadership as a key enabler of educational innovation but does not elaborate on its operationalization within management frameworks (Owusu-Agyeman, 2021).

The literature also reveals several contradictions. Yemini (2012) asserts that strategic change in education is context-specific and constrained by bureaucratic structures, whereas Steele (2008) argues for a universal framework applicable across educational institutions. These contradictions highlight the need for further research to reconcile these perspectives and identify context-sensitive strategies for innovation integration.

The review identifies three critical gaps: (1) a limited investigation into how strategic change mediates the relationship between innovation and managerial decision-making (2) insufficient empirical evidence from the education sector, and (3) a lack of integrative frameworks that address systemic inequities while fostering innovation (Balta et al., 2013).

Through this exploration, the study offers a more comprehensive understanding of how organizational innovation, strategic change, and management strategies interact and influence each other. Furthermore, it provides practical insights into designing inclusive and sustainable innovation frameworks for education (García-Hurtado et al., 2024).

## **METHODS**

This study employed a sequential explanatory design, beginning with quantitative data collection and analysis to identify overarching patterns, followed by qualitative exploration to gain deeper insights. This mixed-methods approach ensure data triangulation, enhancing the reliability of findings (Byrne, 2016; Creswell & Clark, 2017).

### **Data Collection Procedures**

The quantitative phase involved a structured survey adapted from Dias & Ferreira (2019) and Owusu-Agyeman (2019), using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The survey was validated through reliability tests, achieving a Cronbach's Alpha  $> 0.7$ , ensuring data consistency (Dias & Ferreira, 2019; Owusu-Agyeman, 2021).

For the qualitative phase, semi-structured interviews were conducted with 20 educational leaders selected through purposive sampling to represent diverse institutional contexts. The interview questions were designed to explore contextual nuances of innovation strategies, providing depth to the quantitative findings.

### **Data Analysis Techniques**

A structural equation modeling (SEM) approach was employed to empirically examine the hypothesized causal linkages among the variables. SEM was selected for its capacity to analyze intricate causal relationships. (Kline, 2015). Model fit indicators included CFI  $> 0.95$ , TLI  $> 0.95$ , RMSEA  $< 0.06$ , and SRMR  $< 0.08$ , confirming the robustness of the model.

Thematic analysis was applied for qualitative data using NVivo software. Interview transcripts were iteratively coded to identify recurring themes and patterns, ensuring transparency and consistency in the analysis (Creswell, 2014).

## RESULTS

### Quantitative Findings: Path Analysis and Model Validation

The quantitative analysis revealed critical relationships between organizational innovation, strategic change, and management strategy, underscoring the interconnectedness of these variables. The key findings include:

1. Organizational Innovation → Management Strategy

A positive and statistically significant relationship was observed ( $\beta=0.45, p<0.01$  \beta = 0.45, p < 0.01), indicating that higher levels of organizational innovation are directly associated with enhanced management strategies.

2. Organizational Innovation → Strategic Change

The strongest observed relationship ( $\beta=0.60, p<0.01$  \beta = 0.60, p < 0.01) highlights strategic change as a direct and essential outcome of organizational innovation.

3. Strategic Change → Management Strategy

A significant mediating relationship ( $\beta=0.30, p<0.01$  \beta = 0.30, p < 0.01) illustrates that strategic change is integral to translating innovative efforts into effective management practices.

These findings validate the hypothesized model and align with the theoretical foundations of the dynamic capabilities framework (Teece, 2007), emphasizing the role of strategic change in leveraging innovation to enhance organizational performance.

The robustness of these relationships was confirmed through Structural Equation Modeling (SEM), with exemplary fit indices demonstrating the validity of the model:

1. Comparative Fit Index (CFI) = 0.96
2. Tucker-Lewis Index (TLI) = 0.95
3. Root Mean Square Error of Approximation (RMSEA) = 0.04
4. Standardized Root Mean Square Residual (SRMR) = 0.03

Table 1 summarizes the SEM model fit indices, while Table 2 details the path analysis results, illustrating the statistical significance and strength of the observed relationships.

**Table 1. SEM Model Fit Indices**

| Indicator | Threshold | Results | Interpretation |
|-----------|-----------|---------|----------------|
| CFI       | ≥ 0.95    | 0.96    | Excellent Fit  |
| TLI       | ≥ 0.95    | 0.95    | Excellent Fit  |
| RMSEA     | ≤ 0.06    | 0.04    | Excellent Fit  |
| SRMR      | ≤ 0.08    | 0.03    | Excellent Fit  |

**Table 2. Quantitative Pat Analysis Results**

| Relationship                                    | Path Coefficient (β) | p-value | Interpretation                    |
|---|----------------------|---------|-----------------------------------|
| Organizational Innovation – Management strategy | 0.45                 | 0.01    | Significant positive relationship |
| Organizational Innovation – Strategic Change    | 0.60                 | 0.01    | Significant positive relationship |
| Strategic Change - Management strategy          | 0.30                 | 0.01    | Significant positive relationship |

These findings substantiate the theoretical proposition that organizational innovation must be aligned with strategic change to effectively strengthen management strategies. This alignment allows educational institutions to adapt to dynamic environments and achieve sustainable competitive advantages

### **Qualitative Insight: Contextual and Opportunities**

The qualitative analysis, derived from semi-structured interviews, enriched the quantitative findings by uncovering critical contextual factors influencing innovation-driven strategic transformation. Three overarching themes emerged from the thematic analysis:

#### **1. Strategic Alignment**

Participants emphasized that the success of innovation initiatives hinges on their alignment with institutional goals and long-term visions. For instance, one respondent highlighted, "Innovation efforts unaligned with organizational priorities risk fragmentation and inefficiency." This sentiment aligns with Dias and Ferreira (2019), who argue that strategic coherence is a determinant of successful innovation implementation.

#### **2. Participative Leadership**

Inclusive leadership practices were identified as pivotal in fostering collective ownership and commitment toward innovation. As noted by a respondent, "Leaders who involve their teams in decision-making processes cultivate trust and a shared sense of purpose," a finding that mirrors the participative leadership framework proposed by Owusu-Agyeman (2019).

### 3. Systemic Barriers

Respondents cited resource constraints and bureaucratic inertia as significant impediments to strategic change. These structural limitations resonate with Yemini (2012), who highlighted the challenges posed by rigid organizational hierarchies and insufficient resource allocation in educational institutions.

Table 3 provides a synthesized overview of these themes, accompanied by representative quotes that illustrate the lived experiences of the participants.

**Table 3. Thematic Analysis Results**

| <b>Theme</b>             | <b>Description</b>   | <b>Representative Quote</b>   |
|--------------------------|--|---|
| Strategic Alignment      | Alignment with institutional goals ensures cohesive efforts. | "Innovation must align with our organizational vision."             |
| Participative Leadership | Inclusive practices enhance team ownership and trust.        | "Leadership drives commitment and collaboration."                   |
| Bureaucratic Challenges  | Limited resources and rigid bureaucracy hinder progress.     | "Resource shortages and bureaucratic delays are persistent issues." |

### **Synthesis of Findings: Strategic Implications for Practice**

The integration of quantitative and qualitative findings offers a holistic understanding of the interplay between innovation, strategic change, and management strategies. While the quantitative analysis validates the mediating role of strategic change, qualitative insights provide critical perspectives on the practical mechanisms that facilitate or hinder this process.

Institutions with robust technological infrastructure achieved higher success in innovation adoption, as noted by Criollo-C et al. (2021). Conversely, institutions in traditional settings benefited more from culturally adaptive approaches (Wang, 2022). These findings underscore the importance of tailoring strategies to specific organizational contexts.

The evidence highlights that strategic change serves as both a process and a prerequisite for innovation, with leadership and resource allocation playing pivotal roles. These insights offer practical guidance for policymakers and educational leaders seeking to foster innovation in dynamic and resource-constrained environments.

## **Implications for Research and Practice**

### 1. Theoretical Contributions:

This study advances the literature on organizational innovation and strategic management by empirically confirming the mediating role of strategic change in the education sector. It addresses gaps identified by previous researchers, such as the lack of integrative frameworks for operationalizing innovation (Dias & Ferreira, 2019; Yemini, 2012).

### 2. Practical Applications:

For policymakers and education leaders, the findings emphasize the importance of fostering participative leadership and aligning innovation with institutional goals. The identification of resource constraints and bureaucratic barriers further highlights the need for tailored policy interventions to address these challenges.

### 3. Future Research Directions:

While this study provides valuable insights, further research could explore longitudinal analyses to capture the dynamic nature of innovation and strategic change. Additionally, comparative studies across different educational systems may offer broader generalizability of the findings.

By bridging theoretical insights with practical challenges, this study lays a robust foundation for both scholarly advancement and actionable strategies in promoting innovation within educational contexts.

## **DISCUSSION**



This study provides empirical evidence for a significant positive relationship between organizational innovation and management strategy in the education sector, mediated by strategic change. The findings, supported by a robust SEM model with excellent fit indices, demonstrate that innovation directly strengthens strategic management capabilities, corroborating the dynamic capabilities framework (Teece, 2007). The significant mediating role of strategic change, with a standardized path coefficient of  $\beta = 0.30$ , underscores the critical importance of organizational transformation in effectively harnessing the potential of innovation. This finding resonates with prior research that highlights the limitations of innovation initiatives implemented without a clear strategic direction (Dias & Ferreira, 2019).

The qualitative findings further enrich our understanding by revealing the critical role of contextual factors. The necessity of aligning innovation initiatives with institutional goals, as emphasized by Dias and Ferreira (2019), aligns with the quantitative findings on the importance of strategic change (Dias & Ferreira, 2019). Furthermore, the emergence of participative leadership as a key enabler echoes the findings of Owusu-Agyeman (2019), highlighting the crucial role of inclusive leadership in fostering a culture that supports and sustains innovation (Owusu-Agyeman, 2021).

However, the qualitative analysis also revealed significant challenges, such as resource constraints and bureaucratic inertia, which can hinder the successful implementation of innovation-driven strategies. These findings are consistent with Yemini (2012), who emphasized the contextual constraints and systemic limitations that often impede strategic change in educational institutions.

This study contributes to the existing literature by:

1. Empirically validating the mediating role of strategic change

The findings provide empirical evidence for the theoretical proposition that strategic change mediates the relationship between innovation and management strategy in the education sector, addressing a significant gap in the literature.

2. Highlighting the importance of contextual factors

The study emphasizes the critical role of contextual factors, such as leadership style, resource allocation, and organizational culture, in shaping the success of innovation initiatives.

### 3. Providing actionable insights for practitioners

The findings offer valuable insights for educational leaders, highlighting the importance of fostering participative leadership, aligning innovation with institutional goals, and addressing resource constraints to effectively implement innovation-driven strategies.

Future research could explore the longitudinal dynamics of innovation, strategic change, and management strategy. Investigating the impact of different leadership styles, such as transformational leadership and servant leadership, on the innovation process could provide further insights. Additionally, comparative studies across different sectors and countries can enhance the generalizability of the findings and provide a broader understanding of the factors influencing innovation success.

## **CONCLUSION**

### **Restating the Study's Main Purpose**

This study aimed to examine the influence of organizational innovation on management strategy in the education sector, with a particular focus on the mediating role of strategic change. The research employed a mixed-methods approach to explore how innovation-driven strategies can be operationalized to enhance institutional adaptability and competitiveness.

### **Reaffirming the Importance of the Study**

The findings underscore the critical role of strategic change in leveraging innovation to strengthen management practices. By bridging theoretical frameworks such as dynamic capabilities (Teece, 2007) and institutional theory (DiMaggio & Powell, 1983) with empirical data, the study contributes significantly to the literature on organizational innovation in education. The emphasis on participative leadership, resource allocation, and contextual alignment offers actionable insights for educational leaders and policymakers.

### **Summary of Results in Relation to Objectives**

#### 1. Objective 1

To establish the direct impact of organizational innovation on management strategy. Quantitative findings revealed a significant positive relationship ( $\beta=0.45, p<0.01$ ), affirming that innovation enhances strategic management capabilities (Teece, 2007).

## 2. Objective 2

To assess the mediating role of strategic change. Strategic change was confirmed as a critical mediator ( $\beta=0.30, p<0.01$ ), highlighting its role in translating innovative efforts into management outcomes.

## 3. Objective 3

To explore contextual factors influencing the adoption of innovation. Qualitative insights identified strategic alignment, participative leadership, and systemic barriers as key determinants of innovation success, consistent with previous studies (Dias & Ferreira, 2019; Owusu-Agyeman, 2019).

## **Relating Findings to Literature**

The quantitative results validate and extend the theoretical propositions of Teece (2007) regarding dynamic capabilities. The qualitative findings complement these by illustrating practical mechanisms, such as participative leadership, which aligns with Owusu-Agyeman's (2019) framework on innovation adoption. The barriers identified, including bureaucratic inertia and resource constraints, resonate with Yemini's (2012) observations of systemic limitations in educational settings.

## **Explaining Unexpected or Non-significant Findings**

While the hypothesized relationships were largely supported, the qualitative phase revealed that institutions with rigid hierarchical structures often face challenges in implementing innovation-driven strategies. This finding aligns with Steele's (2008) critique of bureaucratic inertia but highlights the need for adaptive policy frameworks tailored to institutional contexts (Steele, 2008).

## **Managerial Implications**

The study offers several actionable recommendations:

1. Educational leaders should prioritize strategic alignment to ensure innovation initiatives are embedded within institutional goals.

2. Participative leadership should be cultivated to foster a culture of collaboration and shared ownership.
3. Policymakers must address systemic barriers by streamlining bureaucratic processes and allocating resources effectively to support innovation.

## **LIMITATION**

This study, like all research, is subject to certain limitations.

1. Reliance on Self-Reported Data

The use of self-reported survey data may introduce bias, potentially overestimating relationships between variables (Byrne, 2016).

2. Sector-Specific Focus

The findings are limited to the education sector and may not generalize to other industries with different structural and operational dynamics.

3. Cross-sectional Design

The inability to establish causality limits the understanding of temporal dynamics between innovation and strategic change.

## **Directions for Future Research**

Future studies should consider longitudinal designs to explore the dynamic interplay between innovation and strategic management over time. Comparative analyses across diverse sectors could enhance the generalizability of the findings. Additionally, investigating the role of emerging technologies in driving innovation presents an exciting avenue for further exploration (Criollo-C et al., 2021).

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