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Total Quality Management, Organisational Learning, and Organisational Performance: The Mediating Role of Innovation in Nigeria's Federal Ministry of Education

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Abstract
This study investigates the relationship between Total Quality Management (TQM) practices, Organisational Learning (OL), Innovation (INN) and Organisational Performance (OP) in the Federal Ministry of Education, Abuja, Nigeria. The research is based on the Resource-Based View and Dynamic Capabilities Theory and addresses a key literature gap by examining public sector organisations' strategic management practices and how this approach can improve performance in developing countries. The study used a quantitative research design, involving a structured questionnaire administered to 351 employees from a total population of 4266 employees in the Ministry. The data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM) and bootstrapping. The results indicate that TQM practices have a significant direct effect on organisational performance ($\beta = 0.597$, $p < 0.001$), followed by organisational learning ($\beta = 0.249$, $p < 0.001$). Innovation significantly mediates both the TQM-performance relationship (indirect effect = 0.014, $p = 0.020$) and the OL-performance relationship (indirect effect = 0.006, $p = 0.046$). The model accounts for 77.9% of the variance in organisational performance, which is substantial. The study advances theory through empirical evidence that innovation is an essential mediating factor in public sector settings and offers practical implications for educational administrators working in resource-constrained environments to build effective institutions. The study discusses the implications for theories, policies, and practices, as well as limitations and directions for future research. The study used total quality management and organisational learning (OL) as keywords, which revealed that it falls under the fields of innovation, organisational performance, the public sector, and the Education Ministry in Nigeria.

Keywords: *Total Quality Management, Organisational Learning, Innovation, Organisational Performance, Public Sector, Education Ministry, Nigeria, PLS-SEM*

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I. Introduction

In today's complex and challenging governance context, organisational performance is the ultimate measure of institutional effectiveness, referring to public sector organisations' ability to deliver good value for citizens by meeting their strategic mandates (Andrews & Van de Walle, 2023; Moynihan & Pandey, 2022). In recent decades, the conceptualization and measurement of organisational performance have become more radical, moving beyond financial indicators to multidimensional indicators that include service quality, operational efficiency, stakeholder satisfaction, and long-term sustainability (Mihailescu et al., 2023). In the public sector, especially for institutions tasked with delivering education, organisational performance can determine whether a nation develops human capital and improves its long-term socioeconomic trajectory.

Given the developmental agenda, demographic pressures, and ongoing service delivery challenges that plague the Nigerian public sector, it is compelling and urgent to examine organisational performance challenges. The Federal Ministry of Education faces enormous, well-documented performance challenges that affect its ability to deliver quality education to Nigerian citizens, as enshrined in the Constitution of the Federal Republic of Nigeria (Adebayo & Ogunyemi, 2024; National Bureau of Statistics, 2024). The size of these challenges becomes apparent when considering the staffing situation. Of an approved establishment of 9,583 jobs, only 4,266 were

filled, leaving a vacancy rate of about 55.5 percent and significantly limiting the Ministry's operational capacity across all departments and functions (Federal Ministry of Education, 2024). In addition, in November 2024, the Directorate recorded only 70 promotions across the entire Ministry, compared with approximately 5,030 senior management officials who had not moved on in their careers as of November 2024 (Association of Senior Civil Servants of Nigeria, 2024).

Total Quality Management (TQM) has long been identified as a business management strategy that can enhance organisational performance by focusing on customer needs and continual improvement, with leadership commitment and process optimisation. In recent years, various studies have shown that TQM practices positively affect organisational performance across industries such as manufacturing, healthcare, and education (Xu, Ruanggoon, & Thavorn, 2026; Singh & Regasa, 2026). However, the connection between TQM and performance is not always clear or strong unless contextual and organisational capabilities are considered. Organisational learning (OL) is a new, emerging complementary capability, defined as organisations' capacity to learn, disseminate, and apply knowledge. OL has been shown to boost the effectiveness of TQM practices by supporting continuous improvement and adaptation to environmental changes (Budur, Torlak, & Demirer, 2026).

Moreover, innovation has become essential to an organisation's success in the modern context. Innovation can enhance an organisation's processes, services, and administrative procedures, making them more efficient and effective delivery. Recent research indicates that innovation often mediates the relationship between management practices (e.g., TQM, organisational learning) and performance outcomes (Al Maskari & Kaliappen, 2026; Tessema, 2026). This means that TQM and learning alone are not directly associated with better performance unless they can induce innovativeness in the organisation. The study is motivated by the pressing need to understand how public sector organisations, specifically the educational ministries in a developing country context, can improve organisational performance through the strategic deployment of management philosophies proven effective in other contexts. Although improving organisational performance in public education institutions is critically important, the current literature has not uncovered sufficient empirical evidence to support theoretical progress or design interventions that are effective in practice.

This study aims to fill the above-mentioned gaps in the literature by addressing the following research objectives: (1) to test the relationship between TQM practices and organisational performance; (2) to test the relationship between organisational learning and organisational performance; (3) to test the relationship between TQM practices and innovation; (4) to test the relationship between organisational learning and innovation; (5) to test the relationship between innovation and organisational performance; (6) to investigate the mediating role of innovation between TQM practices and organisational performance; and (7) to investigate the mediating role of innovation between organisational learning and organisational performance.

II. Theoretical Postulation

The Resource-Based View (RBV) and Dynamic Capabilities Theory are two complementary theories to support this study. Together, these theories offer an expanded perspective on the role of TQM practices and organisational learning as strategic resources that drive ongoing performance benefits in public sector settings.

2.1 Resource-Based View (RBV)

Barney (1991) developed the Resource-Based View of the firm that offers a theoretical perspective on the way in which organisations can sustain competitive advantage because they possess unique internal resources and capabilities. Barney (1991) has theorized that valuable resources are those that are valuable to their customers; rare resources are those that are not widely available to other organisations; resources must be imperfectly imitable (hard to copy) to provide a source of sustained competitive advantage; and resources must be non-substitutable (difficult to substitute) for their customers.

Based on the theoretical foundation of RBV, the conceptualisation of TQM practices and organisational learning as strategic intangible resources that induce superior organisation performance in this study is well grounded. Imbedded in an organisation's routines, procedures, and culture, TQM practices are valuable resources that help increase operational efficiency, maximize customer satisfaction, and minimize quality failures. From an RBV perspective, organisational learning is another important intangible resource with VRIN characteristics, as it helps an organisation acquire, interpret, and apply knowledge for better decision-making and makes it more adaptive to emerging circumstances (Argote & Miron-Spektor, 2022).

2.2 Dynamic Capabilities Theory

RBV identifies key resources for organisational performance, while Dynamic Capabilities Theory focuses on how organisations use, deploy, and renew their resources in their environment to remain effective over time. Teece, Pisano and Shuen (1997) laid out the basic concept of dynamic capabilities as the firm's ability to integrate, build and reconfigure its internal and external competences in response to changes in its environment, specifically a fast-changing market.

Dynamic capabilities are high-level routines and processes that allow organisations to detect opportunities and obstacles in the environment, create new opportunities through timely investments and action, and adapt the organisation's resource base and operational processes in response (Teece, 2007). For this study, Dynamic Capabilities Theory offers an informative perspective on how TQM and organisational learning operate not as static phenomena but as dynamic processes that allow organisations to adapt and innovate in response to new challenges. The Plan-Do-Check-Act cycle is one of the most significant cycles within TQM and underlies its dynamic capabilities. Organisational learning is the meta-capability that underpins adaptive behaviour and organisational evolution (Zollo & Winter, 2002).

2.3 Integration of RBV and Dynamic Capabilities Theory

The theoretical framework combining RBV and Dynamic Capabilities Theory provides a thorough and comprehensive basis for this research. RBV explains the value of TQM and organisational learning as strategic resources that can lead to 'persistent performance benefits' when developed and embedded within the organisation. Dynamic Capabilities Theory helps explain how these resources are used, replenished, and adjusted over time to ensure innovation and relevance amid changing circumstances. Together, these complementary theories help shed light on two aspects of organisational performance in public-sector settings: the "what" (the resources required for performance) and the "how" (the processes through which they create value) (Teece, 2021).

III. Literature Review

3.1 Total Quality Management and Organisational Performance

The main purpose of Total Quality Management is to improve an organisation's quality and performance by embedding a culture of excellence across all functions and levels. It is based on the following principles: a strong customer focus, an unrelenting drive for continuous improvement, participation by all staff, and a commitment to making decisions based on facts and data (Isidore et al., 2023; Zubair, 2025). In recent years, empirical research on the effects of TQM on organisational performance has increased significantly. Tajouri and Lakhal (2024) showed that TQM in the Tunisian industrial context positively and significantly impacts organisational performance ($\beta = 0.24$, $p < 0.01$) and innovation. Isidore et al. (2023) found that TQM practices significantly and substantially affected organisational performance in the Nigerian financial services sector ($\beta = 0.43$, $p < 0.001$), with the effect widespread among staff.

The study by Zubair (2025) was particularly pertinent to the present study as it focused on the implementation of TQM in the Sudanese Ministry of Education, finding that there was a significant improvement in the overall performance of the ministry when TQM standards were implemented, with a path coefficient of 0.41 ($p < 0.001$) between the implementation of TQM and the overall performance of the ministry. A study in the Ethiopian Federal Transport Authority (EFTA) found that TQM accounted for 74.4% of the variance in performance, with customer focus as the strongest predictor ($\beta = 0.358$) (The Effect of Total Quality Management on Organizational Performance in Ethiopian Federal Transport Authority, 2025).

In the Kenyan public sector, Korir and Benedek (2025) evaluated public sector performance and the effects of institutional quality management and self-assessment models based on the ISO 9001:2015 standard. They found that several quality management practices correlated with better performance, but only leadership commitment was statistically significant. In his study of UAE government organisations, Almansouri (2025) reported that all aspects of total quality management (TQM) have a significant, positive impact on organisational performance, with quality-oriented leadership having the greatest impact.

3.2 Organisational Learning and Organisational Performance

Organisational learning is the process by which an organisation learns new knowledge, disseminates knowledge between units, and incorporates what it has learned into routines or behaviours. In public sector settings, OL is even more valuable, as it can help manage changing policy needs, limited resources, and societal expectations (Abdullahi et al., 2024; Tarurhor, 2025). Recent empirical studies have consistently shown organizational learning as a key factor in the functioning of public service organizations, innovation, and long-term sustainability.

Abdullahi et al. (2024) found that in Nigeria's public sector, participants who scored high in learning practices had significantly higher scores in operational performance and employee effectiveness ($p<0.001$, $\beta = 0.44$). In Ethiopia, Abate (2025) found that organisational learning had a positive, direct, and statistically significant relationship with organisational performance ($\beta = 0.38$, $p < 0.001$). In the higher education sector, Ojo and Oladipo (2023) found that organisational learning significantly and positively influences creativity and innovation ($\beta = 0.39$, $p < 0.001$) and institutional effectiveness ($\beta = 0.42$, $p < 0.001$). More recently, a study by researchers (2025) on Ethiopian state-owned enterprises found that organizational learning ability positively

influences organizational performance ($\beta = 0.279$, $p < 0.01$) and that organizational innovation capability mediates the relationship between organizational learning ability and organizational performance ($\beta = 0.35$, $p < 0.01$).

3.3 Innovation and Organisational Performance

Innovation is making something new, a different way or a new technology to improve an organisation's performance. In education, it can include implementing digital solutions, developing new teaching methods, and introducing innovative management methods to improve learning quality and service delivery (Damanpour & Aravind, 2012). Empirical literature has grown considerably as an organizational outcome and as a mediating mechanism. Similarly, in Nigeria's manufacturing industry, Shuaib and He (2022) found that innovation contributes positively and significantly to business performance ($\beta = 0.42$, $p < 0.001$). Tajouri and Lakhal (2024) found a direct, significant positive relationship between TQM practices and innovation ($\beta = 0.28$, $p < 0.001$), as well as an indirect relationship between TQM practices and innovation through organisational learning. In their longitudinal study of 214 Spanish companies, Garcia-Morales et al. (2021) discovered that innovation is a key mediator between learning and performance (indirect effect = 0.31, $p < 0.001$)

3.4 The Mediating Role of Innovation

Conceptualising innovation as the mediating variable is a crucial theoretical contribution of this study. Mediation analysis aims to describe the process or mechanism through which an independent variable influences a dependent variable and identifies the intervening pathway by which the effect of the independent variable on the dependent variable is mediated from the cause of the independent variable to the outcome of the dependent variable (Baron & Kenny, 1986; Hayes, 2022). From a theoretical perspective, innovation should play a pivotal role as a mediator between TQM practices and organisational learning and organisational performance outcomes in this research. Empirical research has recently confirmed this mediating role. For Chinese manufacturing companies, Xu, Ruanggoon, and Thavorn (2026) discovered that innovation capability is a key mediator between the TQM-performance link. Allammari, Jaride and Zghaida (2025) found that product and managerial innovation capacity have a partial and distinct mediating effect between learning orientation and organisational performance in Moroccan SMEs.

In the public sector, a study by researchers (2025) of Ethiopian state-owned enterprises found a mediating effect between organisational learning and firm performance in terms of innovation capability. Soufeljil, Zorgati, and Lakhal (2026) found complete mediation between knowledge management and innovation among certified family SMEs. Ofoegbu and Akanbi (2025) found sequential and full mediation between tacit knowledge and innovation capability in Nigerian public hospitals, with organisational learning and explicit knowledge sharing as mediators.

3.5 Research Gap

Although much research has been conducted, several important areas remain uncertain. The first is the answer. A clear contextual gap remains, as most empirical evidence on the link between TQM and organisational performance comes from the private and service sectors of developed countries. Second, a mediating mechanism is unclear; direct empirical evidence of innovation mediating the relationship in the public education sector is limited. Third, the literature has a theory gap in integration, with few studies combining RBV and Dynamic Capabilities Theory in a single empirical context in public education. Fourth, an empirical gap remains regarding the Nigerian Ministry of Education specifically, despite its documented performance challenges.

IV. Methodology

4.1 Research Design

This study uses quantitative research design; the research type is a cross-sectional survey. Quantitative research focuses on objectivity and reproducibility and is ideal for research that seeks to understand causal relationships, test hypotheses, and generalise to a larger population (Creswell & Creswell, 2023).

4.2 Population and Sampling

The target population was all 4,266 employees of the Federal Ministry of Education in Abuja, Nigeria, based on the Ministry's official 2024 staffing report. The study used stratified random sampling to ensure representation across departments and employee types. The sample size was calculated using Krejcie and Morgan's 1970 formula ($n = 353$) and G*Power analysis ($n = 153$), and the larger (more conservative) number was used. The sample was expanded by 20% to allow for expected non-response, yielding 424 questionnaires sent out. The return rate was 82.7%, and 351 valid questionnaires were analysed.

4.3 Data Collection Instrument

A structured questionnaire was used to gather data, which consisted of items adapted from literature sources. A six-item scale adapted from Saraph, Benson, and Schroeder (1989) measured TQM practices. The study assessed organisational learning with a nine-item scale based on Goh and Richards (1997) and Goh, Quon, and Cousins (2007). The six items adapted from Goldsmith and Hofacker (1991) assessed innovation. The study assessed organisational performance using a six-item scale adapted from Di Fabio and Svicher (2023). The items were all measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

To conduct the pilot study, 30 employees were selected from departments not included in the main study sample. Cronbach's alpha coefficient for each instrument ranged from 0.76 to 0.91, indicating satisfactory to good internal consistency. Nine items were dropped because of low outer loading (less than 0.60), and three items were revised to improve clarity.

4.4 Data Analysis

Data analysis was done in a systematic way in several stages. Descriptive statistics summarised sample characteristics and variable distributions. Correlation analysis was used for bivariate relationships, and Structural Equation Modelling using Partial Least Squares (PLS-SEM) was used to test hypotheses and mediation effects in the inferential analysis. Because PLS-SEM is well-suited for predictive models, can handle both reflective and formative measurement models, and has less stringent assumptions regarding data normality (Hair et al., 2022), it was chosen.

Internal consistency reliability, average variance extracted, factor loadings, the Fornell-Larcker criterion, and the HTMT ratio were used to assess the measurement model for internal consistency reliability, convergent validity, and discriminant validity, respectively. Path coefficients, bootstrapped significance tests (5000 resamples), R^2 values, effect sizes (f^2) and predictive relevance (Q^2) were used to assess the structural model.

V. Findings

5.1 Demographic Characteristics

Most respondents (76.1%) were male, with equal numbers across a range of educational qualifications. Age distribution shows a mature workforce, with 43.0% in the 36-45 age group; a significant younger workforce group (37.9%) is in the 26-35 age group. The staffing levels align with the Ministry's documented human resource challenges, as 51.0% of departments have fewer than 50 staff members, and 55.5% of positions are reported vacant in the Ministry's 2024 staffing report.

5.2 Descriptive Statistics

The mean scores for all four constructs were high, reflecting a generally positive perception of the Ministry despite human resource challenges. Total Quality Management practices had the highest mean score (M = 5.7588), followed by Organisational Performance (M = 5.6614), Organisational Learning (M = 5.3954), and Innovation (M = 5.0128). The increase in standard deviation from 0.82552 for OP to 0.99877 for INN indicates that perceptual consensus is greatest for more observable outcome measures and least for more subjective measures.

5.3 Measurement Model Assessment

The measurement model's psychometric properties were satisfactory. Factor loadings exceeded the recommended 0.70 threshold and ranged from 0.709 to 0.915. Composite reliability ranged from 0.890 to 0.948, above the 0.70 threshold, indicating good internal consistency. The average variance extracted (AVE) ranged from 0.575 to 0.718, above 0.50, indicating convergent validity. The Fornell-Larcker criterion, cross-loadings, and the HTMT ratio were used to assess discriminant validity, and the results showed that all HTMT values were below the 0.85 cut-off.

5.4 Structural Model Assessment

The reliability of the structural model was assessed using path coefficients, significance levels, and R2 values. The model accounted for 45.8% of the variance in Innovation, and for 77.9% of the variance in Organisational Performance.

Direct Effects

Hypothesis	Relationship	Beta	t-statistic	p-value	Decision
H1	INN → OP	0.123	2.912	0.004	Supported

Hypothesis	Relationship	Beta	t-statistic	p-value	Decision
H2	OL → INN	0.297	4.498	0.000	Supported
H3	OL → OP	0.249	4.926	0.000	Supported
H4	TQM → INN	0.431	6.988	0.000	Supported
H5	TQM → OP	0.597	10.897	0.000	Supported

Mediation Effects

Hypothesis	Relationship	Indirect Effect	t-statistic	p-value	Decision
H6	TQM → INN → OP	0.014	2.333	0.020	Supported
H7	OL → INN → OP	0.006	2.000	0.046	Supported

The findings reveal that TQM practices demonstrate the strongest direct relationship with Organisational Performance ($\beta = 0.597$, $p < 0.001$), followed by the relationship between OL and OP ($\beta = 0.249$, $p < 0.001$), TQM and INN ($\beta = 0.431$, $p < 0.001$), OL and INN ($\beta = 0.297$, $p < 0.001$), and INN and OP ($\beta = 0.123$, $p = 0.004$). Mediation analyses showed that Innovation significantly mediated the TQM-OP relationship (indirect effect = 0.014, $p = 0.020$) and the OL-OP relationship (indirect effect = 0.006, $p = 0.046$).

5.5 Importance-Performance Map Analysis (IPMA)

The IPMA showed that TQM has high performance (76.66) and importance (total effect = 0.650), suggesting the Ministry should continue investing in TQM. OL has moderate performance (71.60) and importance (total effect = 0.286); therefore, improvement efforts in this area may be beneficial. INN has moderate performance (68.33) and low importance (total effect = 0.123), so the focus should be on other areas before innovation.

VI. Discussion

Based on the results, Hypothesis H1 is supported: Innovation has a positive and statistically significant influence on Organisational Performance ($\beta = 0.123$, $p = 0.004$), supporting growing theoretical and empirical findings. This finding suggests that, in the Federal Ministry of Education, adopting and applying new concepts, processes, services, and/or administrative procedures leads to quantifiable improvements in institutional performance. This result aligns with Xu, Ruanggoon, and Thavorn's (2026) recent study, which found the TQM-performance relationship to be a strong mediator in manufacturing companies based in China. Zghaida, Jaride, and Allammari (2025) also showed that learning orientation to product innovation and managerial innovation capability also partially and specifically mediate the relationship between learning orientation and organisational performance in Moroccan SMEs.

The magnitude of the direct effect ($\beta = 0.123$) is relatively small compared with the direct effects of TQM ($\beta = 0.597$) and OL ($\beta = 0.249$) on performance; thus, the influence of these two variables should be interpreted with caution. In the Nigerian public education context, innovation is important, but it may be less effective as an immediate determinant of performance than the capabilities it depends on, which reflect the quality management and learning capabilities of the education system. This may reflect the constrained context in which the Ministry operates, where significant staff shortages limit the ability to innovate and scale up.

The positive and highly significant influence of Organisational Learning on Innovation ($\beta = 0.297$, $p = 0.000$) indicates that the Ministry's ability to acquire, share, interpret, and apply knowledge strongly supports its innovation outputs. This finding aligns with a large body of theory and empirical research that has firmly linked organisational learning to the essential drivers of innovation. Literature offers a well-established theory for this relationship. Nonaka and Takeuchi's (2019) knowledge creation theory suggests that knowledge conversion processes are the steps that organisations take to create innovations. Recent empirical evidence has well documented and confirmed this relationship. In higher education institutions, organisational learning is crucial for

enhancing innovation performance, as Al-Zoubi et al. (2025) highlight. Researchers (2025) studied Ethiopian state-owned enterprises and found that organisational learning significantly and positively influenced firm performance ($\beta = 0.35$, $p < 0.01$), mediated by innovation capability.

The OL-INN relationship ($\beta = 0.297$) suggests a strong link between OL and innovation outputs in the ministry. This implies that investments in learning infrastructures such as systematic training programmes, cross-departmental knowledge sharing, policy evaluation processes, and after-action reviews will likely pay off in terms of innovation capacity. This relationship shows that TQM practices have a strong and highly significant positive relationship with innovation ($\beta = 0.431$, $p = 0.000$), indicating that quality management practices are among the most powerful drivers of innovation in the Federal Ministry of Education. This relationship was the strongest across all pathways to innovation, suggesting that TQM practices account for significant variance in innovation outputs. This result aligns with a large and growing body of theory and evidence confirming TQM as a key driver of innovation. The theoretical basis of this connection is complicated. First, TQM's focus on continuous improvement fosters an attitude of questioning current practice and looking for better way of doing things. Second, TQM's customer-oriented focus ensures that innovation activity is directed toward satisfying stakeholder needs. Third, TQM's data-driven decision-making provides evidence for innovation and reduces risk. Fourth, TQM's process management approach ensures the systematic implementation of innovations.

This relationship has been well demonstrated with empirical evidence in recent years. Southeastern University of Peru researchers Soufeljil et al. (2026) concluded that TQM positively impacts product and process innovations and completely mediates the link between KM and innovation. Abu Sahyoun, Almajali, and Altarawneh (2026) highlighted TQM's influence on organisational performance in aircraft maintenance companies in Jordan, indicating that an innovative culture mediates the link between TQM and organisational performance. The results indicate that there is a significant direct effect of TQM practices on Organisational Performance, with the highest beta value ($\beta = 0.597$) and the lowest p-value ($p = 0.000$), which means that TQM practices are the most powerful factor influencing Organisational Performance ($p = 0.000$) in the Federal Ministry of Education. This correlation was the highest among all direct paths included in the structural model.

This aligns with extensive theory and empirical evidence showing that TQM is a holistic management philosophy that contributes to organisational effectiveness in several ways. Recent empirical data across contexts clearly confirms this correlation. In the Ethiopian Federal Transport Authority, a study found that TQM explains 74.4% of the variance in performance (The Effect of Total Quality Management on Organizational Performance in Ethiopian Federal Transport Authority (2025)). Almansouri (2025) concluded that all TQM dimensions have a positive and significant impact on organisational performance in UAE government organisations. In contrast, Zubair (2025), in the context of the education ministry, found that TQM positively affects educational performance in Sudan.

The relationship between TQM and OP is particularly remarkable, as it is large ($\beta = 0.597$) despite the severe staffing constraints faced by the Ministry. This indicates that applying TQM can improve the performance of existing staff, reducing the impact of staff shortages. The practices outlined can help maximise the existing workforce's performance, so the Ministry can get the most from its resources. Innovation partially mediated the link between OL and OP (indirect effect = 0.006, $p = 0.046$), supporting innovation's partial mediating role in the relationship between learning capabilities and performance gains. The indirect effect is small but not negligible and is theoretically interesting.

This result helps fill a significant gap in the literature. The theoretical underpinning of this mediation is that organizational learning creates potential for improvement, and innovation turns that potential into real performance gains (Damanpour & Aravind, 2012; Garcia-Morales et al., 2021). Recent empirical evidence has also confirmed this mediating function. Allammari, Jaride and Zghaida (2025) found that innovation capability mediates the relationship between learning orientation and SME performance. The indirect effect was comparatively weak, implying that in the Nigerian public education context, the learning-to-performance innovation link is weaker than the direct link. This may be due to the many limitations the Ministry faces in innovation, a risk-averse culture, lack of resources, and/or the nature of the innovation measured (individual- vs. organisational-level innovation outputs). The result that Innovation significantly mediates the link between TQM and OP (indirect effect = 0.014, $p = 0.020$) supports the view that innovation partially mediates the process by which quality management practices lead to performance gains. This result corroborates a large body of research showing that innovation mediates the relationship between TQM and performance. Xu, Ruanggoon, and Thavorn (2026) concluded that organisational culture and innovation capability mediate the relationship between TQM and performance. Abu Sahyoun, Almajali, and Altarawneh (2026) found that an innovative culture mediated the relationship between TQM and organisational performance. The indirect effect through innovation is smaller than the direct effect, indicating that TQM's impact on performance is more direct than through innovation. This could be because of the nature of the Nigerian public education system, where incremental or incremental innovation outputs might not be as quickly realised as incremental operational improvement outputs.

VII. Contributions of the Study

7.1 Theoretical Contributions

The current study makes several substantial theoretical contributions. First, it broadens the scope of TQM theory, largely studied in manufacturing and the private sector, to the specific field of public education administration in a developing-country context. The findings support the cross-translation of TQM principles to new settings, reinforcing the universal aspects of core quality management concepts and highlighting the need to be context-sensitive when implementing TQM.

Second, the study broadens organisational learning theory by exploring how learning mechanisms function in a hierarchical public order, where knowledge sharing, experimentation, and adaptive behaviours face unique obstacles. The fact that both innovation and performance are influenced by OL, but that mediation through innovation is not very strong, implies that in the public sector, knowledge created through OL may not translate directly into implemented innovations. Third, the research empirically validates innovation as a key mediating mechanism that connects TQM, organisational learning, and performance outcomes. This helps overcome the "black box" issue in the literature by offering theoretical insight into how QM and learning capabilities translate into actual performance improvement.

Fourth, combining RBV and Dynamic Capabilities Theory in a single conceptual framework provides a solid basis for explaining how intangible organisational assets can give an organisation continued advantages in the public sector context. RBV addresses the strategic resources of TQM and OL, and Dynamic Capabilities Theory captures how they work through processes of sensing, seizing, and transforming.

7.2 Practical Contributions

This research can inform decision-making by providing evidence-based guidance for public sector managers, education administrators, and policymakers. First, the study provides empirical, robust arguments for strategic investments in TQM implementation and infrastructure for organisational learning. The results indicate that investments in TQM practices produce measurable organisational performance improvements, as they account for the greatest variance in organisational performance. Secondly, the research identifies leadership as a key factor in developing organisational cultures which promote both quality management and learning. The results highlight the need for a headteacher's commitment to demonstrating behaviours for ongoing improvement, playing with new ideas and recognizing innovative ideas. Third, the study provides performance management practices with information about how to measure performance because it shows that to measure performance, it is necessary to measure not just what happens now, but innovation and learning capacity: what will be needed to sustain effective performance over time. Fourth, the study results offer a diagnostic platform for managers to assess their organisation's status and identify priority areas for intervention. The IPMA showed that the performance and importance of TQM are high, while OL and INN are moderate.

VIII. Limitations and Future Research

8.1 Limitations

First, the study used a cross-sectional research design, in which data were collected at a single point in time. This makes it difficult to draw clear causal conclusions. Cross-sectional data do not allow unequivocal determination of temporal precedence; although the hypothesised relationships were based on sound theory, and the statistical analysis used appropriate methods to test mediation. Second, the study relied on self-report data from a single source, an employee of the Ministry, so common method variance was possible. Although the statistical tests suggested no concern for common method bias, same-source variance could have exaggerated some relationships. Third, the study was conducted in one organisation, the Federal Ministry of Education, Abuja. The focus allowed for detailed analysis of both TQM and OL implementation in a particular organisation, but may not be generalisable to other public sector organisations. Fourth, the study analysed a small number of variables, such as TQM practices, organisational learning, innovation, and organisational performance. The study did not include other potentially important variables, such as organisational culture, leadership styles, employee engagement, trust, and environmental factors. Fifth, innovation was measured as individual innovativeness, whereas it could also be measured as the organisation's innovation output.

8.2 Future Research Directions

Based on these limitations, future research should take several directions. Future research should use a longitudinal design to investigate dynamic changes in TQM practices, organisational learning, innovation, and performance over time, allowing for more conclusive causal inferences. Second, future studies should use multiple data sources, including self-report data and objective performance measures (e.g., student achievement data, policy implementation measures, budget execution measures, etc.), supervisor ratings, and/or peer ratings. Third, future studies should be conducted in other public sector organisations, such as state-level education ministries

and other federal ministries and agencies in other sectors, to see whether the relationships found are present in other institutional contexts.

Fourth, further studies should extend the conceptual model to incorporate other factors such as organizational culture, leadership styles, employee engagement, trust, and environmental factors. Fifth, future studies should use several indicators of innovativeness (individual innovativeness and/or organizational innovation outputs) to get a more complete picture of innovation's mediating role. Lastly, future studies should consider other intervening variables, such as employee engagement, organisational commitment and/or knowledge management. Finally, future studies should include cross-cultural and cross-national comparisons of the relationships between TQM, OL, innovation, and performance, and analyze the results to examine how TQM and OL affect the relationships between innovation and performance.

IX. Conclusion

This study aimed to explore how Total Quality Management practices and Organisational Learning affect Organisational Performance through the mediating variable of Innovation in the Federal Ministry of Education, Abuja, Nigeria. The research was inspired by the Ministry's longstanding, documented performance issues, including a 55.5 percent vacancy rate and an 83 percent staffing shortage in quality assurance, and by the challenges faced by 5,030 or so senior officials in promotions.

The results also provide strong empirical evidence of the contribution of TQM practices to organisational performance, accounting for the largest variance in the Ministry's results. Organisational Learning also has a considerable positive impact on performance, but its influence is less than TQM's. For both the TQM-performance and OL-performance relations, innovation is a significant mediator, supporting the idea that innovation is an important mechanism through which these organisational capabilities translate into tangible performance gains.

The study makes a theoretical contribution by applying the TQM theory to the context of public education administration in a developing country, extending the application of organisational learning theory to the context of public education administration where learning mechanisms have not been studied before, and extending the application of mediation theory to the underexplored public education administration in a developing country by examining the mediation of innovation as a critical explanatory mechanism. The combination of RBV and Dynamic Capabilities Theory offers a strong theoretical basis for understanding how intangible organisational resources relate to achieving sustainable performance improvements. Applying this is also important. The study offers robust empirical support for strategic investments in the implementation of TQM and the development of the organisational learning infrastructure, points to the critical importance of leadership, offers evidence to support performance management practices, offers a diagnostic approach for establishing priorities for intervention, and provides a framework for creating an HRM system that facilitates QOL-oriented and learning-oriented behaviours.

Finally, this study shows that sustainable organisational performance in public education institutions is not just the result of introducing quality programmes or creating learning systems, but of developing an integrated context where quality management, learning, participation, and innovation are deeply rooted in daily organisational life. The Federal Ministry of Education's journey toward improved performance is strengthened by its relatively strong TQM practices, less developed learning capabilities, and the intentional building of innovation capacity to bring these capabilities to fruition in delivering educational services. The findings are not only of theoretical interest, but also of practical value to managers, policy makers, and administrators trying to enhance institutional effectiveness in the fraught environment of public administration in Nigeria, in order to improve the education of millions of children whose futures rely on the functioning of education institutions and who are vital to the nation's development.

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