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LINKING TQM TO PROFITABILITY AND MARKET SHARE: THE MEDIATING ROLE OF CUSTOMER SATISFACTION AND THE MODERATING ROLE OF COMPETITIVE INTENSITY IN SERVICE INDUSTRIES

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Abstract

This empirical investigation offers a comprehensive study of the complex relationship between Total Quality Management (TQM) practices and organizational performance in the service sector. Previous studies have demonstrated generally positive associations, but they did not specify the mediating or contextual factors that influence and shape this relationship in service environments. This study addresses several important gaps in the current literature by proposing and testing an integrated conceptual framework. In this framework, customer satisfaction functions as a mediating variable, while competitive intensity serves as a moderating variable in the link between TQM and organizational performance. A rigorous methodology is employed based on the theoretical foundations of the Resource-Based View and Structure Conduct Performance paradigms. Cross-sectional survey data were collected from a sample of 312 senior executives across various service industries in Nigeria. Advanced statistical analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) reveals significant direct positive effects of TQM implementation on both profitability and market share. More critically, mediating analysis shows that customer satisfaction closely mediates these effects, demonstrating that TQM influences organizational performance through both direct and indirect pathways. The moderating analysis indicates that competitive intensity amplifies the relationship between TQM and market share and similarly affects profitability. These findings carry important theoretical implications, as they elucidate the mechanisms through which TQM creates value in service organizations. Furthermore, key boundary conditions are identified that influence the effectiveness of TQM.

Keywords: Total Quality Management, Profitability, Market Share, Customer Satisfaction, Competitive Intensity, Service Industry, Resource-Based View

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1. Introduction

In the current business environment characterized by globalization, technological development, and increased competition, quality management has focused strategically on enhancing competitiveness and sustainability. These factors are among the main drivers of organizational success. Total Quality Management (TQM) has emerged as one of the most important philosophies of modern management and is widely recognized as a comprehensive strategic approach toward achieving operational excellence, improving customer value, and building sustainable competitive advantage (Demirbag et al., 2006; Prajogo & Sohal, 2006; Mwamba, 2023; Rafique et al., 2025). The body of literature on Total Quality Management is extensive and mainly provides evidence that TQM positively correlates with various performance metrics across organizations operating under different environmental conditions and industries (Powell, 1995; Sousa & Voss, 2002). Researchers generally agree that organizations that successfully adopt the core principles of TQM tend to perform better—both internally and externally—compared to those that do not, across a wide range of performance indicators. Foundational research indicates that organizations implementing TQM principles often achieve superior results in areas such as productivity, customer satisfaction, market share, and profitability relative to their competitors (Kaynak, 2003; Sadikoglu & Zehir, 2010; Ahmad et al., 2025). However, while this evidence appears to support the value of TQM, a review of existing literature reveals significant limitations and gaps in knowledge, highlighting the need for further research (Sila, 2007; Nair, 2006; Siddique et al., 2025). Most studies in this area have been conducted within manufacturing settings, leading to a manufacturing-centric understanding of TQM practices and their impact on organizational performance.

2. Theoretical Framework and Literature Review

This research is based on two theoretical perspectives: the Resource-Based View (RBV) of the firm (Barney, 1991) and the Structure-Conduct-Performance (SCP) paradigm derived from industrial-organizational economics (Bain, 1956). The Resource-Based View offers a perspective that focuses on the firm, defined for this study as the sum of its resources and capabilities. These factors are considered paramount in understanding business organizations through their effects on competitive advantage and performance. Essentially, it involves providing and utilizing resources that enable the organization to achieve a sustainable advantage over competitors by fulfilling the VRIN criteria—being valuable, rare, not easily imitated, and having no substitutes. In the proposed framework, total quality management (TQM) can be identified as a socially complex resource—a bundle of interrelated practices, processes, and systems—that continuously produces improved results, maintains a customer focus, and involves employees (Powell, 1995). The specific intricate combination of management commitments, employee involvement, process ownership, and customer focus that characterizes and thrives in a TQM environment creates a resource difficult for competitors to imitate, thereby generating a continuous flow of sustainable competitive advantage (Reed et al., 2000). Much of the rationale for the direct link between quality management (TQM) and organizational performance is rooted in the Resource-Based View (Barney, 1991). When TQM is appropriately implemented, several pathways can enhance performance (Flynn et al., 1994; Kanwal et al., 2025). Notably, improved process management and a culture of continuous improvement foster greater efficiency and reduce errors, rework, and waste, leading to lower costs and increased profitability (Ittner & Larcker, 1997). The customer-focused aspect of Total Quality Management enhances the organization's image, reputation, and branding, establishing a

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foundation for market entry by attracting new customers and retaining existing ones (Reed et al., 2000). The human resource component of TQM boosts performance by developing employees' skills, motivating them, and resulting in higher productivity. Therefore, from the Resource-Based View, Total Quality Management emerges as a resource that influences efficiency-related performance measures, such as profitability, and market-driven metrics, such as market share.

Although the Resource-Based View provides a sound basis for understanding how the firm's internal resources and capabilities determine its performance, it has been criticized for ignoring the influence of external environmental forces. To address this shortcoming and provide a theoretical basis, the present study utilizes the Structure-Conduct-Performance (SCP) paradigm from industrial organization economics (Bain, 1956), which postulates that the structure of the industry environment leads to conduct that determines performance. In any event, competitive intensity can be regarded as a part of industry structure, which in turn influences the relationship between an organization's behavior (adoption of Total Quality Management) and performance (Jaworski & Kohli, 1993). From the import of these two theoretical standpoints, a view is obtained of the Total Quality Management-performance relationship that appreciates both the internal functioning of the organization and the external influences on it. Research on total quality management (TQM) shows that its use is likely to lead to an increase in relevant organizational performance (Nair, 2006; Sadikoglu & Zehir, 2010; Khalil et al., 2024; Ullah et al., 2025). Large-scale meta-analytic studies and the literature presented extensively and exhaustively show that organizations employing TQM outperform those not employing TQM in many performance criteria. However, the magnitude of the results and the consistency across each research study vary greatly, with contradictions from one study to another. These variations are presumably due to the effects of mediating and moderating variables, rather than the subject of inquiry in this literature. The differences in results therefore show that the relationship between TQM and performance is more complex than any direct effect models would suggest. This indicates a greater degree of sophistication in theoretical treatments of the problems, necessitating more penetrating analytical techniques. From the perspective of customer satisfaction, this serves as a vehicle for communicating the impact of the TQM effect on organizational performance, particularly when organizational performance is reflected in a service-oriented environment (Anderson et al., 1994). This mediating variable of necessity must be logical, as it aligns with the basic principles of TQM concerning the customer within the total philosophy. Theoretically, TQM manifests in operations that create satisfaction through various channels (Zeithaml et al., 1996). The management commitment to quality results in the alignment of strategies for processing customer satisfaction, employee treatment, with respect to areas of training and empowerment, leads to positive indicators with respect to the rendering of services in respect of experiences thereof, orderly quality of support and control of processes involved, leads to control with respect to the quality of manufactured product (Shahi et al., 2025).

The TQM-oriented gains in improving service quality tend to increase customer satisfaction, which, in turn, results in performance outcomes such as increased customer loyalty, decreased price sensitivity, enhanced word-of-mouth, and reduced customer acquisition costs (Fornell, 1992). In a word, customer satisfaction becomes the link that turns the operations of TQM into improved financial and market performance.

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The moderating role of competitive intensity is clearly a boundary condition that can alter the magnitude of the relationship between total quality management (TQM) and performance (Jaworski & Kohli, 1993). The underlying rationale for this moderation is based upon a combination of the resource-based view (RBV) of enterprise and the structure-conduct-performance (SCP) paradigms. In markets where competition is particularly intense, and customers have a considerable range of choice with frequent aggressive behavior from competitors, quality differentiation becomes an even greater imperative as a base of competitive advantage (Zahra & Covin, 1993). In these highly competitive markets, the advantage obtainable from a total-quality-management production system may be exceedingly great (Khan & Wali, 2020; Uzair etal., 2025). Quality becomes a competitive weapon that not only protects but also strengthens the market position of the corporation. On the other hand, in those relatively placid markets where substitute products are plentiful and the competitive forces are latent instead of overt, the same quality strategies based on TQM will produce at best indifferent results because there is not the same urgency about the objective of quality differentiation, in terms of market share, evidently much less important. Therefore, competitive intensity will act as a moderator that economizes the relationship between TQM and performance, and provides insight into just how far strategic quality may be used as a weapon.

Moreover, while the literature states that the mediating and moderating routes are important, there is not much empirical research that speaks to these routes (Molina-Azorin et al., 2015; Olorogun & Othman, 2021). Most of the writings on the topic thus far have focused on quality management (TQM) and performance, with only minimal attention to the more rudimentary processes and boundary conditions that could influence that relationship (Namadi, 2023). In an effort to fill these voids, this study constructs and empirically validates a theoretical framework that simultaneously addresses the direct organizational performance effects of TQM, the mediating effect of consumer satisfaction, and the modifying effect of competitive intensity. This broad approach provides a clearer picture of how total quality management molds organizational performance in service-oriented organizations, thus validating the theoretical construct and the empirical toolkit of the organizational administrator.

3. Hypotheses Development

H1: TQM has a significant positive effect on (a) profitability and (b) market share.

The theoretical justification for the positive effect of TQM on organizational performance is well established in the Theory of the Firm and the Resource-Based View (Barney, 1991). This theory maintains that firms obtain a competitive advantage through the possession of valuable, rare, inimitable, and non-substitutable resources and core competencies. Specific resources of this type are represented by properly implemented TQM, a system that serves as a unified framework of managerial tools, technological tools, and philosophical concepts, enabling the firm to uniquely provide appropriate value to its customers (Powell, 1995). The theoretical justification of the effect of TQM on profitability is found in the different theoretical postulates (Flynn et al., 1994). In the first instance, TQM's emphasis on process management and continuous improvement is productive, allowing for greater efficiency through systematic reductions in variation, error, defect, and waste within the organization's processes. Such process improvement increases the efficiency of the minimum average resources used in organizational production and service processes, leading to decreased rework expenses, fewer warranty and guarantee claims, and less resource waste, all of which mean greater profitability for the organization (Ittner &

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Larcker, 1997; Wang & Ahmad, 2018). Second, the TQM principle of emphasizing prevention over detection of quality problems leads to more productive and efficient processes in terms of costs related to inspection, testing, and failure, resulting in favorable effects on the organization's profits. Third, the strategic outlook and systematic, efficient decision-making basis created by the TQM processes reduce redundancies and create greater opportunities for resource allocation efficiency, thus further enhancing profitability (Hussain, 2018).

The theoretical justification for the positive effect of TQM on market share is similarly the result of several propositions drawn from the areas of strategic management and marketing theory (Reed et al., 2000). The introduction of TQM measures enhances the favorable market share position by improving several interrelated aspects of the TQM processes. The proper customer focus development associated with TQM highlights the need to focus organizational resources and processes to meet the evolving needs of customers better, leading to greater customer satisfaction and loyalty. The result of customer loyalty is the development of a customer base, giving rise to necessary repeat business, a lesser degree of turnover of customers, and a higher contribution to customer life-time value occurring on the positively terminal end of the customer's growth processes, leading to both stability and growth of share and markets available (Anderson et al., 1994). Also, the quality identification and reputation developed necessarily from the introduction of systems quality processes and TQM provides for clout as a signal of organizational opportunity regarding organizations in attracting new customers in terms of the signals being efficiently used to induce further organizational effective philosophies in those persons attracting them, thus enhancing necessary equivocation and stock abundances of goodwill, and product market equity. The aspect of this factor is excellent in cases whereby verifiable judgmental, evaluator qualities exist but are not useful prior to the parties being involved by a shopping approach orchestrated through someone else's premises, thus lowering exchange quality risk factor on the part of the new customers inducing purchase initiatives relative to organizational opportunities upon the completion and delivery, etc. to underline quality (Zeithaml et al., 1996). Also, the inherently exploratory nature of TQM processes in organizational learning capabilities enables organizations to respond more effectively and efficiently to the increasingly rapid demands for interchange from potentially competitive sources. This creates a dynamic, stimulating, and evolving foundation for further market share penetration and expansion. From the unified theoretical basis and justification gained from previous empirical studies and theoretical works and propositions found therein under many conditions, numerous factors weighed upon (Sadikoglu & Zehir, 2010), Sousa & Voss (2002) respectively, we posit the defended hypothesis that the adoption of TQM within service organizations will produce significant positive effects, both on profitability and share of market (Lukic, 2021; Shahi et al., 2025).

H2: Customer satisfaction mediates the relationship between TQM and (a) profitability and (b) market share.

The theoretical rationale for the mediating role of customer satisfaction in the relationship between TQM and organizational performance is derived from an amalgamation of quality management theory, service dominant logic, and customer equity theory (Anderson et al., 1994; Fornell, 1992). The mediation occurs through a well-documented causal chain that begins with TQM implementation, affects service quality perceptions, impacts customer satisfaction, and ultimately leads to greater customer loyalty and enhanced financial performance. This detailed theoretical chain provides an important and necessary further

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explication of the direct effect models that have characterized much of the TQM literature, as it explicitly explains how TQM practices lead to performance outcomes. The direct relationships between TQM and customer satisfaction are theoretically based on the underlying principles of TQM philosophy, with customer focus notably designed as one of its central features (Flynn et al., 1994). The particular TQM practices enhance customer satisfaction in direct ways through various channels. Top management leadership and strategic planning, specifically designed to accomplish quality objectives, establish organizational commitment to the needs of customer satisfaction. Human resource management practices related to TQM, such as employee empowerment, training, and recognition, lead to employees being competent and motivated to provide enhanced customer satisfaction experiences. When service processes are managed, we can assure that service delivery is characterized by reliability, consistence and efficiency, resulting in fewer service failures and greater service recovery when failures do occur (Zeithaml et al., 1996). Information and analysis systems provide important feedback from customers on which organization improvements are made continuous and in accordance with needs and presages of customers. The theoretical relationship of customer satisfaction to performance is strictly derived from highly rudimentary relationships established in the fields of marketing and strategic literatures (Fornell, 1992). Customer satisfaction influences profits through different pathways, common to its relationship with other elements of the relationship including lower costs of customer acquirement and higher levels of customer retention, greater cross selling possibilities, lower price sensitivity, higher levels of repeat purchase intentions, lower levels and proclivity to switch suppliers to competitor, and greater propensity to pay premium prices, all of which therefore cause linguistically, but also affect directly profitability (Anderson et al., 1994). In addition of other pathways the versa detailed relationship of customer satisfaction to market share act, including word of mouth effects, firm branding reputational, greater numbers of referred customers by customers which altogether operate in the acquirement of customers and augment the market share increases at the operating level (Reichheld & Sasser, 1990). The cumulative theoretical evidence adduced in favor of both corollary perspectives of the relationship, TQM to customer satisfaction and customer satisfaction to performance lead positively to the great support of hypothesizing that customer satisfaction constitutes a key mediatory variable contributing greatly to the understanding or parameterization, of how and in what manner TQM itself operates as a contributing variable to organizational performance. This mediatory relationship suffices paid particular interest in the service context, not least owing to the fact that customer satisfaction is a very directly related function of those activities/professionalism of those associated by management to service personnel who form the total mediation of the TQM services, and that the TQM practices themselves are constructed also, so importantly through the variable customer satisfaction so importantly the central variables evidencing the parameterization of the relationship between TQM practices and performance outcomes is designated greatly through the variable relationship mediatory, that of customer satisfaction (Lakhal et al., 2006; Hassan et al., 2025).

H3: Competitive intensity moderates the relationship between TQM and firm performance, such that the positive relationship is stronger when competitive intensity is high.

The theoretical justification for the moderating role of competitive intensity comes from synthesizing the Resource-Based View (Barney, 1991) with the contingency theory and competitive dynamics perspectives (Jaworski & Kohli, 1993). The RBV gives the theoretical

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justification for why TQM might lead to a competitive advantage. At the same time, contingency theory suggests that the benefits of any strategic resource or capability are contextualized and dependent on randomness in the external environment. Competitive intensity is a critical external environmental dimension that theoretically affects the strategic importance of TQM and its impact on performance outcomes (Zahra & Covin, 1993). The moderating effect operates through a number of related theoretical mechanisms. The greater the competitive intensity, as shown by the large number of competitors, the high frequency of competitive actions, aggressive rivalries and low switching costs for customers, the more high quality becomes an effectively differentiating basis for competitive advantage. Under talented pressure of competitive intensity, customers have many alternatives, so that switching of providers is facilitated, and consistent delivery of quality becomes significant to retain customers. Also, in such an environment, performance quality becomes an important signal for customers to determine how to act among the multitude of alternatives available to them, thereby increasing the marginal returns from investments in quality management (Jaworski & Kohli, 1993). Furthermore, it is generally the case that competitive intensity will enhance customers' expectations with respect to improved performance and levels of services offered, consequently the, importance of implementation of TQM is increased in order to comply with industry levels of performance that will protect against competitive disadvantage. The theoretical justification for the specific moderating effect on the relationship between TQM and market share is perhaps the strongest (Zahra & Covin, 1993). In highly competitive markets, where multiple alternatives exist and competitive actions are frequent, the quality superiority resulting from TQM will serve as a proper differentiating basis to protect and enhance market position (Amir et al., 2025). The effects of TQM on increasing customer retention become more significant in a competitive environment, where acquiring new customers is costly and maintaining customer loyalty is challenging. Similarly, the positive differences in quality reputation that reduce customer acquisition costs are even greater when providers are charged with relying on signals and references to choose among the multitude of alternatives.

The effect of the moderating variable of competitive intensity on the relationship between TQM and profitability may have even greater theoretical complexity. Certainly, profitability may be enhanced more strongly even in competitive intensity due to the effects of increased premium pricing and customer loyalty. In contrast, the increasing pressure on margins due to intensive competition and rising operational costs may nevertheless limit the profitability resulting from the above effects (Siddique et al., 2025). The theoretical complexity justifies a separate study of the moderating effects on the profitability variable, distinct from those on the market share variable. Given this theoretical support for a significant effect, and in conjunction with the contingency theories of environment implications that result (Jaworski & Kohli, 1993; Zahra & Covin, 1993), the following hypothesis is generated. It is hypothesized that competitive intensity will serve as a positive moderator for the degree of TQM-performance. This positive moderator relationship will be even more significant for operationally important outcomes, such as market share.

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Figure 1: Conceptual Research Model

4. Methodology

4.1. Research Design

A cross-sectional survey-based research program was implemented in this study, a methodological strategy that is appropriate for exploring the complex interrelationships between unobservable constructs (latent variables) (Hair et al., 2019). The use of a cross-sectional approach allows for the easy collection of data from a large number of organizations in a relatively short period, thereby facilitating a rigorous statistical exploration of the predicted relationships. Longitudinal modelling has certain advantages in establishing the causes of sequential relationships. However, properly constructed cross-sectional investigations employing refined statistical techniques can provide substantial insight into the complexities of certain organizational phenomena, particularly if well-conceived theoretical bases have been developed. Data was collected through a survey methodology, which facilitates standardized enquiry across various organizations. This approach enhances the generalizability of results and provides access to perceptual theories crucial to this research, such as perceptions of management practices, competitive performance, and performance assessments.

4.2. Population and Sampling

The subjects for this study involved service organizations operating in Nigeria, specifically focusing on four key service sectors: banking, telecommunications, insurance, and hospitality. This was based on the following criteria: these sectors were chosen because they comprised a significant part of the service economy, had established practices in quality management, varied in competitive intensity, and were significant in the current business environment. The sampling frame was derived from extensive databases obtained from general industry associations, professional institutions, and commercial business directories. The initial sampling frame consisted of 650 organizations that had established quality services and significant operations in Nigeria. The unit of analysis was the organization, and the "key informant" was the senior manager with significant knowledge of the quality management information systems within their organization, the competitive environment, and performance outcomes. In this regard, the target individuals for contact included such positions as Chief Executive Officer, Operations Director, Quality Manager, Marketing Director, or other senior appointments with strategic responsibility regarding quality and performance issues.

4.3. Data Collection Procedures

A structured questionnaire with several particulars was used in a three-month data collection process, employing various methods to maximize response rates and ensure data representativeness. The data collection process consisted of a series of carefully worked out stages. Formal letters were first sent to the relevant organizations to explain the research

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and the need for their cooperation. The research questionnaire was then dispatched by means of both methods: (a) electronic, such as e-mail with secure links to the survey, and (b) physical methods, such as personal administration of the questionnaire by trained helpers. The helpers underwent a comprehensive training course that explained the research and scrutinized the questionnaires through legal, educational, and ethical lenses. This approach subjected the data collection process to a uniform and professional modus operandi at all levels. The follow-up provided for multiple determinations, such as letters of reminder, telegrams, and mobile phone contacts, and included visits in one or two instances, which perhaps elevated the participation rates. It was felt that these various follow-up opportunities ensured the perfect achievement of 335 completed replies from the first sampling frame of 650 organizations. This gave an initial participation response rate of 51.5%. After completing the data collection, the entire screening and examination of the data were conducted and recorded to address issues such as missing data, rebound effects of mean circle dispersion, or the natural consequences of what are considered hyped responses in the original questionnaires. This procedure led to further examination of questions, and out of 23 questionnaires, some were excluded due to incomplete responses, or, as sometimes regrettably happens, it might seem that other patterns were clearly obtained. Thus, the original stated it had a total of 312 as the final usable sample of organizations, and this series of effective rates was ultimately distilled down to 48.0%.

4.4. Measurement Instruments

All variables in the research model were measured using multi-item reflective measures adapted from established measures found in past studies to ensure content validity and reliability of measurement (Hair et al., 2019). The measures were carefully selected based on their demonstrated psychometric properties in previous studies and their applicability to the service setting involved in the current research. All measures were made using five-point Likert-type scales, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), to ensure comparability of responses and facilitate understanding by the subjects. The independent variable, Total Quality Management, was assessed using a comprehensive 20-item measure adapted from established measures developed by quality management researchers in the field (Saraph et al., 1989; Flynn et al., 1994). This measure represents the multidimensional aspect of TQM implementation by using measures of critical dimensions, including upper management leadership, consumer/market orientation, human resources management, process management, strategic planning, information and analysis, and supplier management functions. Sample items used include “Our upper management gives visible leadership and commitment to improvement in quality” and “We systematically measure and monitor our customer satisfaction levels.” The mediating variable, customer satisfaction, was assessed using a 4-item measure adapted from accepted marketing and services quality measures contained in the literature (Fornell, 1992). This measure assessed overall consumer satisfaction with the organization’s services, comparative satisfaction with competitors, and satisfaction with service attributes. Sample items included “Our customers are delighted compared to our overall customer service quality,” and “Compared with our major competitors, our customers show greater satisfaction with our services.” The moderating variable, competition intensity, was assessed using a 5-item measure adapted from strategic management measures contained in the literature (Jaworski & Kohli, 1993). This measure assessed perceptions of the competitive environment in terms of the number of competitors, the frequency of competitive actions, the aggressiveness of the competition, and the stability of the overall market in which operations exist. Sample items include

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"Competition in our industry is highly intense," and "Our competitors frequently undertake aggressive marketing actions." The dependent variables, organizational performance, were measured through subjective assessments relative to competitors. Objective data on organizational performance often are not available or, if obtainable, do not lend themselves to comparison for organizations in differing service environments (Venkatraman & Ramanujam, 1986). Profitability was tested using a 3-item measure that compared it with its main competitors in terms of return on assets, return on investment, and return on sales (Kim et al., 2012). Market share was measured using a 2-item measure, and market share growth was determined by comparing it to competitors (Spanos & Lioukas, 2001). The use of subjective measures of performance with respect to competitors has been well established in strategic management research. The methods of analysis yield positive coefficients in regressions in studies using various objective measures, which also show high correlations. In addition, two control variables were included in the analysis to identify possible confounding factors. The measure of firm size was taken as a logarithmic scale of the number of employees in the concern, and the age of the firm was measured by the number of years since its establishment. These last variables were included in the analysis to eliminate possible effects of organization size and learned experience on the performance measures being examined.

5. Data Analysis and Results

5.1. Data Analysis Approach

For the data analysis in this study, Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized with SmartPLS 4 (Hair et al., 2019). PLS-SEM was selected as the primary method of analysis due to its methodological relevance, in conjunction with the objectives and characteristics of the present study. First, PLS-SEM is especially useful for complex structural modelling of multiple latent constructs, mediating variables, and moderating effects where applicable, as is characteristic of the theoretical model which is tested in the present research. Second, PLS-SEM imposes few restrictions on the assumptions of distribution for the data, thus being suitable for data that may not meet the normality assumptions for multivariate normality. Third, PLS-SEM is well-suited to predictive models of research and theory development, which aligns with the explanatory nature of the study. Fourth, the method effectively addresses both formative and reflective models of measurement, as well as the complex structure of the TQM construct. The analysis followed the two-stage process recommended in the literature for SEM: first, determining the measurement model for reliability and validity, then assessing the structural model in relation to the research hypotheses.

5.2. Measurement Model Assessment

The assessment of the measurement model involved examining the reliability, convergent validity, and discriminant validity of the constructs. Internal consistency reliability was evaluated using Cronbach's alpha, composite reliability, and Dijkstra–Hensel's rho. Composite Reliability (CR) scores, with all constructs demonstrating scores well above the recommended threshold of 0.70, indicating excellent reliability. The specific CR scores were as follows: TQM (0.969), customer satisfaction (0.906), competitive intensity (0.919), profitability (0.925), and market share (0.882). Convergent validity was assessed through examination of factor loadings and Average Variance Extracted (AVE) values. All indicator loadings exceeded the minimum threshold of 0.70, and all AVE values surpassed the recommended value of 0.50, providing strong evidence of convergent validity. The specific AVE values were: TQM (0.607), customer satisfaction (0.706), competitive intensity (0.694),

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profitability (0.805), and market share (0.789). Table 1 points out the assessment and validity of measurement model.

Table 1: ***Measurement Model Assessment***

Variables	No. Items	Loadings Range	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted	Variance Inflation Factors
TQM	20	0.721 - 0.819	0.966	0.967	0.969	0.607	1.000
CUS	4	0.779 - 0.868	0.861	0.869	0.906	0.706	1.319
COI	5	0.772 - 0.899	0.897	1.020	0.919	0.694	1.003
MRS	2	0.869 - 0.907	0.735	0.748	0.882	0.789	-
PRF	3	0.886 - 0.908	0.879	0.879	0.925	0.805	-

Note: *TQM* – Total quality management, *CUS* – Customer satisfaction, *COI* – Competitive intensity, *MRS* – Market share, *PRF* – Profitability

Discriminant validity was established using the Heterotrait-Monotrait (HTMT) ratio of correlations, with all HTMT values remaining below the conservative threshold of 0.85, confirming that the constructs are distinct from each other and measure different phenomena as given in Table 2. The comprehensive measurement model assessment thus confirmed that all constructs demonstrated satisfactory psychometric properties for proceeding with structural model analysis.

Table 2: ***Heterotrait-Monotrait (HTMT)***

Constructs	COI	CUS	MRS	PRF	TQM
COI					
CUS	0.050				
MRS	0.100	0.509			
PRF	0.034	0.623	0.301		
TQM	0.057	0.532	0.459	0.541	

5.3. Structural Model Assessment

To test the hypotheses related to direct, practical, mediating, and moderating effects, a quantitative component of the research model could be constructed and tested. In this context, the structural model was tested. To measure the explanatory power, the quality of the model was estimated by determining the r^2 indices of the endogenous constructs. The values of r^2 were determined to be 0.369 for profitability, 0.262 for market share and 0.241 for customer satisfaction. This indicates that the model explains a relatively large part of the variance in performance outcomes. The predictability of the model was further tested with the Stone-Geisser Q2 test, which resulted in positive values for all endogenous constructs. This confirms the predictive capability of the model (Hair et al., 2019). The structural paths have largely been estimated using 5000 resamples in bootstrapping procedures (which gives optimal stable parameter estimates and confidence intervals).

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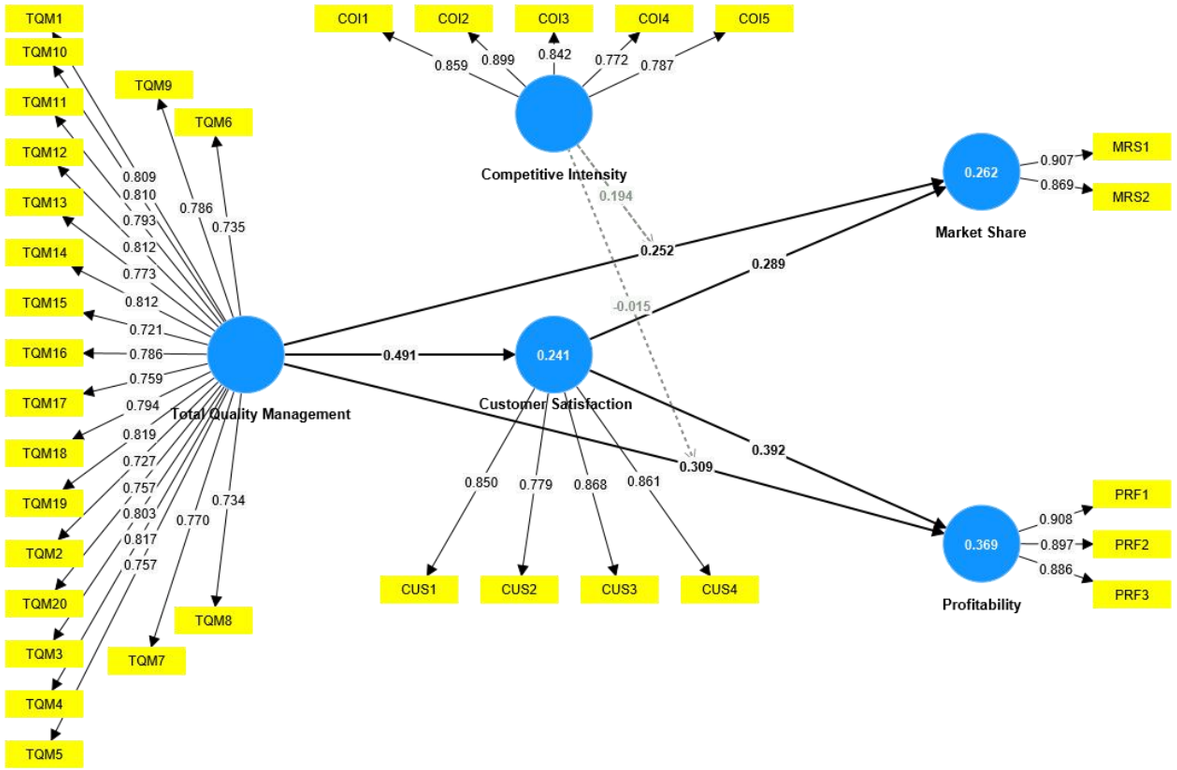

Fig. 2: Final Model with Findings

Table 2: *Structural Model Results (Hypotheses Testing)*

Hypothesis		Beta	CI Min	CI Max	t values	p values	Result
H1a	TQM -> PRF	0.309	0.221	0.400	5.777	0.000	Significant
H1b	TQM -> MRS	0.252	0.164	0.343	4.642	0.000	Significant
Mediating effects							
H2a	TQM -> CUS -> PRF	0.192	0.142	0.247	5.95	0.000	Significant
H2b	TQM -> CUS -> MRS	0.142	0.093	0.191	4.771	0.000	Significant
Moderating effects							
H3a	COI x TQM -> PRF	-0.015	-0.088	0.055	0.346	0.365	Non-significant
H3b	COI x TQM -> MRS	0.194	0.085	0.269	3.118	0.001	Significant

Note: *TQM* – Total quality management, *CUS* – Customer satisfaction, *COI* – Competitive intensity, *MRS* – Market share, *PRF* – Profitability

The direct effect hypotheses (H1a and H1b) suggested that TQM would have significant positive impacts on profitability and market share. The results provided strong support for these hypotheses, with TQM showing a significant positive effect on profitability ($\beta = 0.309$, $p < 0.001$) and market share ($\beta = 0.252$, $p < 0.01$). These results verify that TQM implementation directly increases both financial and market-based performance outcomes in service firms, supporting the theoretical propositions stemming from the Resource-Based View (Barney, 1991; Powell, 1995).

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The mediation hypotheses (H2a and H2b) proposed that customer satisfaction would mediate the relationship between TQM and performance outcomes. These hypotheses were evaluated using the indirect effects method incorporating bootstrapped confidence intervals (Hair et al., 2019). The results showed a positive indirect effect of TQM on profitability through customer satisfaction (β = 0.192, 95% CI [0.142, 0.247]). Since the direct effect remained positive and significant, along with a significant indirect effect, this indicates partial mediation supporting H2a. Similarly, the indirect effect of TQM on market share through customer satisfaction was also positive and significant (β = 0.142, 95% CI [0.093, 0.191]), reinforcing partial mediation and supporting H2b. These findings confirm that customer satisfaction is an important mediating mechanism explaining a large portion of the impact of TQM on performance (Anderson et al., 1994; Fornell, 1992), while also recognizing that TQM has other significant direct effects beyond customer satisfaction.

The moderation hypotheses (H3a and H3b) proposed that competitive intensity would moderate the relationship between TQM and performance outcomes. These hypotheses were evaluated utilizing the product-indicator method in PLS-SEM (Hair et al., 2019). The results exhibited partial support for the moderation hypotheses. The interaction effect of TQM and competitive intensity on market share was shown to be positive and significant (β = 0.194, $p < 0.05$), supporting hypothesis H3b. This indicates that the positive relationship between TQM and market share is stronger in environments of high competitive intensity (Jaworski & Kohli, 1993; Zahra & Covin, 1993). However, the interaction effect on profitability was found not to be significant (β = -0.015, $p > 0.05$), leading to rejection of H3a. This implies that competitive intensity does not significantly impact the strength of the relationship between TQM and profitability. The control variables utilized (firm size, firm age) exhibited no significant effect on the final model of performance outcomes.

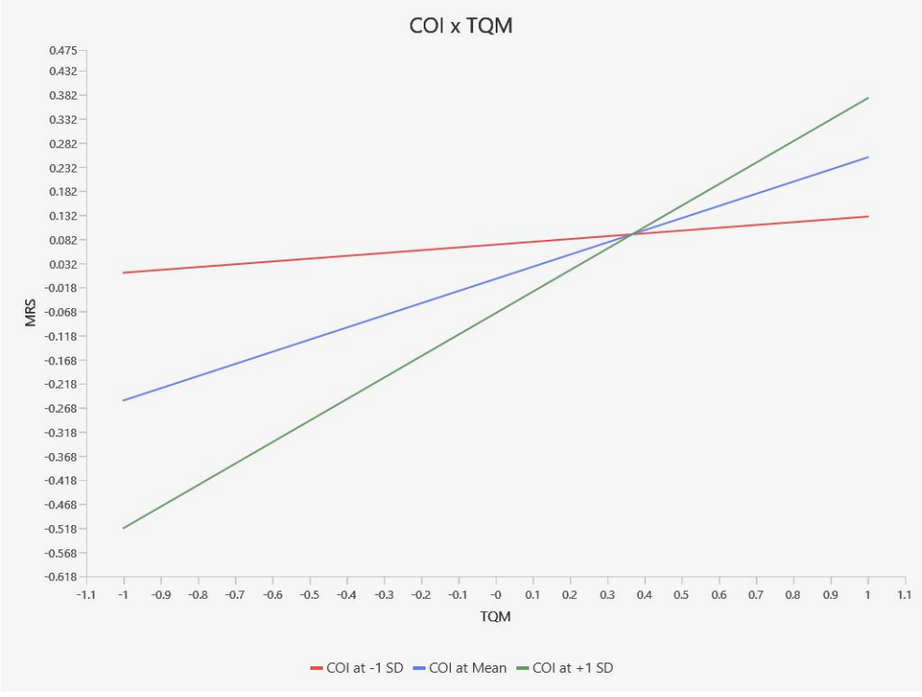

Figure 3: Moderating Effect of Competitive Intensity on TQM-Market Share Relationship

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[Image description: A graph showing the moderating effect of competitive intensity on the relationship between TQM and Market Share. The X-axis represents TQM, the Y-axis represents Market Share. Two lines are shown: one for "High Competitive Intensity" with a steep positive slope, and one for "Low Competitive Intensity" with a flatter positive slope. The graph demonstrates that the relationship between TQM and Market Share is stronger when competitive intensity is high.]

6. Discussion

6.1.Theoretical Implications

In short, this research has added several important factors to the theoretical base between Total Quality Management (TQM) and organizational performance of service organizations. In the first place, the results have provided some empirical support for the direct influences of TQM on both profitability and market share, justifying the theory of the Resource-Based View (Barney, 1991; Powell, 1995). The positive and significant coefficients for both variables indicate that TQM is a strategic resource, providing valuable benefits such as increased capital performance (profitability) and market performance (market share) in service organizations. The empirical data, which thus extends the applicability of the RBV to service organizations, confirms that TQM is beneficial for organizational performance, results which have been well established, in service organizations (Sousa & Voss, 2002), but now can apply equally well to the non-manufacturing organization irrespective of their differing characteristics (Lakhal et al, 2006). In the second place and of more importance, this study has shown that there is some compelling justification for the proposition that customer satisfaction is a mediating factor in the TQM performance relationship (Anderson et al, 1994). The results clearly show significant indirect influences through customer satisfaction, along with continued direct influences. This indicates that the relationship between TQM and performance conceals a more complex set of models than those suggested by simple direct influence models (Nair, 2006). The evidence of the partial mediations plus the conclusions previously drawn that TQM influences performance in more than one way (both dollars (i.e., improvements in internal efficiency) and customer satisfaction, which may have an indirect effect on performance of loyalty-based fruits that may ultimately have market payoffs such as customer satisfaction (Fornell, 1992). This finding represents important theoretical progress by "unpacking the black box" of how TQM produces value for service organizations. It proposes customer satisfaction as a key mediating variable, elucidating how TQM produces performance outcomes and resulting in a richer theoretical understanding of performance and TQM. Thirdly, it has made an eclectic theoretical contribution by being original in using the moderating variable of competitive intensity, thereby tying the internal RBV view with external environmental considerations (Jaworski & Kohli, 1993; Zahra & Covin, 1993). The finding that competitive intensity moderates and strengthens the relationship between TQM and market share, yet does not significantly affect market share profitability, makes an important theoretical contribution regarding the boundary conditions of TQM's effectiveness. This different moderating effect suggests that the strategic nature of the TQM intervention varies closely with the type of performance being measured and the nature of the environment in which it is applied. The strong moderation for market share situation suggests that TQM strengthens in increasing emphasis, for market positioning and competitive differentiation in highly contested markets, (Zahra & Covin, 1993) but on the other hand that the non-significant moderation for profitability contends that while TQM will increase market share in competitive

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environments, the concomitant costs and competitive nature of the same will inhibit the profitability that needs to accrue. This complex pattern of moderation effects significantly contributes to the theoretical understanding of the TQM-firm performance relationship, suggesting that the performance implications of TQM vary depending on the context and the dimensions of performance evaluated.

6.2. Practical Implications

The implications of this study's findings for managerial practice are substantial and noteworthy in service organizations. First, the significant and profound direct effect of TQM on both profitability and market share provides powerful justification for managerial acceptance and ultimate implementation of TQM initiatives (Demirbag et al., 2006). The manager in services can likely use the outcomes of TQM to demonstrate its beneficial effects on financial results and current market position, thereby justifying TQM initiatives. Second, the mediating effect of customer satisfaction generates the necessity for managers to utilize the perception of customer focus in the TQM installation (Anderson et al., 1994). Managers should be aware that the performance improvements attributed to TQM are partly due to the enhanced customer satisfaction measurement. This implies that TQM initiatives must also include, as a basic ingredient, the measurement of customer feedback, the design of customer processes, and customer-oriented performance measurements. The effectiveness of TQM should not be considered merely as a tool for improving internal efficiencies, but rather as a strategy for adding customer value (Zeithaml et al., 1996). Third, the moderating effect of competitive intensity on TQM-market share relationships generates significant strategic outcomes for operatives in organizations facing various competitive pressures (Jaworski & Kohli, 1993). For service organizations operating in a highly competitive environment, the results indicate that TQM becomes an even more strategic function to establish and maintain their market position. Therefore, service managers in highly competitive environments should emphasize TQM as a strategic necessity for differentiation/focus and customer maintenance. On the other hand, since profitability is not moderated, it indicates again that the analysis of TQM by management is requisite, especially critical in its cost/benefit comparisons, for those existing in very high competitive intensity atmospheres. Rather, managerial personnel ought to conclude that TQM investments would result in positive bottom-line impacts rather than merely a competitive position in the marketplace. The general results of this study offer service sector managers a superior understanding of how, why, and when TQM is implemented in organizations. This aids in the strategic planning of managerial initiatives from the qualitative perspective of the results obtained through TQM.

7. Conclusion

The research reported in this communication has examined in detail the relationship between total quality management (TQM) and organizational performance in services, theoretically enhancing performance understanding through mediating and moderating variables. The results strongly indicate that TQM has advantageous direct effects on profitability and market share, supporting the view that TQM is an outstanding strategic resource for service organizations (Barney, 1991; Powell, 1995). More importantly still, the research indicates that customer satisfaction is an important mediating variable that helps explain how TQM operates to affect performance (Anderson et al., 1994). As well, competitive intensity is indicated as an important moderating variable reinforcing the relationship between TQM and market share (Jaworski & Kohli, 1993), heightening the significance that TQM effects are contextually contingent. The significant theoretical

contribution of the study stems from integrating the resource-based view with the mediating and moderating views, thus providing a more sophisticated understanding of the TQM-performance relationship. From a managerial viewpoint, the research provides evidence-based information to managers about the performance implications of using TQM and the contexts in which these results are enhanced or maximized. Although the study significantly contributes valuable insights, there are, of course, natural limitations that logically lead to avenues for future research. The cross-sectional design lends itself, therefore, to less certainty about definitive causative explanations and thus necessitates calling for longitudinal studies. A second limitation in research terms is that the focus has been on a single-country context, suggesting limits on the generalizability of findings. This leads to the appropriate conclusion that there is a strong rationale for conducting cross-culturally replicated studies. Also, the use of subjective performance measures is methodologically justified (Venkatraman & Ramanujam, 1986). However, it raises the prospect of this area being advantaged by research that also engages in more objective measures of performance. Future research may also seek to advance the insight of this study through revealing other possible mediating mechanisms (to a possible customer satisfaction one), such as employee engagement, innovative capability, or organisational learning, for instance. The investigation of other possibly moderating variables would enhance understanding of the boundaries of TQM effectiveness, such as technological turbulence, regulatory authority environments, or organizational culture contexts. The investigation into non-linear relationships and configuration type effects of TQM dimensions on performance outputs may also be a valuable extension of this research. Aside from these limitations and future research discussions, the research makes a valuable contribution to both theory and practice. On a surface level, it enhances understanding of how TQM adds value in service organizations and the facets of the contexts from which yields are obtainable.

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