

The Impact of Total Quality Management Practices and Flexibility Performance on Non-Financial Organisational Performance: Evidence from Zambia's Service Sector.

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ABSTRACT

This study investigates the association between Total Quality Management (TQM) practices specifically top management commitment and employee involvement and flexibility performance, and further examines how flexibility performance relates to non-financial organisational outcomes in Zambia's Service Sector.

A quantitative, cross-sectional design was employed, with data collected from 240 service organisations across hospitality, wholesale and retail trade, financial, and energy sub-sectors. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to validate the measurement and structural models, with reliability and validity confirmed through composite reliability, Average Variance Extracted (AVE), and discriminant validity tests.

Results suggest that leadership commitment and employee involvement are positively associated with flexibility performance, which in turn shows a strong relationship with non-financial outcomes such as customer satisfaction, employee morale, and continuous improvement. As a cross-sectional study, the findings are limited to associations observed at a single point in time, and future longitudinal research is recommended to establish temporal dynamics.

This research advances TQM literature by empirically validating the mediating role of flexibility performance, contributes contextually by providing evidence from Zambia's under-researched Service Sector, and offers practical insights for managers seeking to strengthen organisational agility and sustainable non-financial performance.

Keywords: *Total Quality Management (TQM), Flexibility Performance, Non-Financial Organisational Performance, Leadership Commitment, Employee Involvement.*

INTRODUCTION

In today's dynamic business environment, organisations are under constant pressure to deliver superior performance while adapting to rapid shifts in customer expectations, technological advancements, and competitive pressures. Within this context, Total Quality Management (TQM) has emerged as a strategic framework that integrates leadership commitment, employee involvement, and continuous improvement to enhance organisational outcomes. TQM practices are widely recognised not only for their contribution to financial performance but also for their influence on non-financial dimensions such as customer satisfaction, employee morale, and operational efficiency (Prajogo and Sohal, 2006; Samson and Terziovski, 1999).

Flexibility performance defined as an organisation's ability to adapt processes, respond to market shifts, and innovate operational practices has become a critical determinant of competitiveness in the Service Sector.

Scholars argue that flexibility serves as a conduit through which TQM practices translate into tangible organisational benefits, particularly in environments characterised by uncertainty and rapid change (Kaynak, 2004). Despite this recognition, empirical evidence linking TQM practices, flexibility performance, and non-financial organisational outcomes remains limited, especially in emerging economies such as Zambia. The Zambian Service Sector, encompassing hospitality, wholesale and retail trade, financial, and energy sub-sectors, plays a pivotal role in economic growth and employment creation, yet remains under-studied in the quality management literature. This originality underscores the importance of examining how human-centred TQM practices operate in this context.

The theoretical foundation of this study draws on the Resource-Based View (RBV), which positions organisational capabilities such as flexibility as strategic assets; Social Exchange Theory (SET), which highlights the reciprocal value of leadership commitment and employee involvement; and Service Quality Theory (SERVQUAL), which emphasises the role of continuous improvement in shaping customer-focused outcomes. By integrating these perspectives, the study conceptualises flexibility performance as a mediating mechanism that explains how leadership commitment and employee involvement relates to non-financial organisational performance.

Using a quantitative, cross-sectional design and data from 240 service organisations, the study employs Partial Least Squares Structural Equation Modelling (PLS-SEM) to provide robust empirical insights into these structural relationships. Control variables such as position, education, tenure, sector, and organisation size are incorporated to ensure a nuanced understanding of contextual factors shaping organisational outcomes.

Beyond its theoretical contribution, the study offers actionable insights for managers and policymakers in Zambia's Service Sector. It demonstrates that investing in leadership commitment and employee engagement can strengthen organisational agility, enabling firms to respond more effectively to market volatility and customer demands. By recognising flexibility performance as a strategic lever, service organisations can enhance non-financial outcomes such as customer satisfaction, employee morale, and continuous improvement factors essential for long-term sustainability and competitiveness in emerging economies.

LITERATURE REVIEW

2.1 Clustering of Practices and Theoretical Lens

Total Quality Management (TQM) is widely conceptualised as a multidimensional construct encompassing leadership commitment, employee involvement, customer focus, and continuous improvement (Alzoubi et al. 2019; Anil et al. 2017; Kanji, 2012). Scholars often cluster these practices into human-centred dimensions (e.g., top management commitment and employee involvement) and process-centred dimensions (e.g., continuous improvement and customer focus). This clustering reflects the dual emphasis of TQM on organisational culture and operational systems. In African contexts, human-centred practices are particularly critical due to resource constraints, institutional weaknesses, and the reliance on leadership credibility and workforce participation to sustain organisational performance (Agyeman et al., 2020; Adebajo et al., 2016; Kuye and Sulaimon, 2011; Sichinsambwe, 2011). Leadership commitment provides strategic direction and legitimacy, while employee involvement ensures adaptability and innovation in environments characterised by volatility.

Theoretical lenses such as the Resource-Based View (RBV) and Social Exchange Theory (SET) provide explanatory power for these dynamics. RBV positions leadership commitment and employee engagement as intangible resources that enhance organisational agility and resilience (Barney, 1991). SET highlights reciprocal exchanges between management and employees, suggesting that involvement in quality initiatives fosters trust, motivation, and innovation (Blau, 1964). Together, these frameworks justify a focus on human-centred practices as strategic levers for operational flexibility and non-financial outcomes in service organisations.

2.2 Linkage with Organisational Performance

Empirical studies consistently demonstrate associations between TQM practices and organisational performance. While many studies report positive associations with productivity, customer satisfaction, and

competitiveness (Puthanveetil et al., 2021; Al-Dhaafri et al., 2020; Anil et al., 2019), others identify weak or negative relationships (Shafiq et al., 2019; Qasrawi et al., 2017; Singh, 2015). These inconsistencies underscore the importance of mediating mechanisms. Flexibility performance has emerged as a critical mediating construct in this linkage. Defined as the ability of organisations to adapt processes and respond to environmental changes, flexibility enables service firms to translate leadership commitment and employee involvement into operational resilience and customer-centric outcomes (Kaynak, 2004). Evidence from African service organisations suggests that visible leadership support fosters adaptability, while employee involvement enhances problem-solving and innovation, both of which strengthen non-financial organisational performance (Agyeman et al., 2020; Adebajo et al., 2016).

2.3 Synthesis and Research Gaps

The literature reviewed highlights the centrality of human-centred TQM practices particularly leadership commitment and employee involvement in shaping organisational outcomes. These practices, when interpreted through the Resource-Based View (RBV) and Social Exchange Theory (SET), are consistently associated with enhanced organisational agility and adaptability. Leadership commitment provides strategic direction and legitimacy, while employee involvement fosters reciprocal trust and innovation, together forming the foundation for flexibility performance. Flexibility, in turn, has been conceptually recognised as a mechanism through which organisations respond to uncertainty and deliver improved non-financial outcomes such as customer satisfaction, employee morale, and continuous improvement.

Despite these insights, several gaps remain evident in the literature. Much of the empirical evidence has been drawn from manufacturing contexts, leaving service organisations underrepresented. This sectoral bias limits the applicability of findings to environments where human interaction and service delivery are central to organisational success. Furthermore, geographical gaps persist, with research in emerging economies and particularly in Africa remaining sparse. The limited focus on African service organisations constrains the generalisability of TQM frameworks across diverse cultural and institutional contexts, even though leadership credibility and employee participation are especially critical in resource-constrained environments.

Another gap lies in the operational mediation of flexibility performance. While flexibility has been conceptually acknowledged as a conduit linking TQM practices to organisational outcomes, its empirical role as a mediating construct has not been sufficiently validated. This omission weakens theoretical integration and leaves unanswered questions about how human-centred practices translate into non-financial performance. Finally, existing studies often prioritise financial metrics, overlooking the growing importance of non-financial indicators such as customer satisfaction, employee morale, and continuous improvement, which are increasingly recognised as essential for long-term sustainability.

Against this backdrop, the present study positions flexibility performance as a mediating mechanism that clarifies the pathways between leadership commitment, employee involvement, and non-financial organisational outcomes. By extending TQM research into Zambia's Service Sector, the study addresses sectoral and geographical gaps, empirically validates the mediating role of flexibility, and re-centres attention on non-financial outcomes as critical indicators of organisational success in emerging economies.

2.4 Theoretical and Conceptual Framework

This study is grounded in two complementary theoretical perspectives Resource-Based View (RBV) and Social Exchange Theory (SET) to justify the centrality of human-centred TQM practices in service organisations. RBV positions Top Management Commitment and Employee Involvement as intangible strategic resources that enhance organisational agility and resilience (Powell, 1995; Barney, 1991). Leadership commitment provides rare and inimitable capabilities in directing organisational culture, while employee involvement represents a valuable resource that strengthens adaptability and innovation. SET frames employee involvement as reciprocal engagement, where organisational support and empowerment are associated with enhanced trust, motivation, and discretionary effort (Abbas and Kumari, 2023; Blau, 1964). In this perspective, leadership commitment signals managerial trust and investment, which employees reciprocate through greater participation in problem-solving and responsiveness to customer needs. Together, RBV and SET provide a robust theoretical

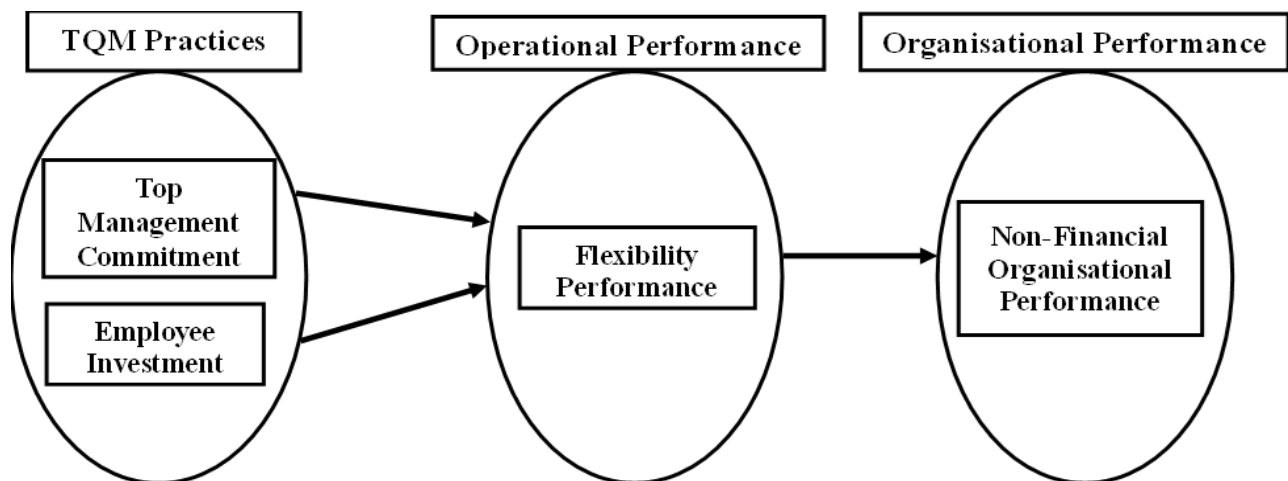
foundation for examining how human-centred practices are linked with organisational flexibility and non-financial outcomes.

African TQM scholarship reinforces this human-centred orientation. Studies in Nigeria, Ghana, and Zambia emphasise that managerial support and workforce participation are strongly associated with embedding a quality culture, particularly in resource-constrained environments where financial and technological resources are limited (Agyeman et al., 2020; Adebajo et al., 2016; Kuye and Sulaimon, 2011; Sichinsambwe, 2011). These perspectives collectively justify the focus on leadership commitment and employee involvement as critical practices that predict service sector competitiveness in African settings. Flexibility Performance is positioned as a mediating construct that clarifies the pathways between human-centred TQM practices and non-financial organisational outcomes. From RBV, flexibility can be interpreted as a strategic capability that enables organisations to adapt and innovate in uncertain environments. From SET, flexibility reflects the reciprocal exchanges between management and employees, where leadership support and employee involvement generate trust and motivation that translate into operational adaptability. In this way, Flexibility Performance functions as the mechanism through which human-centred practices are associated with improvements in Non-Financial Organisational Performance, including customer satisfaction, employee morale, and continuous process improvement.

2.4.1 Conceptual Framework Model

Figure 2.1 presents the conceptual model underpinning this study. The diagram illustrates the sequential logic whereby Top Management Commitment and Employee Involvement are positioned as independent variables. These practices are associated with improvements in Flexibility Performance, which represents organisational adaptability, responsiveness, and innovation. Flexibility Performance subsequently mediates the relationship with Non-Financial Organisational Performance, encompassing customer satisfaction, employee morale, and continuous improvement. The arrows in the model highlight both direct and mediated pathways, demonstrating that leadership commitment and employee involvement achieve their greatest impact when channelled through operational flexibility. This framing aligns with RBV and SET, which together explain how human-centred practices function as strategic resources and reciprocal exchanges that strengthen organisational agility and non-financial outcomes in service organisations (Adebajo et al., 2016; Sichinsambwe, 2011).

Figure 2.1: Conceptual Model



Source: Author, 2025

2.5 Hypotheses Development

2.5.1 Top Management Commitment and Flexibility Performance

Top Management Commitment is widely recognised as a cornerstone of TQM implementation. When senior leadership provides strategic direction, allocates resources, and reinforces a culture of adaptability, organisations

are better positioned to embed flexibility into their operations (Anil et al., 2019; Shafiq et al., 2019). From Resource Based View theory, managerial commitment can be understood as a strategic resource associated with rare and inimitable capabilities that strengthen organisational agility. In service organisations, visible leadership support fosters responsiveness and reliability, enabling firms to adapt processes and innovate in uncertain environments.

H1: Top Management Commitment is positively associated with Flexibility Performance.

2.5.2 Employee Involvement and Flexibility Performance

Employee Involvement ensures that frontline staff actively participate in problem-solving, innovation, and customer-focused service delivery. In service organisations, where human interaction is central to performance outcomes, employee engagement is particularly critical (Abbas and Kumari, 2023; Puthanveetil et al., 2021). Drawing on SET, employee involvement can be interpreted as reciprocal engagement, where organisational support is associated with greater effort, adaptability, and responsiveness. Active participation reduces delays, enhances problem-solving capacity, and strengthens organisational agility.

H2: Employee Involvement is positively associated with Flexibility Performance.

2.5.3 Flexibility Performance and Non-Financial Organisational Performance

Flexibility Performance, defined as an organisation's ability to adapt processes, respond to market shifts, and innovate operational practices, is a critical determinant of non-financial organisational outcomes. Efficient adaptability is associated with service reliability, responsiveness, and resilience, which in turn predict customer satisfaction, employee morale, and organisational reputation (Abbas and Kumari, 2023; Anil et al., 2019). This relationship is consistent with SERVQUAL, which identifies responsiveness and reliability as key dimensions of perceived service quality. Flexibility performance therefore functions both as a mediator and as a direct predictor of non-financial organisational performance.

H3: Flexibility Performance is positively associated with Non-Financial Organisational Performance.

STUDY METHODOLOGY

3.1 Study Design

This study adopts a quantitative research design anchored in the positivist paradigm, which assumes that organisational realities can be objectively measured and explained through observable relationships among variables (Mwiya et al. 2024). The positivist orientation is appropriate given the study's focus on testing hypotheses and examining mediation effects between human-centred TQM practices, flexibility performance, and non-financial organisational outcomes. The quantitative design enables the use of structured instruments to collect data from a large sample of service organisations, thereby enhancing generalisability, reliability, and replicability of findings. It also facilitates the application of advanced statistical techniques, particularly Partial Least Squares Structural Equation Modelling (PLS-SEM), which is well suited for examining complex associations among latent constructs and mediation pathways. PLS-SEM allows simultaneous testing of direct and indirect relationships, providing a robust analytical framework for validating the proposed conceptual model (Hair et al., 2013; Wong, 2013).

The research design is cross-sectional, capturing data at a single point in time to provide a snapshot of TQM practices and performance outcomes within Zambia's Service Sector. While longitudinal designs could offer insights into temporal dynamics and evolving organisational practices, the cross-sectional approach is justified by resource constraints and the exploratory nature of examining flexibility performance as a mediating construct. This design therefore provides a practical and theoretically consistent basis for investigating how leadership commitment and employee involvement are associated with organisational agility and non-financial outcomes in an emerging economy context (Saunders et al., 2019).

3.2 Study Population and Sampling

The target population comprised service sector organisations operating in Zambia. According to the national sampling frame, there are approximately 1,201 registered service organisations across key sub-sectors such as hospitality, financial services, energy, and wholesale and retail trading. These industries collectively represent some of the largest contributors to national GDP and employment creation, underscoring their relevance to the study's objectives and the importance of examining quality management practices within them.

To determine an appropriate sample size, the Cochran formula was applied, yielding a target of 291 organisations. Out of these, 240 valid responses were obtained, representing an effective response rate of 82 percent. This sample size is considered sufficient for PLS-SEM analysis, balancing statistical reliability with resource feasibility, and ensuring adequate statistical power for testing mediation effects. Respondents were purposively selected to ensure informed perspectives on leadership commitment, employee involvement, and organisational performance. The study targeted Chief Executive Officers, Branch Managers, Operations Managers, Supervisors, and other senior personnel, as these individuals are directly involved in decision-making and implementation of TQM practices.

Geographical diversity was achieved by including organisations from Lusaka, Copperbelt, Central, Southern, and North-Western provinces, thereby strengthening representativeness and contextual relevance. This distribution ensured that the sample captured both urban and peri-urban service organisations, reflecting the heterogeneity of Zambia's Service Sector. To account for contextual differences, control variables such as position, education, tenure, sector, and organisation size were incorporated into the analysis (Byrne, 2013). This approach enhanced the robustness of findings by isolating the effects of the primary constructs while recognising the influence of organisational and demographic characteristics.

3.3 Data Collection Methods and Remedies for Common Method Bias

Data were collected using a structured questionnaire, designed to measure constructs of Top Management Commitment, Employee Involvement, Flexibility Performance, and Non-Financial Organisational Performance. Items were adapted from validated scales in prior TQM and organisational performance literature (Prajogo and Sohal, 2006; Kaynak, 2004). To mitigate Common Method Bias (CMB), both Procedural and Statistical Remedies were employed:

- **Procedural remedies** included assuring respondents of anonymity, reducing evaluation apprehension, and varying item formats to minimise response patterns (Podsakoff et al., 2003).
- **Statistical remedies** involved conducting Harman's single-factor test and assessing Variance Inflation Factors (VIF). Results confirmed that collinearity was not a concern, with all VIF values below the threshold of 5 (Hair et al., 2013).

3.4 Data Analysis Procedures

Data analysis combined preliminary validation in SPSS with hypothesis testing through Latent Variable Partial Least Squares (LVPLS) using SmartPLS 4. The choice of LVPLS was guided by two methodological considerations. First, the sample size of 240 respondents was below the threshold typically recommended for Covariance-Based Structural Equation Modelling (CB-SEM), which often requires 300 or more cases for stable estimation. LVPLS is particularly well suited for small to medium samples, making it an appropriate technique in this context (Hair et al., 2013). Second, the dataset did not meet the assumptions of normality, as confirmed by the Kolmogorov–Smirnov and Shapiro–Wilk tests, both yielding significance values of 0.000, well below the 0.05 alpha level. This result rejected the null hypothesis of normality across all variables, further justifying the use of LVPLS, which does not impose strict distributional assumptions (Field, 2024).

Reliability Testing: Internal consistency was assessed using Composite Reliability (CR), which is preferred over Cronbach's alpha in PLS-SEM due to its robustness and reduced sensitivity to the number of items. All CR values exceeded the recommended threshold of 0.70, confirming construct reliability.

Validity Testing: Convergent validity was evaluated using Average Variance Extracted ($AVE \geq 0.50$), while discriminant validity was assessed using the Fornell–Larcker criterion and HTMT ratios. Both tests confirmed that the constructs were empirically distinct and conceptually coherent (Fornell and Larcker, 1981; Bagozzi and Yi, 1988).

Structural Model Assessment: Path coefficients were examined to evaluate hypothesised associations, while mediation effects were assessed using bootstrapping with 5,000 resamples to generate confidence intervals and significance values. Model fit indices, including Standardised Root Mean Square Residual ($SRMR \leq 0.08$) and R^2 values, were reported to evaluate explanatory power. Predictive relevance was further assessed using Q^2 statistics, confirming the model’s ability to predict variance in endogenous constructs.

Mediation Logic: SmartPLS procedures allowed simultaneous testing of direct and indirect pathways, clarifying whether Flexibility Performance functioned as a significant mediator between Top Management Commitment, Employee Involvement, and Non-Financial Organisational Performance. This integrated approach demonstrates methodological rigor, strengthens validity, and highlights the suitability of SmartPLS 4 for mediation analysis in small-sample, resource-constrained service sector research.

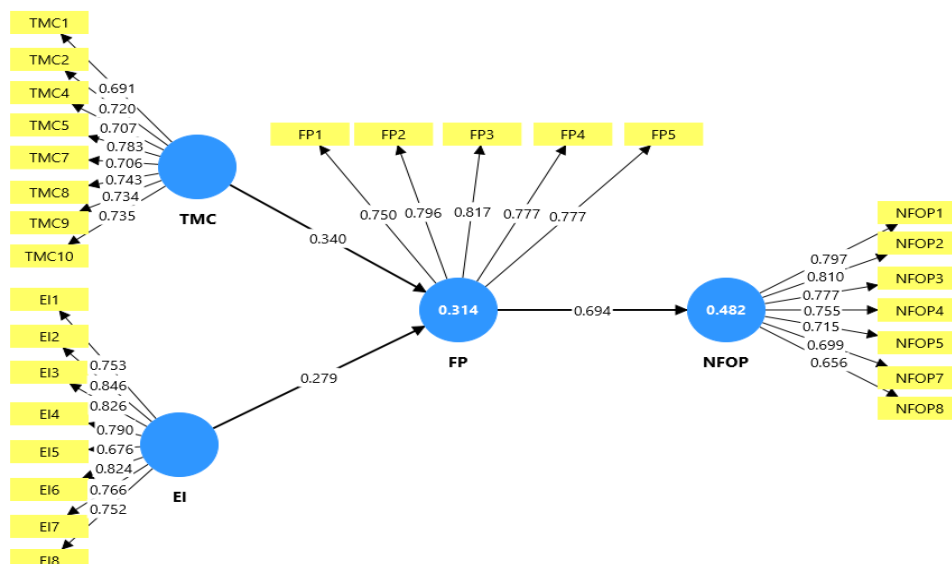
STUDY RESULTS

This study investigates the effect of Total Quality Management (TQM) practices, specifically Top Management Commitment (TMC) and Employee Involvement (EI), on Flexibility Performance (FP) within service sector organisations. It further examines the interrelationships among these TQM practices and flexibility performance, as well as the link between flexibility performance and non-financial organisational outcomes (NFOP). Before analysing the hypothesised structural relationships, the study assessed the measurement model to ensure validity and reliability. This involved evaluating indicator reliability, internal consistency, and both convergent and discriminant validity, consistent with established methodological guidelines (Wong, 2013).

4.1 Measurement Model Results

The measurement model demonstrated satisfactory reliability and validity across all constructs. Composite reliability (CR) values exceeded the recommended threshold of 0.70, confirming internal consistency. Similarly, Average Variance Extracted (AVE) values were above 0.50, establishing convergent validity. Discriminant validity was confirmed using both the Fornell–Larcker criterion and HTMT ratios, ensuring that the constructs were empirically distinct and conceptually coherent. Figure 4.1 presents the estimated PLS measurement model, illustrating the relationships between latent constructs and their observed indicators, thereby providing a robust foundation for subsequent structural model analysis.

Figure 4.1: PLS Measurement Model Estimation



Source: Author, 2025

4.1.1 Model's Outer Loadings and Internal Consistency Reliability

In assessing internal consistency reliability within Partial Least Squares Structural Equation Modelling (PLS-SEM), scholars generally regard Composite Reliability (CR) as a more appropriate measure than Cronbach's alpha. While Cronbach's alpha has traditionally been applied, it tends to be influenced by the number of items in a scale and frequently underestimates reliability (Werts, Linn, and Jöreskog, 1974). Accordingly, composite reliability is widely recognised as the preferred metric. Guidelines indicate that composite reliability values should reach at least 0.60 in exploratory studies but remain below 0.95, as values exceeding this range may be associated with redundancy or excessive similarity among items (Hair et al., 2013; Bagozzi and Yi, 1988). In this study, the composite reliability values for the four constructs Top Management Commitment (TMC), Employee Involvement (EI), Flexibility Performance (FP), and Non-Financial Organisational Performance (NFOP) are presented in Table 4.1. All values fall within the recommended range, thereby indicating strong internal consistency reliability (Martinkova and Hladka, 2023).

Table 4.1 Model's Outer Loadings and Internal Consistency Reliability

Constructs (Latent Variables)	Composite Reliability	Outer Loadings
Top Management Commitment	0.877	
TMC1		0.691
TMC2		0.720
TMC4		0.707
TMC5		0.783
TMC7		0.706
TMC8		0.743
TMC9		0.734
TMC10		0.735
Employee Involvement	0.908	
EI1		0.753
EI2		0.846
EI3		0.826
EI4		0.790
EI5		0.676
EI6		0.824
EI7		0.766
EI8		0.752
Flexibility Performance	0.843	
FP1		0.750
FP2		0.796
FP3		0.817
FP4		0.777
FP5		0.777
Non-Financial Organisational Performance	0.865	

NFOP1		0.797
NFOP2		0.810
NFOP3		0.777
NFOP4		0.755
NFOP5		0.715
NFOP7		0.699
NFOP8		0.656

Source: Author, 2025

4.1.2 Convergent Validity and Discriminant Validity

Convergent validity reflects the extent to which a construct explains the variance observed in its indicators. According to Fornell and Larcker (1981), the Average Variance Extracted (AVE) provides a robust metric for this evaluation. In this study, the AVE values for the latent constructs Top Management Commitment (0.530), Employee Involvement (0.610), Flexibility Performance (0.615), and Non-Financial Organisational Performance (0.557) are reported in Table 4.2. Each construct exceeds the recommended threshold of 0.50 (Bagozzi and Yi, 1988), thereby confirming substantial convergent validity. To assess discriminant validity, the Fornell–Larcker criterion was applied, as it remains a widely accepted and conservative approach within PLS-SEM. This criterion requires that the square root of the AVE for each construct be greater than its correlations with other constructs. The results presented in Table 4.2 confirm that this condition is satisfied: the square roots of the AVE for Employee Involvement (EI), Flexibility Performance (FP), Non-Financial Organisational Performance (NFOP), and Top Management Commitment (TMC) all exceed their respective inter-construct correlations. Collectively, these findings provide strong evidence of both convergent and discriminant validity, affirming the robustness of the measurement model and supporting its suitability for subsequent structural analysis.

Table 4.2: Convergent and Discriminant Validity Results

Construct	AVE	EI	FP	NFOP	TMC
Employee Involvement	0.610	0.781			
Flexibility Performance	0.615	0.495	0.784		
Non-Financial Organisational Performance	0.557	0.499	0.694	0.746	
Top Management Commitment	0.530	0.635	0.518	0.508	0.728

Source: Author, 2025

Note: Diagonal values (in bold) represent the square roots of AVE, which are greater than the corresponding inter-construct correlations, thereby confirming discriminant validity.

4.2 Structural Model Results

Structural modelling offers a systematic framework for analysing complex relationships between observed and latent variables (Byrne, 2013). Techniques such as Structural Equation Modelling (SEM) enable researchers to evaluate theoretical propositions, examine associative links, and assess model fit with empirical data (Kline, 2023). This methodological approach enhances research validity and deepens understanding by uncovering underlying mechanisms (Hair et al., 2019). Accordingly, structural modelling serves as a vital bridge between theory and empirical evidence, advancing knowledge across both social and natural sciences.

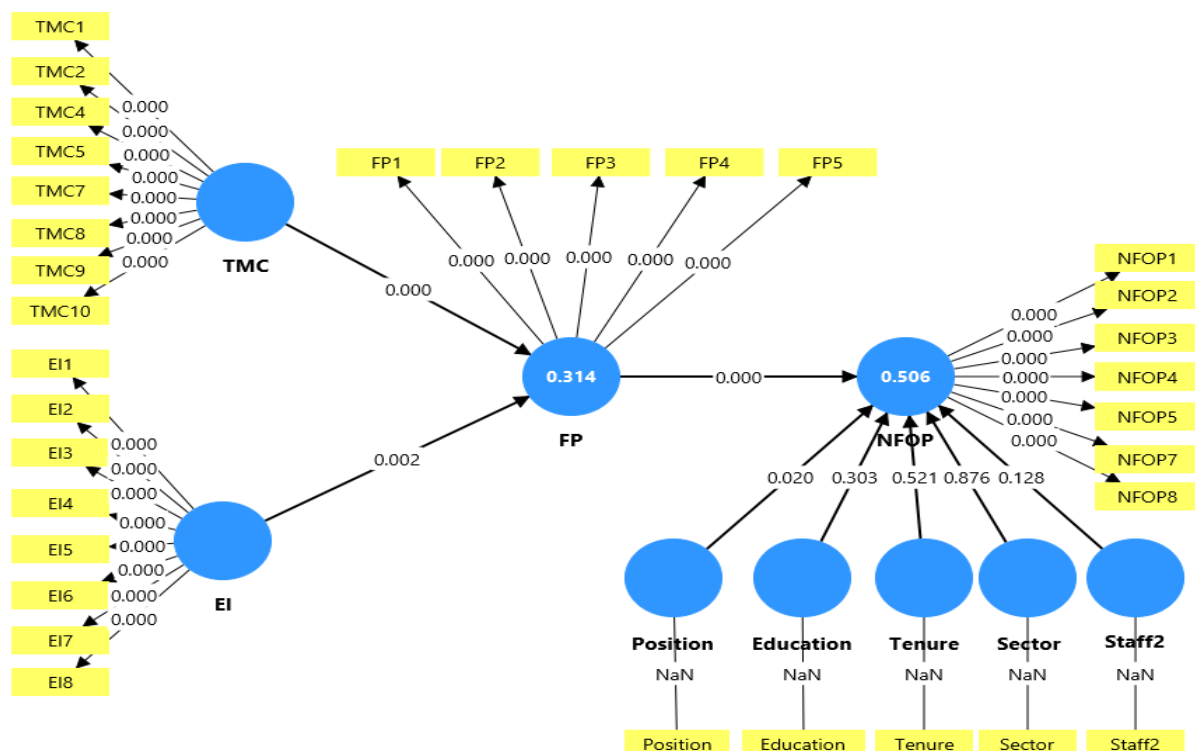
Figure 4.2 presents the estimated structural model, which was designed to investigate the relationships among Total Quality Management (TQM) practices, Flexibility Performance (FP), and Non-Financial Organisational

Performance (NFOP) within Zambia's service sector organisations. In this model, TQM practices operationalised through Top Management Commitment (TMC) and Employee Involvement (EI) are specified as independent variables, while NFOP functions as the dependent variable. Flexibility Performance is introduced as a mediating construct to clarify the mechanism through which TQM practices are associated with organisational outcomes. To strengthen robustness and validity, five control variables were incorporated: position, education, tenure, sector, and organisation size. Their inclusion allows the model to isolate the effects of the primary independent variables by accounting for potential confounding influences:

- **Position:** Captures hierarchical differences that may influence how respondents perceive and implement TQM practices.
- **Education:** Reflects variations in knowledge and skill levels that shape understanding of TQM concepts.
- **Tenure:** Represents the effect of organisational experience on attitudes and practices.
- **Sector:** Differentiates between service sub-industries to account for contextual variations.
- **Organisation size:** Controls for scale-related effects that may impact both the implementation of TQM and its performance outcomes.

By accounting for these variables, the model provides a more accurate and generalisable understanding of the relationships under investigation.

Figure 4.2: PLS Structural Model Estimation



Source: Author, 2025

4.2.1 Collinearity Assessment

Before drawing substantive conclusions, it is essential to rigorously evaluate both the measurement and structural models. The integrity of the structural model, in particular, depends on a careful assessment of potential collinearity among predictor variables. As Hair et al. (2013) emphasise, a Variance Inflation Factor (VIF) value of 5 or higher typically signals problematic collinearity. In the present analysis, the collinearity diagnostics summarised in Table 4.3 indicate that all VIF values fall well below the critical threshold of 5. This outcome

provides reassurance that multi-collinearity does not pose a significant concern within the structural model, thereby supporting the robustness and reliability of the analytical results.

Table 4.3: Collinearity Statistics Assessment

Predictor Relationship	VIF	Threshold (≤ 5)	Collinearity Concern?
Top Management Commitment → Flexibility Performance	1.701	Yes	No
Employee Involvement → Flexibility Performance	1.701	Yes	No
Flexibility Performance → Non-Financial Organisational Performance	1.085	Yes	No

Source: Author (2025)

4.2.2 Coefficient of Determination (R^2)

The evaluation of the structural model in this study centres on the coefficient of determination (R^2), which serves as a key indicator of explanatory power. The constructs of primary interest are Flexibility Performance and Non-Financial Organisational Performance. As illustrated in the PLS path model estimation diagram (Figure 4.2) and (Table 4.4), the R^2 values for these constructs reflect a moderate level of explanatory strength. According to Hair et al. (2013), R^2 values of 0.25, 0.50, and 0.70 are commonly interpreted as weak, moderate, and substantial explanatory power, respectively. Within this framework, the exogenous constructs Top Management Commitment, Employee Involvement, and Flexibility Performance jointly account for 52.4 percent of the variance in Non-Financial Organisational Performance, yielding an R^2 value of 0.524. This indicates that just over half of the variability in non-financial organisational performance can be associated with these organisational factors. Collectively, these results underscore the moderate yet meaningful role of TQM practices and flexibility performance in shaping organisational outcomes within the model.

Table 4.4: Coefficient of Determination (R^2)

Endogenous Construct	R^2 Value	Interpretation (Hair et al. 2013)
Flexibility Performance	0.381	Moderate
Non-Financial Organisational Performance	0.524	Moderate

Source: Author (2025)

4.2.3 Path Coefficients

The analysis of the structural model provides empirical evidence for three hypotheses (H1–H3). Hypotheses H1 and H2 examine the association between Top Management Commitment and Employee Involvement with Flexibility Performance, while H3 assesses the association between Flexibility Performance and Non-Financial Organisational Performance. The evaluation criterion stipulated that a hypothesis would be rejected if $t < 1.96$ and $p > 0.05$. The results further, demonstrate that all three hypothesised relationships achieved statistical significance, thereby confirming the robustness of the proposed model. The outcomes of the Partial Least Squares (PLS) structural model reveal that Flexibility Performance is strongly associated with Non-Financial Organisational Performance, as reflected in a path coefficient of 0.706 ($t = 19.844$, $p = 0.000$). In addition, Top Management Commitment shows a significant association with Flexibility Performance, with a path coefficient of 0.349 ($t = 4.557$, $p = 0.000$). Similarly, Employee Involvement demonstrates a meaningful association with Flexibility Performance, contributing a path coefficient of 0.279 ($t = 3.123$, $p = 0.002$).

Taken together, these findings indicate that Top Management Commitment (TMC), Employee Involvement (EI), and Flexibility Performance (FP) are significantly associated with organisational outcomes. Most notably, Flexibility Performance emerges as a critical mediating construct, linking leadership commitment and employee

involvement to enhanced Non-Financial Organisational Performance (NFOP). This underscores the pivotal role of human factors and interpersonal dynamics in advancing organisational performance. See Table 4.5

Table 4.5: Significance Testing Results of Structural Model Path Coefficients

Hypothesis	Path	Path Coefficient (β)	t-value	p-value	Decision
H1	TMC $\rightarrow$ FP	0.349	4.557	0.000	Supported
H2	EI $\rightarrow$ FP	0.279	3.123	0.002	Supported
H3	FP $\rightarrow$ NFOP	0.706	19.844	0.000	Supported

Source: Author, 2025

The results confirm that all hypothesised paths are statistically significant, thereby validating the proposed structural relationships. Flexibility Performance plays a central mediating role, reinforcing the importance of leadership commitment and employee involvement in achieving improved non-financial organisational outcomes. This provides strong empirical support for the theoretical framework underpinning the study.

4.2.4 Predictive Relevance (Q^2)

The assessment of Stone–Geisser’s predictive relevance (Q^2) is an important step in evaluating the quality of structural equation models, particularly in reflective measurement models associated with endogenous constructs. The Q^2 statistic enables researchers to determine the extent to which observed data points for indicators of endogenous constructs can be accurately predicted by the model. This evaluation was operationalised through the PLSpredict procedure using 10-fold cross-validation, which systematically omits and predicts portions of the data to compute Q^2 values. In the present analysis, Flexibility Performance and Non-Financial Organisational Performance are identified as the two endogenous constructs within the research model. The summary of results, presented in Table 4.6, indicates that the model demonstrates fair predictive relevance for both constructs. Consistent with Chin (1998), a Q^2 value greater than zero signifies satisfactory predictive relevance. The findings therefore lend support to the adequacy of the proposed model in predicting the endogenous variables under investigation.

Table 4.6: Predictive Relevance (Q^2 Values)

Endogenous Construct	Q^2 Value	Interpretation (Chin, 1998)
Flexibility Performance	0.286	> 0 , indicates satisfactory relevance
Non-Financial Organisational Performance	0.253	> 0 , indicates satisfactory relevance

Source: Author, 2025

Both Flexibility Performance and Non-Financial Organisational Performance exhibit Q^2 values above zero, confirming that the model possesses satisfactory predictive relevance. This reinforces confidence in the model’s ability to predict variance in the endogenous constructs and supports its suitability for subsequent hypothesis testing.

4.2.5 The f^2 Effect Size

The final stage of structural model evaluation involves assessing the effect size (f^2), which quantifies the contribution of a specific exogenous construct to an endogenous construct when the exogenous construct is omitted from the model. This statistic provides insight into the relative importance of each predictor variable. According to Cohen’s (1988) guidelines, f^2 values of 0.02, 0.15, and 0.35 are interpreted as small, medium, and large effect sizes, respectively. In line with these thresholds, the results of this study indicate that the exogenous variables exert substantial effects indeed greater than the benchmark for a large effect on Flexibility

Performance. The detailed statistics, presented in Table 4.7, corroborate this considerable impact and reinforce the central role of Flexibility Performance within the model.

Table 4.7: Effect Size (f^2) Statistics

Exogenous Construct	f^2 Value	Interpretation (Cohen, 1988)
Top Management Commitment	0.201	Medium effect
Employee Involvement	0.167	Medium effect
Flexibility Performance	0.499	Substantial effect (greater than large)

Source: Author, 2025

The results confirm that both Top Management Commitment and Employee Involvement demonstrate medium-sized effects on Flexibility Performance, while Flexibility Performance exerts a substantial effect on Non-Financial Organisational Performance. These findings highlight the pivotal mediating role of Flexibility Performance and underscore the importance of leadership and employee engagement in shaping organisational outcomes.

4.3 Summary of Hypothesis Testing

The hypothesis testing results provide clear evidence of the statistical associations among the studied variables. The analysis confirmed that Top Management Commitment is positively associated with Flexibility Performance ($t = 4.557$, $p = 0.000$), thereby supporting Hypothesis 1. This finding underscores the pivotal role of leadership in fostering an organisational environment that is adaptive and responsive to change. It resonates with prior research, which has consistently shown that when senior management visibly champions quality initiatives, it cultivates a culture oriented toward continuous improvement and organisational agility (Sikota et al., 2026; Al-Dhaafri et al., 2020; Prajogo and Sohal, 2006; Samson and Terziovski, 1999). Similarly, Employee Involvement was found to be positively associated with Flexibility Performance ($t = 3.123$, $p = 0.002$), leading to the support of Hypothesis 2. This highlights the critical importance of engaging employees in quality management processes. When staff actively participate in decision-making and problem-solving, they become more empowered and invested in their roles, often driving innovation and improvements in operational practices (Kaynak, 2004).

Finally, the results revealed a robust and significant positive association between Flexibility Performance and Non-Financial Organisational Performance ($t = 19.844$, $p = 0.000$), thereby supporting Hypothesis 3. This finding provides empirical evidence for the mediating role of flexibility performance in influencing broader organisational success. Non-financial outcomes such as customer satisfaction, employee morale, and continuous process improvement are increasingly recognised as essential indicators of long-term organisational viability (Sikota et al., 2026; Sousa and Voss, 2002; Powell, 1995).

In summary, the supported hypotheses collectively address the H1, H2 and H3 by demonstrating that TQM practices particularly top management commitment and employee involvement play a crucial role in driving flexibility performance. This flexibility performance, in turn, serves as a vital conduit through which TQM initiatives enhance non-financial organisational performance. The results construct a coherent narrative linking leadership engagement and workforce participation to operational excellence and, ultimately, to enduring organisational success.

4.4 Discussion of the Findings

4.4.1 Top Management Commitment and Flexibility Performance

The results confirm that Top Management Commitment exerts a significant positive influence on Flexibility Performance ($\beta = 0.349$, $p < 0.001$). This finding aligns with recent evidence that leadership commitment is a cornerstone of organisational adaptability and quality improvement. Studies by (Sikota et al. 2026; Sahoo and Yadav, 2018; Al-Dhaafri et al. 2016) demonstrate that managerial support enhances process responsiveness and

innovation, enabling organisations to adjust swiftly to market changes. From the Resource-Based View (RBV), leadership commitment represents a strategic intangible resource that fosters organisational agility and learning capabilities (Kafetzopoulos and Psomas, 2015; Barney, 1991). In the Zambian service context, visible top management involvement in quality initiatives signals institutional support for flexibility, thereby embedding adaptability into organisational routines. This supports the notion that leadership-driven quality cultures are essential for sustaining operational resilience in dynamic service environments.

4.4.2 Employee Involvement and Flexibility Performance

The positive and significant relationship between Employee Involvement and Flexibility Performance ($\beta = 0.279$, $p = 0.002$) underscores the critical role of workforce engagement in achieving operational agility. Recent research by Alam et al., (2024) and Kumar et al. (2020) affirms that empowered employees contribute to process innovation and continuous improvement, enhancing organisational responsiveness. The Social Exchange Theory (SET) provides a compelling explanation: when employees perceive reciprocal trust and recognition from management, they reciprocate through proactive problem-solving and commitment to organisational goals (Cropanzano et al., 2017). In service organisations, where human interaction defines performance outcomes, employee involvement strengthens adaptability and customer-centric service delivery. This finding reinforces the argument that participatory management structures are vital for embedding flexibility into organisational processes.

4.4.3 Flexibility Performance and Non-Financial Organisational Performance

The strong positive effect of Flexibility Performance on Non-Financial Organisational Performance ($\beta = 0.706$, $p < 0.001$) highlights flexibility as a key operational capability driving customer satisfaction, employee morale, and continuous improvement. This result is consistent with Awais et al. (2023), who found that flexible systems enhance service reliability and responsiveness, leading to improved non-financial outcomes. From the RBV perspective, flexibility constitutes a dynamic capability that enables organisations to reconfigure resources and processes to meet evolving customer needs (Sun et al., 2024; Teece et al., 1997). In the Zambian Service Sector, flexibility allows firms to tailor services efficiently, thereby improving customer experiences and internal motivation. The finding thus supports the growing consensus that non-financial indicators are critical predictors of long-term organisational sustainability (Eccles, Ioannou, and Serafeim, 2014).

4.4.4 Mediating Role of Flexibility Performance

The analysis confirms that Flexibility Performance mediates the relationship between TQM practices (Top Management Commitment and Employee Involvement) and non-financial outcomes. This mediation underscores flexibility as the operational bridge linking leadership and employee engagement to organisational success. Similar mediation effects have been reported by Kafetzopoulos et al. (2019), who found that operational performance mediates the influence of TQM on organisational results. Theoretically, this supports the integration of Resource Based View and Social Exchange Theory: leadership commitment and employee involvement create a supportive environment that nurtures flexibility, which in turn enhances non-financial outcomes. Practically, it implies that service organisations should prioritise flexible structures and participatory cultures to translate quality initiatives into sustained performance improvements.

In summary, the findings affirm that human-centred TQM practices anchored in leadership commitment and employee involvement drive flexibility performance, which mediates their impact on non-financial organisational success. This reinforces the strategic importance of cultivating adaptive, people-driven quality cultures in service organisations within emerging economies.

CONCLUSION

This study examined the influence of two human-centred Total Quality Management (TQM) practices Top Management Commitment and Employee Involvement on Flexibility Performance, and how Flexibility Performance mediates their effect on Non-Financial Organisational Performance in Zambia's Service Sector. Using PLS-SEM and data from 240 organisations, the findings confirm that leadership commitment and

employee engagement significantly enhance organisational adaptability, which in turn drives improvements in customer satisfaction, employee morale, and continuous improvement. The contributions of this research are threefold:

Contribution to Theory: By focusing exclusively on Top Management Commitment and Employee Involvement, the study advances the Resource-Based View theory by conceptualising these human-centred practices as strategic resources that build organisational agility. It also validates Social Exchange Theory by showing how reciprocal exchanges between management and employees foster trust, motivation, and innovation. The empirical confirmation of flexibility performance as a mediating construct strengthens theoretical understanding of how human-centred practices translate into non-financial outcomes.

Contribution to Practice: For managers and policymakers, the findings highlight that visible leadership commitment and active employee involvement are not peripheral but central drivers of organisational agility. Flexibility emerges as the mechanism through which service firms sustain non-financial outcomes, underscoring the importance of embedding human-centred quality practices into daily operations to achieve long-term competitiveness.

Contribution to Context: Situated in Zambia's under-researched service sector, the study fills a critical gap in African TQM scholarship. By providing empirical evidence from hospitality, retail, financial, and energy organisations, it contextualises global theories within an emerging economy setting, offering insights that are both locally relevant and globally significant.

5.1 Limitation and Future Research Study

Despite its methodological rigor, this study acknowledges several limitations that provide avenues for future inquiry:

Cross-sectional design: Data were collected at a single point in time, thereby constraining the capacity to capture dynamic changes in Total Quality Management (TQM) practices, flexibility performance, and organisational outcomes. Future research should employ longitudinal designs to monitor the evolution of these relationships over time, thereby enhancing causal inference and elucidating temporal dynamics.

Self-reported data: The reliance on structured questionnaires introduces the risk of response bias, as participants may offer socially desirable rather than entirely objective assessments. Subsequent studies could mitigate this by integrating objective performance metrics, incorporating external audits, or combining surveys with observational methods to reduce bias and bolster validity.

Sample skewness: Although 240 valid responses were obtained, the sample may not fully capture the diversity of the broader service sector, with potential non-response bias and uneven representation across sub-sectors. Future research should broaden the sampling frame and employ stratified random sampling across multiple service industries to improve representativeness and generalisability.

Limited TQM dimensions: The present study primarily examined top management commitment and employee involvement, omitting other essential TQM dimensions such as customer focus and continuous improvement. Future research should incorporate a more comprehensive array of TQM practices to provide a holistic understanding of how various dimensions interact to influence organisational outcomes.

Absence of qualitative triangulation: The exclusive reliance on quantitative methods limited the ability to capture nuanced managerial and employee perspectives regarding TQM implementation and flexibility. Future research should adopt mixed-methods approaches, combining quantitative surveys with qualitative interviews or case studies to enrich insights and provide deeper contextual understanding.

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