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The mediating effect of employee satisfaction on the relationship between Total Quality Management and organizational performance in selected private higher education institutions in Pampanga

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Abstract

This study examined the influence of Total Quality Management (TQM) on Employee Satisfaction and organizational performance among selected higher education institutions, with employee satisfaction as a mediating variable. TQM was conceptualized through five dimensions: Leadership Commitment, Employee Involvement, Customer Focus, Continuous Improvement, and Process Orientation. Organizational performance was assessed using two institutional indicators: Number of Accredited Programs and Overall Board Performance. Using a quantitative, explanatory research design, the study analyzed data through Partial Least Squares Structural Equation Modeling (PLS-SEM) to determine the direct and indirect relationships among the study variables. The findings showed that Leadership Commitment, Customer Focus, Continuous Improvement, and Process Orientation significantly and positively influenced Employee Satisfaction, whereas Employee Involvement did not have a significant effect. None of the TQM dimensions significantly and positively influenced the Number of Accredited Programs, although Employee Involvement and Customer Focus showed significant negative relationships with this indicator. For Overall Board Performance, Employee Involvement and Customer Focus demonstrated significant positive effects, whereas the remaining TQM dimensions were not significant. Employee Satisfaction significantly and positively influenced the Number of Accredited Programs but had a significant negative relationship with Overall Board Performance. Mediation analysis further revealed that Employee Satisfaction significantly mediated the relationships between Leadership Commitment and both organizational performance indicators, whereas no significant mediation was observed for the other TQM dimensions. Overall, the findings indicate that TQM influences higher education outcomes through differentiated and selective pathways, highlighting the importance of leadership and employee-related mechanisms in institutional quality and performance.

Keywords: Total Quality Management, employee satisfaction, organizational performance, higher education, accreditation, board performance, PLS-SEM

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1. Introduction

Private higher education institutions (PHEIs) play a critical role in expanding access to tertiary education in the Philippines, accounting for more than 60% of higher education enrollment as of 2023 (CHED, 2023). Their contribution to human capital development is accompanied by increasing demands for educational quality, institutional sustainability, and accountability. PHEIs face challenges including limited government subsidies, accreditation requirements, faculty retention concerns, and growing stakeholder expectations for effective academic and administrative outcomes (Cabacang, 2020; Teixeira-Quirós et al., 2022). These pressures underscore the need for management approaches that strengthen institutional processes while sustaining employee engagement and organizational effectiveness.

Total Quality Management (TQM) provides a holistic framework for addressing these demands through continuous improvement, leadership commitment, employee involvement, customer or student focus, and process-oriented management. In higher education, TQM extends beyond compliance with external standards by integrating quality principles into academic, administrative, and operational processes. Its implementation has been associated with improvements in service quality, institutional effectiveness, and stakeholder satisfaction (Alzahrani, 2022; Teixeira-Quirós et al., 2022). However, the extent to which TQM translates into organizational performance may depend not only on the quality practices themselves but also on how employees experience and respond to these practices.

Employee satisfaction is particularly relevant because employees are central to the implementation of institutional quality initiatives. Supportive leadership, recognition, professional development, participation in decision-making, and favorable working conditions can influence employees' motivation and commitment to institutional goals (Mahmood & Rehman, 2024; Yusuf et al., 2024). Satisfied employees are more likely to contribute to continuous improvement, innovation, and effective service delivery, whereas dissatisfaction may contribute to burnout, turnover, and declining organizational effectiveness (Alzahrani, 2022). From this perspective, employee satisfaction may function not merely as an outcome of organizational practices but as a mechanism through which quality management practices influence institutional performance.

The theoretical foundations of this relationship are supported by Deming's Theory of Total Quality and Herzberg's Two-Factor Theory. Deming emphasizes employee involvement and well-being within a system of continuous improvement, suggesting that organizational quality is strengthened when employees are actively engaged in improving institutional processes. Herzberg's Two-Factor Theory, meanwhile, distinguishes between hygiene factors that prevent dissatisfaction and motivators that foster satisfaction through achievement, recognition, responsibility, and meaningful work (Herzberg, 1968). Together, these perspectives provide a basis for understanding how TQM practices may shape employee satisfaction and, subsequently, organizational outcomes.

Organizational performance in higher education is multidimensional and may be reflected in both institutional quality and educational outcomes. Accreditation provides an externally validated indication of an institution's adherence to established quality standards, while board examination performance provides an outcome-oriented measure of graduates' demonstrated competency. The use of both indicators therefore provides complementary perspectives on organizational performance: the number of accredited programs reflects institutional adherence to structured quality standards, whereas board performance reflects academic outcomes that emerge from institutional processes and educational delivery (Gatpandan et al., 2023; Teixeira-Quirós et al., 2022). This

distinction is particularly relevant when examining whether quality management practices produce observable institutional outcomes.

Although previous studies have established relationships between TQM and organizational performance and between employee satisfaction and organizational outcomes, comparatively less attention has been given to employee satisfaction as a mediating mechanism linking TQM to organizational performance in higher education. Existing research has frequently examined employee satisfaction as an outcome of leadership or quality practices rather than as a mechanism through which those practices are translated into institutional performance (Mahmood & Rehman, 2024). Moreover, much of the available evidence is drawn from corporate settings, public universities, or educational contexts outside the Philippines, leaving limited empirical evidence concerning private HEIs in developing and Southeast Asian contexts (Cabacang, 2020).

This gap is particularly relevant in the Philippine private higher education sector, where institutions operate within distinct conditions involving accreditation requirements, competitive enrollment, resource constraints, and employee retention and workload concerns. Understanding whether employee satisfaction explains the relationship between TQM and organizational performance may therefore provide a more comprehensive account of how quality management contributes to institutional outcomes. It may also help administrators and quality assurance leaders identify whether investments in quality practices are translated into performance partly through the experiences and satisfaction of employees.

Accordingly, this study examined the mediating effect of employee satisfaction on the relationship between TQM and organizational performance among selected private higher education institutions in Pampanga, Philippines. TQM was examined through five dimensions—Leadership Commitment, Employee Involvement, Customer Focus, Continuous Improvement, and Process Orientation—while organizational performance was assessed using the number of accredited programs and overall board performance. By examining the direct relationships among TQM, employee satisfaction, and organizational performance and testing the mediating role of employee satisfaction, the study contributes context-specific evidence on the people-centered mechanisms through which quality management may influence institutional outcomes in private higher education.

Three gaps therefore motivate this study: (a) limited testing of employee satisfaction as a mediating mechanism between TQM and institutional performance, (b) the reliance on aggregate rather than dimension-level measures of TQM, and (c) scarce evidence from private HEIs in the Philippines and Southeast Asia.

To the authors' knowledge, this study is novel in three respects. First, it tests employee satisfaction as a mediator for each TQM dimension separately rather than treating TQM as a single aggregate, which shows which dimensions operate through employees and which do not. Second, it pairs employee-reported TQM and satisfaction with two objective institutional indicators, the number of accredited programs and overall board performance, which reduces reliance on self-reported performance. Third, it provides evidence from private HEIs in Pampanga, a developing-country, Southeast Asian setting that is underrepresented in the TQM literature.

2. Literature Review

Total Quality Management (TQM) in higher education institutions (HEIs) is a strategic approach that promotes continuous improvement across academic and administrative functions. Originally rooted in manufacturing, it has been adapted to education through process standardization, stakeholder involvement, and leadership commitment (Teixeira-Quirós et al., 2022). Its core principles, namely student orientation, participatory decision-making, and evidence-based planning, have been linked to better educational delivery, operational efficiency, and institutional reputation (Alzahrani, 2022). Philippine HEIs have adopted TQM to meet CHED accreditation requirements and international standards, often alongside ISO 9001:2015 certification (Cabacang, 2020). Implementation nevertheless faces barriers, including resistance to change, limited staff training in quality tools, and tension between academic autonomy and standardized processes (Alzahrani, 2022). Empirical evidence indicates that leadership and quality planning are positively associated with performance (Mahmood & Rehman, 2024). Well-

implemented TQM also improves administrative responsiveness and alignment with CHED quality assurance frameworks (Cabacang, 2020), and it supports long-term gains in efficiency and service delivery (Balili & Pangandaman, 2023; Iqbal et al., 2024). Beyond compliance, TQM helps institutions align instruction, research, extension, and production with national goals and global standards (CHED, 2021).

Unlike profit-driven enterprises, HEIs are evaluated on multidimensional outcomes such as academic quality, stakeholder satisfaction, research output, and institutional sustainability (Baquilod, 2023; CHED, 2021). Common indicators include retention and graduation rates, licensure examination performance, faculty qualifications, research productivity, and financial sustainability (Baquilod, 2023; Teixeira-Quirós et al., 2022). Program accreditation is a widely recognized, externally validated measure that reflects adherence to standards in instruction, research, and support services (Balili & Pangandaman, 2023; CHED, 2021). Board examination performance complements it as an outcome-based indicator, since institutional quality assurance mechanisms have been linked to licensure passing rates (Gatpandan et al., 2023). Together, the two indicators capture structural quality and instructional effectiveness. Studies further show that TQM dimensions such as leadership, continuous improvement, and employee involvement influence HEI performance (Alzahrani, 2022; Baquilod, 2023; Cabacang, 2020; Millado et al., 2024; Teixeira-Quirós et al., 2022).

Employee satisfaction refers to the degree to which faculty and staff feel fulfilled, supported, and motivated in their roles (Mahmood & Rehman, 2024). It is commonly explained through three theories: a) Herzberg's (1968) Two-Factor Theory distinguishes hygiene factors from motivators. b) Maslow's (1943) hierarchy of needs links satisfaction to the fulfillment of basic and higher-order needs. c) Social Exchange Theory (Blau, 1964) holds that employees reciprocate institutional investment with effort and loyalty.

In academic settings, satisfaction is shaped by supportive leadership, professional development, fair evaluation, workload, and collaborative culture (Helburion, 2024; Yusuf et al., 2024). Higher satisfaction is associated with productivity, innovation, retention, and service quality, whereas dissatisfaction contributes to burnout and turnover (Alzahrani, 2022; Mahmood & Rehman, 2024).

Deming's (1986) theory of total quality emphasizes employee involvement in continuous improvement, and this aligns with Herzberg's view that recognition and meaningful work foster satisfaction. Together, they suggest that TQM shapes employee satisfaction, which then shapes institutional outcomes. In mediation terms, satisfaction is the mechanism through which TQM efforts translate into performance rather than a passive outcome. Studies in education support this pathway. Job satisfaction mediated the link between leadership and school performance (Mahmood & Rehman, 2024). Job satisfaction and school climate mediated the effect of TQM on school performance (Mahmood et al., 2024). Employee engagement mediated the TQM–performance relationship (Hasan & Dawi, 2024). People-centered TQM practices relate to engagement, trust, and commitment (Francisco & Morallos, 2024; Kiran et al., 2023). In Philippine private HEIs, strong TQM adoption was associated with better staff morale and institutional outcomes (Cabacang, 2020). Recognition, shared values, and collegial environments support retention and satisfaction (Abun & Magallanes, 2023; Mohamed et al., 2024).

Direct TQM–performance and satisfaction–performance relationships are well documented, but most evidence comes from public or international universities. Few studies formally test employee satisfaction as a mediator using structural equation modeling in tuition-driven private HEIs in developing and Southeast Asian contexts (Cabacang, 2020; Mahmood & Rehman, 2024). The distinctive features of Philippine private HEIs, including accreditation emphasis, competitive enrollment, and workload demands, are often overlooked in global models. This study addresses the gap by examining TQM, employee satisfaction, and organizational performance in three private HEIs in Pampanga.

Research Questions - Specifically, the study aims to answer the following questions.

1. What is the level of Total Quality Management practices among the selected higher education institutions in terms of Leadership Commitment; Employee Involvement; Customer Focus; Continuous Improvement; and Process Orientation?

2. What is the level of Employee Satisfaction among employees of the selected higher education institutions?

3. What is the level of organizational performance of the selected higher education institutions in terms of Number of Accredited Programs; and Overall Board Performance?

4. Does Total Quality Management significantly influence Employee Satisfaction in terms of Leadership Commitment; Employee Involvement; Customer Focus; Continuous Improvement; and Process Orientation?

5. Does Total Quality Management significantly influence the Number of Accredited Programs in terms of Leadership Commitment; Employee Involvement; Customer Focus; Continuous Improvement; and Process Orientation?

6. Does Total Quality Management significantly influence Overall Board Performance in terms of Leadership Commitment; Employee Involvement; Customer Focus; Continuous Improvement; and Process Orientation?

7. Does Employee Satisfaction significantly influence organizational performance in terms of Number of Accredited Programs; and Overall Board Performance?

8. Does Employee Satisfaction significantly mediate the relationship between Total Quality Management and the Number of Accredited Programs in terms of Leadership Commitment; Employee Involvement; Customer Focus; Continuous Improvement; and Process Orientation?

9. Does Employee Satisfaction significantly mediate the relationship between Total Quality Management and Overall Board Performance in terms of Leadership Commitment; Employee Involvement; Customer Focus; Continuous Improvement; and Process Orientation?

Hypothesis Development - Based on the theoretical framework and preceding empirical literature, the following research hypotheses were formulated to test the direct and indirect structural pathways among the study's latent constructs:

H1: Leadership Commitment has a significant positive effect on Employee Satisfaction.
H2: Employee Involvement has a significant positive effect on Employee Satisfaction.
H3: Customer Focus has a significant positive effect on Employee Satisfaction.
H4: Continuous Improvement has a significant positive effect on Employee Satisfaction.
H5: Process Orientation has a significant positive effect on Employee Satisfaction.
H6: Leadership Commitment has a significant positive effect on the Number of Accredited Programs.
H7: Employee Involvement has a significant positive effect on the Number of Accredited Programs.
H8: Customer Focus has a significant positive effect on the Number of Accredited Programs.
H9: Continuous Improvement has a significant positive effect on the Number of Accredited Programs.
H10: Process Orientation has a significant positive effect on the Number of Accredited Programs.
H11: Leadership Commitment has a significant positive effect on Overall Board Performance.
H12: Employee Involvement has a significant positive effect on Overall Board Performance.
H13: Customer Focus has a significant positive effect on Overall Board Performance.
H14: Continuous Improvement has a significant positive effect on Overall Board Performance.
H15: Process Orientation has a significant positive effect on Overall Board Performance.
H16: Employee Satisfaction has a significant positive effect on the Number of Accredited Programs.
H17: Employee Satisfaction has a significant positive effect on Overall Board Performance.
H18: Employee Satisfaction significantly mediates the relationship between Leadership Commitment and

the Number of Accredited Programs.
H19: Employee Satisfaction significantly mediates the relationship between Employee Involvement and the Number of Accredited Programs.
H20: Employee Satisfaction significantly mediates the relationship between Customer Focus and the Number of Accredited Programs.
H21: Employee Satisfaction significantly mediates the relationship between Continuous Improvement and the Number of Accredited Programs.
H22: Employee Satisfaction significantly mediates the relationship between Process.
H23: Employee Satisfaction significantly mediates the relationship between Leadership Commitment and Overall Board Performance.
H24: Employee Satisfaction significantly mediates the relationship between Employee Involvement and Overall Board Performance.
H25: Employee Satisfaction significantly mediates the relationship between Customer Focus and Overall Board Performance.
H26: Employee Satisfaction significantly mediates the relationship between Continuous Improvement and Overall Board Performance.
H27: Employee Satisfaction significantly mediates the relationship between Process Orientation and Overall Board Performance.

3. Methodology

Research Design - This study utilized a quantitative, non-experimental correlational research design incorporating Partial Least Squares Structural Equation Modeling (PLS-SEM) and mediation analysis. Grounded in a post-positivist paradigm, this design was selected to objectively measure, test, and predict the hypothesized causal pathways (H1–H27) among Total Quality Management (TQM) dimensions, employee satisfaction, and organizational performance without variable manipulation (Creswell & Creswell, 2023; Taherdoost, 2022). A correlational approach was appropriate as variables—comprising multidimensional latent constructs such as leadership commitment, employee involvement, customer focus, continuous improvement, process orientation, program accreditation, and board performance—were evaluated in their natural organizational settings across private higher education institutions (HEIs) in Pampanga. PLS-SEM was employed to model complex direct associations and indirect mediation pathways, specifically assessing whether employee satisfaction served as a mediating mechanism through which TQM practices affect overall institutional performance (Hair et al., 2021).

Sample and Setting - The study was conducted across three prominent private higher education institutions (PHEIs) in Pampanga, Philippines, with a total population of N = 1,367 (HEI1: n = 668, 49%; HEI2: n = 429, 31%; HEI3: n = 270, 20%). Institutions were selected via purposive sampling based on specific inclusion criteria: (a) scale and prominent regional status, (b) active ISO 9001:2015 certification, and (c) established internal quality assurance (IQA) systems aligned with Commission on Higher Education (CHED) accreditation standards and institutional Sustainable Development Goals (SDGs). A two-level purposive sampling strategy was employed to select both academic and non-academic personnel directly involved in institutional quality initiatives. Participant eligibility required regular employment status, an age of 25 years or older, and a minimum of one year of tenure to ensure sufficient familiarity with institutional TQM practices (Cabacang, 2020; Helburion, 2024). Part-time and contractual staff were excluded. The minimum required sample size was determined using the minimum R^2 method for Partial Least Squares Structural Equation Modeling (PLS-SEM) (Kock & Hadaya, 2018). Accounting for model complexity—where Organizational Performance is predicted by TQM dimensions and Employee Satisfaction—a minimum sample of $n > 100$ was required for adequate statistical power (beta = 0.80, alpha = 0.05). The final allocated sample (n = 111) satisfied all power requirements for reliable path estimation and mediation analysis while maintaining proportional institutional representation.

Research Instrument - Data were collected using a structured, 25-item survey instrument adapted from validated scales in peer-reviewed literature and tailored to the private higher education context. Written permission to adapt all original scales was obtained prior to administration. Survey items for primary constructs were scored on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was organized into three main sections: Demographics, Total Quality Management (TQM), and Employee Satisfaction (ES). To eliminate single-source bias and subjective inflation, Organizational Performance (OP) was evaluated

separately using objective institutional records rather than self-reported survey indicators.

Data Collection - Prior to data collection, formal ethical approval was obtained from the Holy Angel University Institutional Review Board (HAU-IRB). Upon ethical clearance, data collection procedures were formally coordinated through department heads and Human Resources (HR) personnel of the selected private higher education institutions to facilitate survey dissemination and institutional compliance. To maximize response rates and participant accessibility, a hybrid data collection strategy was employed, utilizing both printed questionnaires and online survey instruments (Microsoft Forms). Digital surveys were distributed via official institutional email channels and verified messaging platforms (Facebook Messenger) based on respondent preference. All participants completed an informed consent protocol outlining the study's objectives, data privacy guarantees, voluntary participation, and rights to unconditional withdrawal. Completion time averaged 10 to 15 minutes. To ensure confidentiality, all responses were anonymized, aggregated, and securely stored. Descriptive statistics and initial reliability metrics were computed using JAMOVI, while structural modeling and mediation analysis were conducted using WarpPLS 7.0 via Partial Least Squares Structural Equation Modeling (PLS-SEM) (Kock & Hadaya, 2018).

Data Analysis - Data analysis proceeded in two main stages: descriptive statistical processing followed by Partial Least Squares Structural Equation Modeling (PLS-SEM). Descriptive statistics were computed using JASP to summarize the demographic characteristics of the respondents, as well as to evaluate the respondents' level of knowledge and implementation of Total Quality Management (TQM) using means and standard deviations; similar descriptive metrics were applied to assess Organizational Performance based on objective indicators aligned with institutional success metrics. Subsequently, Partial Least Squares Structural Equation Modeling (PLS-SEM) path analysis was employed to examine the direct structural relationships between TQM and Employee Satisfaction, as well as between TQM and Organizational Performance. Finally, a nonparametric PLS-SEM bootstrapping procedure was conducted to assess the indirect mediating effect of Employee Satisfaction on the relationship between TQM practices and overall Organizational Performance.

Partial Least Squares Structural Equation Modeling (PLS-SEM) was appropriate for this study because it was particularly effective in examining complex models with latent variables, especially in social science research where constructs such as Total Quality Management, Employee Satisfaction, and Organizational Performance were often measured indirectly. PLS-SEM was suitable when the goal was prediction and theory development rather than theory testing, making it appropriate for mediation analysis in emerging contexts such as private higher education institutions (HEIs) (Rigdon et al., 2020). Additionally, PLS-SEM did not impose strict assumptions regarding data distribution, which was advantageous for moderately sized samples commonly found in educational research (Hair et al., 2021). The use of bootstrapping, a nonparametric resampling technique, further supported the robustness of mediation testing by providing confidence intervals and significance levels for indirect effects (Mahmood et al., 2024). Together, these features made PLS-SEM a suitable statistical method for assessing the direct and indirect relationships among TQM, employee satisfaction, and organizational performance in a higher education setting.

Ethical Consideration - This study adhered strictly to national and international ethical guidelines for research involving human participants, receiving formal protocol approval from the Institutional Review Board (IRB) of Holy Angel University. Prior to administration, all prospective respondents were provided with an informed consent form detailing the study's purpose, non-monetary nature, procedure (averaging 10–15 minutes), and potential minimal psychological risks (e.g., brief discomfort assessing workplace conditions). Participation was strictly voluntary, with respondents assured of their right to decline, skip items, or withdraw at any point without penalty or effect on their employment status. Although participants (higher education faculty and staff) did not constitute a vulnerable population, measures were implemented to prevent administrative coercion by guaranteeing independent, autonomous participation.

In compliance with the Data Privacy Act of 2012, strict anonymization and data security protocols were

maintained throughout the study. No personal identifying information was recorded, and all findings are reported strictly in aggregate form to preserve absolute participant anonymity. To ensure data security, survey responses were stored in password-protected digital files and locked physical storage, accessible exclusively to the primary researcher. Furthermore, all research records will be securely retained for three years following the completion of the study, after which all digital and physical files will be permanently deleted or shredded. The study was independently conducted without external financial sponsorship, commercial product development intent, or conflicts of interest. Instrument adaptation permissions were secured where applicable, with proper attribution given to original authors. All collected data were utilized exclusively for academic, research dissemination, and knowledge-preservation purposes.

4. Results

Profile of the Respondents - The final sample comprised n = 111 regular employees across three selected private higher education institutions (PHEIs). Participants were selected via purposive sampling based on pre-established eligibility criteria: regular employment status, age > 25 years, and a minimum institutional tenure of 1 year, ensuring adequate familiarity with TQM practices and operational processes (Cabacang, 2020; Helburion, 2024). Part-time and contractual employees were excluded to avoid variability associated with limited system engagement. The demographic breakdown reflected broad representation across institutional affiliations, position classifications, age groups, and tenure lengths. In terms of institutional representation, Holy Angel University constituted the largest group (n = 54, 48.60%), followed by Angeles University Foundation (n = 35, 31.50%) and the University of the Assumption (n = 22, 19.80%), aligning with the proportional population distribution of the target institutions. Position classifications were balanced across non-teaching personnel (n = 49, 44.10%) and academic faculty (n = 45, 40.50%), with administrative (n = 11, 9.90%) and management staff (n = 6, 5.40%) completing the sample.

Age distribution was predominantly composed of early- to mid-career professionals: 36–40 years (n = 26, 23.40%), 31–35 years (n = 25, 22.50%), and 25–30 years (n = 23, 20.70%), with smaller representation across older cohorts (>51 years: n = 15, 13.50%; 46–50 years: n = 12, 10.80%; 41–45 years: n = 10, 9.00%). Regarding organizational tenure, most participants possessed substantial institutional experience, with 34.20% (n = 38) serving 8–10 years and 33.30% (n = 37) serving 5–7 years, followed by those with >15 years (n = 23, 20.70%) and 10–15 years (n = 13, 11.70%).

Table 1

Frequency Distribution of Demographic Profile of Respondents

Frequency Distribution	Counts	% of Total
Age		
25 - 30 years old	23	20.70%
31 - 35 years old	25	22.50%
36 - 40 years old	26	23.40%
41 - 45 years old	10	9.00%
46 - 50 years old	12	10.80%
> 51 years old	15	13.50%
Private Higher Education Institution affiliated to		
Angeles University Foundation	35	31.50%
Holy Angel University	54	48.60%
University of the Assumption	22	19.80%
Position Level in the Institution		
Academic Staff (Faculty)	45	40.50%
Administrator	11	9.90%
Management Staff	6	5.40%
Non - Teaching Personnel	49	44.10%
Years of Service in the Institution		
10 - 15 Years	13	11.70%
5 - 7 Years	37	33.30%
8 - 10 Years	38	34.20%
More than 15 years	23	20.70%

Assessment of the Level of Total Quality Management (TQM) Implementation in Selected Private Higher Education Institutions in Pampanga - Descriptive evaluation of TQM practices across the participating private higher education institutions (PHEIs) revealed an overall positive implementation profile. All five dimensions recorded mean ratings falling within the "Agree" qualitative range, with low standard deviations reflecting strong consensus among respondents regarding the presence of quality practices in their respective institutions. Process Orientation obtained the highest overall mean (M = 4.07, SD = 0.608), driven by standardized and documented procedures (M = 4.13, SD = 0.648) and the alignment of departmental goals with institutional objectives (M = 4.10, SD = 0.660). However, consistency in workflow execution received a comparatively lower rating (M = 3.98, SD = 0.674). These findings suggest that while formal institutional documentation and quality frameworks are well established, operational execution across academic and administrative units requires further consolidation, consistent with literature emphasizing that process management is a fundamental component of higher education quality assurance (Jasti et al., 2022; Krooi et al., 2024).

Customer Focus ranked second (M = 4.04, SD = 0.619), demonstrating a strong institutional commitment to meeting student needs (M = 4.05, SD = 0.682) and prioritizing student satisfaction (M = 4.05, SD = 0.755). In contrast, the systematic collection of student feedback for continuous service enhancement recorded a slightly lower rating (M = 4.03, SD = 0.653). These results reflect a clear student-centered orientation, though institutions may benefit from integrating feedback mechanisms more systematically into core administrative and academic processes (Ren, 2024; Teixeira-Quirós et al., 2022). Leadership Commitment received an overall mean of 4.01 (SD = 0.699), with institutional leaders perceived as actively promoting a vision for continuous improvement (M = 4.04, SD = 0.785) and demonstrating strong personal commitment to quality (M = 4.03, SD = 0.792). Nevertheless, the communication of institutional goals and strategies received the lowest rating within this dimension (M = 3.95, SD = 0.718). While visible leadership commitment supports a positive quality environment, these results indicate that top-down communication channels require further strengthening to ensure strategic alignment across all organizational levels (El-Kassem, 2024; Jo & Shin, 2025; Krooi et al., 2024).

Table 2
Assessment of the Level of Total Quality Management (TQM) Implementation in Selected Private Higher Education Institutions in Pampanga

Descriptives	Mean	SD	Verbal Interpretation
LC1	4.03	0.792	Agree
LC2	3.95	0.718	Agree
LC3	4.04	0.785	Agree
Leadership Commitment	4.01	0.699	Agree
EI1	3.77	0.820	Agree
EI2	3.80	0.761	Agree
EI3	3.77	0.794	Agree
Employee Involvement	3.78	0.730	Agree
CF1	4.03	0.653	Agree
CF2	4.05	0.682	Agree
CF3	4.05	0.755	Agree
Customer (Student) Focus	4.04	0.619	Agree
CI1	4.05	0.731	Agree
CI2	3.93	0.759	Agree
CI3	4.04	0.738	Agree
Continuous Improvement	4.00	0.681	Agree
PO1	4.13	0.648	Agree
PO2	3.98	0.674	Agree
PO3	4.10	0.660	Agree
Process Orientation	4.07	0.608	Agree

Continuous Improvement registered an overall mean of 4.00 (SD = 0.681), indicating that institutions regularly review operational processes (M = 4.05, SD = 0.731) and utilize evidence-based decision-making (M = 4.04, SD = 0.738). Conversely, tracking systems for performance indicators obtained the lowest item score (M = 3.93, SD = 0.759). This suggests that while process review protocols are well developed, post-review monitoring

mechanisms require enhancement to ensure that improvement initiatives produce measurable outcomes (Jasti et al., 2022; Ren, 2024).

Employee Involvement obtained the lowest overall mean among the five TQM dimensions (M = 3.78, SD = 0.730). Although staff suggestions are considered during quality initiatives (M = 3.80, SD = 0.761), active employee involvement in institutional decision-making (M = 3.77, SD = 0.820) and collaborative problem-solving (M = 3.77, SD = 0.794) were less institutionalized. This aligns with empirical evidence demonstrating that participatory, human-centered practices often lag behind formal structural systems in educational quality management (Khadim et al., 2025; Teixeira-Quirós et al., 2022). Overall, the variation across dimensions validates analyzing TQM as a multidimensional construct in structural modeling, as individual practices differentially influence employee and institutional outcomes (Jo & Shin, 2025; Krooi et al., 2024).

Assessment of Employee Satisfaction in Selected Private HEIs in Pampanga - The descriptive assessment of Employee Satisfaction across the participating private higher education institutions (PHEIs) demonstrated an overall favorable workplace evaluation (M = 4.08, SD = 0.540), falling within the "Agree" qualitative descriptor. The low overall standard deviation indicates high consistency in respondents' evaluations of their work experience. These results provide empirical support for the positive relationship between quality management practices and employee outcomes in academic settings (El-Kassem, 2024; Mahmood et al., 2024).

An item-level analysis reveals that intrinsic work factors received the highest evaluation from respondents. The indicator "I like the work I do" (ES3) recorded the highest score (M = 4.18, SD = 0.575), followed by "I am satisfied with what I currently do at the institution" (ES1; M = 4.14, SD = 0.610) and "I take pride in the work I do" (ES10; M = 4.14, SD = 0.653). Respondents further indicated strong agreement regarding job comfort (M = 4.12, SD = 0.614), general work enjoyment (M = 4.10, SD = 0.571), enthusiasm (M = 4.08, SD = 0.689), retention intent (M = 4.08, SD = 0.662), work inspiration (M = 4.06, SD = 0.691), and workplace energy (M = 4.00, SD = 0.647). These elevated scores reflect the substantial contribution of intrinsic task motivation, pride, and role engagement to overall employee satisfaction (Jo & Shin, 2025).

Table 3
Assessment of Employee Satisfaction in Selected Private HEIs in Pampanga

Descriptives	Mean	SD	Verbal Interpretation
ES1	4.14	0.610	Agree
ES2	4.10	0.571	Agree
ES3	4.18	0.575	Agree
ES4	4.12	0.614	Agree
ES5	4.00	0.647	Agree
ES6	4.08	0.689	Agree
ES7	3.90	0.809	Agree
ES8	4.08	0.662	Agree
ES9	4.06	0.691	Agree
ES10	4.14	0.653	Agree
Employee Satisfaction	4.08	0.540	Agree

Conversely, the indicator "I feel valued for what I currently do" (ES7) obtained the lowest mean score (M = 3.90, SD = 0.809). While remaining within the "Agree" qualitative range, this comparatively lower rating suggests that institutional recognition and appreciation mechanisms represent an area for organizational improvement. This finding aligns with recent empirical work highlighting organizational recognition and perceived fairness as critical drivers of workplace engagement and employee outcomes (Jo & Shin, 2025).

From a structural perspective, the high baseline level of employee satisfaction provides necessary empirical backing for its conceptual role as a mediating variable between TQM practices and organizational performance. Because quality strategies are operationalized through human resources, favorable working conditions, organizational support, and meaningful employee participation serve as the vital mechanism translating quality initiatives into institutional performance outcomes (El-Kassem, 2024; Mahmood et al., 2024).

Direct Measurement - The results demonstrated that TQM dimensions were substantially and consistently associated with Employee Satisfaction. Four of the five TQM dimensions exerted statistically significant positive direct effects on ES. Specifically, Leadership Commitment ($\beta = 0.286$, $p < 0.001$, $f^2 = 0.183$; medium effect) and Process Orientation ($\beta = 0.226$, $p = 0.006$, $f^2 = 0.153$; medium effect) emerged as the strongest predictors, supporting H1 and H5. Continuous Improvement ($\beta = 0.214$, $p = 0.009$, $f^2 = 0.141$; small effect) and Customer Focus ($\beta = 0.180$, $p = 0.024$, $f^2 = 0.114$; small effect) also significantly enhanced ES, supporting H4 and H3. These findings indicate that clear role workflows, supportive leadership, data-driven improvement, and student-centered orientation foster favorable work environments. Conversely, Employee Involvement did not significantly predict ES ($\beta = 0.062$, $p = 0.255$, $f^2 = 0.034$), leading to the non-support of H2.

In contrast to employee satisfaction, direct pathways from TQM dimensions to the Number of Accredited Programs yielded inconsistent results. Leadership Commitment ($\beta = 0.020$, $p = 0.415$, $f^2 = 0.007$), Continuous Improvement ($\beta = 0.115$, $p = 0.108$, $f^2 = 0.043$), and Process Orientation ($\beta = -0.029$, $p = 0.380$, $f^2 = 0.009$) showed no statistically significant direct influence on program accreditation, leaving H6, H9, and H10 unsupported. Unexpectedly, Employee Involvement ($\beta = -0.220$, $p = 0.008$, $f^2 = 0.067$) and Customer Focus ($\beta = -0.166$, $p = 0.025$, $f^2 = 0.031$) exhibited significant negative relationships with program accreditation; thus, H7 and H8 were not supported due to directionality mismatch. Notably, Employee Satisfaction exerted a strong, positive direct effect on the Number of Accredited Programs ($\beta = 0.460$, $p < 0.001$, $f^2 = 0.215$; medium effect), supporting H16 and establishing ES as a pivotal driver of accreditation activities.

Table 4
Structural Model Analysis Examining the Direct Effects

	Direct Measurement	Beta	P-values	Stand. Error	Effect Size	Decision
H1	Leadership Commitment → Employee Satisfaction	0.286	<0.001	0.088	0.183	Supported; Significant, medium effect
H2	Employee Involvement → Employee Satisfaction	0.062	0.255	0.093	0.034	Not Supported; Not significant, small effect
H3	Customer Focus → Employee Satisfaction	0.180	0.024	0.091	0.114	Supported; Significant, small effect
H4	Continuous Improvement → Employee Satisfaction	0.214	0.009	0.090	0.141	Supported; Significant, small effect
H5	Process Orientation → Employee Satisfaction	0.226	0.006	0.090	0.153	Supported; Significant, medium effect
H6	Leadership Commitment → No. of Accredited Programs	0.020	0.415	0.094	0.007	Not supported; Not significant, negligible effect
H7	Employee Involvement → No. of Accredited Programs	-0.220	0.008	0.090	0.067	Not Supported; Significant, small effect
H8	Customer Focus → No. of Accredited Programs	-0.166	0.025	0.091	0.031	Not Supported; Significant, small effect
H9	Continuous Improvement → No. of Accredited Programs	0.115	0.108	0.092	0.043	Not Supported; Not significant, small effect
H10	Process Orientation → No. of Accredited Programs	-0.029	0.380	0.094	0.009	Not Supported; Not significant, negligible effect
H11	Leadership Commitment → Overall Board Performance	-0.024	0.399	0.094	0.007	Not Supported; Not significant, negligible effect
H12	Employee Involvement → Overall Board Performance	0.236	0.005	0.089	0.069	Supported; Significant, small effect
H13	Customer Focus → Overall Board Performance	0.204	0.013	0.090	0.030	Supported; Significant, small effect
H14	Continuous Improvement → Overall Board Performance	0.088	0.171	0.093	0.029	Not Supported; Not significant, small effect
H15	Process Orientation → Overall Board Performance	-0.053	0.287	0.094	0.015	Not Supported; Not significant, negligible effect
H16	Employee Satisfaction → No. of Accredited Programs	0.460	<0.001	0.084	0.215	Supported; Significant, medium effect
H17	Employee Satisfaction → Overall Board Performance	-0.440	<0.001	0.085	0.186	Not Supported; Significant, medium effect

When evaluating Overall Board Performance, direct structural paths revealed a divergent operational pattern. Leadership Commitment ($\beta = -0.024$, $p = 0.399$, $f^2 = 0.007$), Continuous Improvement ($\beta = 0.088$, $p = 0.171$, $f^2 = 0.029$), and Process Orientation ($\beta = -0.053$, $p = 0.287$, $f^2 = 0.015$) failed to demonstrate significant direct effects, resulting in non-support for H11, H14, and H15. Conversely, Employee Involvement ($\beta = 0.236$, $p = 0.005$, $f^2 = 0.069$) and Customer Focus ($\beta = 0.204$, $p = 0.013$, $f^2 = 0.030$) directly and significantly enhanced Overall Board Performance, supporting H12 and H13. Interestingly, Employee Satisfaction exhibited a significant negative direct path to Board Performance ($\beta = -0.440$, $p < 0.001$, $f^2 = 0.186$), leading to non-support for H17.

The direct path results confirm that TQM practices do not influence organizational performance uniformly across institutional outcomes. The contrasting behavior of Employee Involvement and Customer Focus—which negatively related to program accreditation but positively related to board performance—empirically validates operationalizing higher education performance as a multidimensional construct. Furthermore, the strong direct link between TQM practices and ES, combined with the lack of direct TQM effects on performance metrics, provides a robust structural rationale for evaluating Employee Satisfaction as a mediating mechanism.

Indirect (Mediating Analysis) Measurement - Mediation analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine whether Employee Satisfaction (ES) transmits the effects of the five Total Quality Management (TQM) dimensions to the two objective metrics of Organizational Performance: the Number of Accredited Programs (OPAccreditation) and Overall Board Performance (OPBoard Performance). Significance was evaluated at $p < 0.05$, accompanied by standardized indirect path coefficients (β) and Cohen's (1988) effect sizes (f^2).

For accreditation outcomes, Employee Satisfaction significantly mediated the relationship between Leadership Commitment and the Number of Accredited Programs ($\beta = 0.132$, $p = 0.022$, $f^2 = 0.043$; small effect), supporting H18. Given the nonsignificant direct path between Leadership Commitment and accreditation ($\beta = 0.020$, $p = 0.415$), this result demonstrates an indirect-only mediation mechanism: committed leadership fosters a supportive environment that enhances employee satisfaction, which in turn facilitates accreditation-related efforts. Conversely, mediation via Employee Satisfaction was not statistically significant for Employee Involvement ($\beta = 0.028$, $p = 0.336$, $f^2 = 0.009$), Customer Focus ($\beta = 0.083$, $p = 0.104$, $f^2 = 0.015$), Continuous Improvement ($\beta = 0.099$, $p = 0.067$, $f^2 = 0.037$), or Process Orientation ($\beta = 0.104$, $p = 0.057$, $f^2 = 0.033$), resulting in the non-support of H19, H20, H21, and H22.

Table 5
Structural Model Analysis Examining the Indirect Effects

	Indirect Measurement (Mediating Analysis)	Beta	P-values	Stand. Error	Effect Size	Decision
H18	Leadership Commitment*Employee Satisfaction*No. of Accredited Program	0.132	0.022	0.065	0.043	Supported, Significant indirect effect, small effect
H19	Employee Involvement*Employee Satisfaction*No. of Accredited Program	0.028	0.336	0.067	0.009	Not Supported, nonsignificant indirect effect, negligible effect
H20	Customer Focus*Employee Satisfaction*No. of Accredited Program	0.083	0.104	0.066	0.015	Not Supported, nonsignificant indirect effect, negligible effect
H21	Continuous Improvement*Employee Satisfaction*No. of Accredited Program	0.099	0.067	0.065	0.037	Not Supported, nonsignificant indirect effect, small
H22	Process Orientation*Employee Satisfaction*No. of Accredited Program	0.104	0.057	0.065	0.033	Not Supported, nonsignificant indirect effect, small

	Indirect Measurement (Mediating Analysis)	Beta	P-values	Stand. Error	Effect Size	Decision
H23	Leadership Commitment*Employee Satisfaction*Overall Board Performance	-0.126	0.028	0.065	0.037	Supported, Significant indirect effect, small effect
H24	Employee Involvement*Employee Satisfaction*Overall Board Performance	-0.027	0.343	0.067	0.008	Not Supported, nonsignificant indirect effect, negligible effect
H25	Customer Focus*Employee Satisfaction*Overall Board Performance	-0.079	0.115	0.066	0.012	Not Supported, nonsignificant indirect effect, negligible effect
H26	Continuous Improvement*Employee Satisfaction*Overall Board Performance	-0.094	0.076	0.066	0.031	Not Supported, nonsignificant indirect effect, small
H27	Process Orientation*Employee Satisfaction*Overall Board Performance	-0.100	0.065	0.065	0.028	Not Supported, nonsignificant indirect effect, small

A distinct pattern emerged when assessing Overall Board Performance. Employee Satisfaction significantly mediated the pathway between Leadership Commitment and Overall Board Performance ($\beta = -0.126$, $p = 0.028$, $f^2 = 0.037$; small effect), supporting H23. As Leadership Commitment lacked a direct effect on board performance ($\beta = -0.024$, $p = 0.399$), its influence operates indirectly through Employee Satisfaction. The negative direction of this indirect path reflects the negative direct path observed between ES and board performance ($\beta = -0.440$, $p < 0.001$). In contrast, indirect pathways through Employee Satisfaction to board performance were non-significant for Employee Involvement ($\beta = -0.027$, $p = 0.343$, $f^2 = 0.008$), Customer Focus ($\beta = -0.079$, $p = 0.115$, $f^2 = 0.012$), Continuous Improvement ($\beta = -0.094$, $p = 0.076$, $f^2 = 0.031$), and Process Orientation ($\beta = -0.100$, $p = 0.065$, $f^2 = 0.028$), leading to non-support for H24, H25, H26, and H27.

Overall, the mediation findings indicate that Employee Satisfaction plays a selective rather than universal mediating role. Out of ten hypothesized indirect paths, only H18 and H23 were supported—both involving Leadership Commitment as the exogenous driver. Although leadership commitment does not directly drive institutional performance metrics, it indirectly influences both accreditation and board performance by shaping employee workplace satisfaction. These divergent indirect effects reinforce the necessity of operationalizing TQM as a multidimensional construct and organizational performance through distinct objective indicators.

Structural Model Quality Assessment (R^2, Q^2, and Full Collinearity VIF) - The structural model was evaluated for multicollinearity, explanatory power, and predictive relevance using Full Collinearity Variance Inflation Factor (Full VIF), the coefficient of determination (R^2), and Stone-Geisser's (Q^2) predictive relevance statistic (Hair et al., 2022; Kock, 2015). To ensure the model was free from lateral and vertical collinearity issues, Full VIF values were computed for all latent constructs. Full VIF values ranged from 2.231 to 3.162, well within the standard conservative threshold of < 5.0 and meeting the recommended ideal criterion of ≤ 3.3 (Kock, 2015). The highest Full VIF values were recorded for Continuous Improvement (VIF = 3.162), Process Orientation (VIF = 3.135), and Employee Involvement (VIF = 3.108). These results confirm that multicollinearity does not pose a threat to the parameter estimates or path coefficients.

The coefficient of determination for Employee Satisfaction was $R^2 = 0.625$, indicating that the five TQM dimensions—Leadership Commitment, Employee Involvement, Customer Focus, Continuous Improvement, and Process Orientation—collectively account for 62.5% of the variance in employee satisfaction. This reflects substantial explanatory power in explaining employee satisfaction in private higher education settings (Hair et al., 2022). Additionally, Stone-Geisser's Q^2 value for Employee Satisfaction was 0.561, substantially exceeding the 0.00 threshold. This high Q^2 metric confirms that the structural model possesses strong predictive relevance, demonstrating that the exogenous TQM constructs provide meaningful and robust predictive power for employee

satisfaction.

Table 6
Full Collinearity Variance Inflation Factor (VIF), Coefficient of Determination (R^2), and Stone–Geisser's Predictive Relevance (Q^2)

Constructs	Full-VIF	R-square	Q-Square	Decision
Employee Satisfaction	2.231	0.625	0.561	Acceptable; substantial explanatory and predictive relevance
Leadership Commitment	3.104			Acceptable
Employee Involvement	3.108			Acceptable
Customer Focus	2.625			Acceptable
Continuous Improvement	3.162			Acceptable
Process Orientation	3.135			Acceptable

5. Discussion and Conclusion

The findings demonstrate that the relationship among Total Quality Management (TQM), Employee Satisfaction, and organizational performance in selected private higher education institutions (PHEIs) in Pampanga is complex, multidimensional, and outcome-specific. Rather than producing uniform effects across all outcomes, the five TQM dimensions—Leadership Commitment, Employee Involvement, Customer Focus, Continuous Improvement, and Process Orientation—exhibited distinct patterns of association with Employee Satisfaction and the two institutional performance indicators: Number of Accredited Programs and Overall Board Performance.

Overall, respondents reported favorable implementation of TQM practices, with Process Orientation receiving the highest rating, followed by Customer Focus and Leadership Commitment. Employee Involvement obtained the lowest, although still favorable, rating. This pattern suggests that the participating institutions have relatively established formal processes, student-centered practices, and leadership support, while employee participation in decision-making and collaborative problem-solving may require further strengthening. The findings are consistent with higher education quality-assurance literature emphasizing the interaction of purpose, people, and process in institutional quality systems (Jasti et al., 2022; Krooi et al., 2024). The relatively lower assessment of employee involvement further suggests that the presence of participatory mechanisms does not necessarily mean that employees experience meaningful influence over institutional decisions.

Employee Satisfaction was likewise favorable, with respondents generally reporting enjoyment of their work, pride in their responsibilities, and willingness to continue performing their roles. The strongest satisfaction indicators concerned liking and taking pride in one's work, whereas feeling valued received the lowest rating. This pattern is consistent with research emphasizing leadership, recognition, fairness, and involvement as important factors in employee experiences (El-Kassem, 2024; Jo & Shin, 2025). It also supports the positioning of Employee Satisfaction as a potential mechanism through which quality-management practices may influence institutional outcomes.

The structural model provides stronger evidence for this mechanism. Four TQM dimensions—Leadership Commitment, Customer Focus, Continuous Improvement, and Process Orientation—significantly and positively influenced Employee Satisfaction, whereas Employee Involvement did not. Leadership Commitment and Process Orientation demonstrated medium effects, while Customer Focus and Continuous Improvement demonstrated smaller effects. These results indicate that employees' satisfaction is particularly associated with the way quality is led, processes are structured, stakeholders are considered, and improvement is pursued. The nonsignificant effect of Employee Involvement suggests that participation alone may not be sufficient to improve satisfaction unless employees perceive that their contributions have meaningful influence. This finding is consistent with evidence that individual TQM practices do not necessarily exert equivalent effects on employee outcomes (El-Kassem, 2024; Khadim et al., 2025).

In contrast, the direct relationships between TQM and organizational performance were considerably less uniform. None of the TQM dimensions significantly and positively predicted the Number of Accredited Programs.

Employee Involvement and Customer Focus were significantly negatively associated with this indicator, while Leadership Commitment, Continuous Improvement, and Process Orientation were nonsignificant. For Overall Board Performance, however, Employee Involvement and Customer Focus demonstrated significant positive effects, while the other three TQM dimensions were nonsignificant. These contrasting patterns indicate that organizational performance in higher education cannot be treated as a single homogeneous outcome. Accreditation and board performance capture different institutional achievements and may respond to quality-management practices through different mechanisms. This finding reinforces previous evidence that individual TQM dimensions can have different relationships with organizational performance in higher education (Texeira-Quiros et al., 2022).

Employee Satisfaction itself demonstrated divergent relationships with the two performance indicators. It positively predicted the Number of Accredited Programs with a medium effect but negatively predicted Overall Board Performance, also with a medium effect. The positive association with accreditation suggests that satisfied employees may contribute to the sustained documentation, assessment, quality assurance, and improvement activities required for accreditation. The negative association with board performance, however, should be interpreted cautiously and should not be taken to imply that employee satisfaction inherently reduces institutional performance. Board examination outcomes may be influenced by numerous factors beyond general employee satisfaction, including student characteristics, curriculum, faculty specialization, program-level preparation, and examination conditions.

The mediation findings provide the study's most important contribution. Employee Satisfaction significantly mediated the relationship between Leadership Commitment and both Number of Accredited Programs and Overall Board Performance, whereas no significant mediation was found for the other four TQM dimensions. Notably, Leadership Commitment did not have a significant direct effect on either performance indicator, yet significant indirect effects emerged when Employee Satisfaction was introduced as a mediator. This suggests that the contribution of leadership to institutional outcomes may operate through employees rather than through a direct institutional pathway. The finding is consistent with Mahmood et al. (2024), who reported that job satisfaction partially mediated the relationship between TQM and school performance, while extending this evidence by demonstrating that the mediating pathway may be dimension-specific.

Taken together, the results suggest that TQM is more consistently associated with employee-related outcomes than with direct institutional performance outcomes. Leadership Commitment, Customer Focus, Continuous Improvement, and Process Orientation appear particularly relevant to Employee Satisfaction, while their effects on institutional performance are less direct and more dependent on the specific performance indicator. Employee Involvement presents a particularly nuanced case: it was not significantly related to Employee Satisfaction, negatively associated with accreditation, but positively associated with Board Performance. These findings reinforce the importance of examining TQM dimensions separately rather than assuming that all quality-management practices operate in the same manner.

From a theoretical perspective, the findings provide stronger support for TQM Theory, particularly Deming's systems-based view, than for Herzberg's Two-Factor Theory as an overarching explanation of the model. The multidimensional effects of leadership, people, processes, and customer orientation, together with the outcome-specific relationships and selective mediation, are consistent with the view of quality management as an interconnected organizational system. Herzberg's framework provides a narrower explanation for the Employee Satisfaction findings, particularly the prominence of intrinsic experiences such as pride, enjoyment, enthusiasm, and feeling valued. However, it does not adequately explain the structural relationships between TQM practices and institution-level performance outcomes. Thus, the findings reinforce TQM Theory as the principal theoretical foundation while positioning employee satisfaction as an important people-centered mechanism within the quality-management system.

Overall, the study extends the understanding of TQM in higher education by showing that its effects are neither

uniformly positive nor necessarily direct. Quality-management practices appear to influence institutional outcomes through differentiated pathways, with Employee Satisfaction serving as a significant mechanism particularly in the relationship between Leadership Commitment and organizational performance. The findings therefore highlight the importance of strengthening leadership practices and employee experiences while recognizing that different institutional performance outcomes may require different quality-management strategies.

Limitations of the Study - Several limitations should be considered when interpreting the findings. First, the sample (n = 111) represents about 8% of the target population of 1,367 employees and was drawn through purposive sampling at two levels: institutions with established ISO-aligned quality assurance systems and respondents involved in quality management; the results may therefore not generalize to non-certified, public, or other regional institutions. Second, the cross-sectional correlational design supports associations and statistical mediation but cannot establish temporal or causal ordering. Third, TQM and employee satisfaction were self-reported and may be affected by social desirability and common method bias, although objective records were used for organizational performance. Fourth, organizational performance was measured through institution-level indicators from only three institutions, so every respondent from the same institution shared the same performance values; this limits variation in the outcome variables, and the unexpected negative associations, particularly between employee satisfaction and overall board performance, may partly reflect differences between institutions rather than individual-level processes. Fifth, some indirect effects were close to the significance threshold (e.g., Process Orientation, $p = 0.057$), and a larger sample may be needed to detect small mediation effects. Finally, the hybrid survey distribution, which included printed forms, institutional e-mail, and private messaging platforms, may introduce self-selection among respondents.

Practical Educational Implications - The findings carry practical implications for the people who work and learn in private higher education institutions.

For teachers and staff. Employee Involvement had the lowest mean among the TQM dimensions ($M = 3.78$), and feeling valued was the lowest-rated satisfaction item ($M = 3.90$), even though enjoyment of one's work was the highest ($M = 4.18$). Employee Involvement also did not significantly influence employee satisfaction. Institutions should therefore make involvement meaningful, with real opportunities to contribute to quality decisions and visible feedback and follow-through on staff suggestions, and should recognize teaching and support work so that employees feel valued.

For Students. Although students were not direct survey respondents, they serve as the primary beneficiaries of a TQM-driven academic environment. The high rating for Customer Focus ($M = 4.04$) and its positive influence on licensure performance ($\beta = 0.204$, $p = 0.013$) indicate that systematic attention to student needs directly enhances academic delivery and board examination preparedness. Institutions should institutionalize closed-loop feedback systems to continuously adapt academic services to evolving student needs.

For schools and administrators. Leadership Commitment was the only TQM dimension whose effect on both performance indicators operated through employee satisfaction. Leaders should therefore communicate institutional goals clearly (the lowest-rated leadership item, $M = 3.95$) and maintain a clear system for tracking performance indicators (the lowest-rated improvement item, $M = 3.93$). Employee satisfaction should be built into internal quality assurance monitoring alongside accreditation and board results. Because the institution with the most accredited programs was not the one with the highest board performance, and because satisfaction related positively to accreditation but negatively to board performance, administrators should use several indicators and differentiate strategies by desired outcome. The negative link between satisfaction and board performance calls for further inquiry rather than firm conclusions, given the limitations above.

Conclusion - This study concludes that the relationship among Total Quality Management (TQM), Employee Satisfaction, and organizational performance in selected private higher education institutions is multidimensional, selective, and outcome-specific. The findings demonstrate that TQM should not be treated as a homogeneous organizational practice, as its five dimensions—Leadership Commitment, Employee Involvement, Customer

Focus, Continuous Improvement, and Process Orientation—exhibited different relationships with employee and institutional outcomes.

TQM showed its strongest and most consistent relationships with Employee Satisfaction. Leadership Commitment, Customer Focus, Continuous Improvement, and Process Orientation significantly and positively influenced Employee Satisfaction, whereas Employee Involvement did not. This suggests that employees' satisfaction is more consistently associated with supportive leadership, stakeholder responsiveness, continuous improvement, and clearly structured processes than with participation alone. The findings therefore highlight the importance of the internal employee experience in the implementation of quality management.

The direct effects of TQM on organizational performance were considerably less consistent. None of the TQM dimensions significantly and positively influenced the Number of Accredited Programs, while Employee Involvement and Customer Focus demonstrated significant negative relationships with this indicator. For Overall Board Performance, Employee Involvement and Customer Focus demonstrated significant positive effects, whereas the remaining dimensions were nonsignificant. These contrasting patterns indicate that accreditation and board performance represent distinct institutional outcomes and should not be treated as interchangeable measures of organizational performance.

Employee Satisfaction also demonstrated outcome-specific effects. It positively influenced the Number of Accredited Programs but was negatively associated with Overall Board Performance. The findings do not imply that employee satisfaction inherently improves one outcome while reducing another; rather, they indicate that the relationship between employee experiences and institutional outcomes depends on the particular performance indicator examined. This reinforces the multidimensional conceptualization of organizational performance adopted in the study.

Most importantly, Employee Satisfaction demonstrated a selective mediating role. It significantly mediated the relationship between Leadership Commitment and both organizational performance indicators, while no significant mediation was found for Employee Involvement, Customer Focus, Continuous Improvement, or Process Orientation. The emergence of significant indirect effects despite the absence of significant direct effects from Leadership Commitment suggests that leadership may influence institutional outcomes through the employee experience rather than through a direct pathway alone.

Overall, the findings support the conceptualization of TQM and organizational performance as multidimensional constructs. They further suggest that the effectiveness of quality management in higher education cannot be assessed solely through institutional performance outcomes. Quality-oriented practices must also be examined in terms of how they shape the employees responsible for implementing and sustaining those practices. In particular, Leadership Commitment appears to have a distinctive role in translating quality-management practices into institutional outcomes through Employee Satisfaction.

The study therefore highlights the need for higher education institutions to pursue quality management not only through accreditation, performance targets, and formal processes, but also through leadership practices that foster supportive and satisfying work environments. Strengthening employee experiences alongside quality systems may provide a more sustainable pathway for translating TQM practices into institutional effectiveness.

Future Recommendations - Future studies should address the limitations above by using larger, multi-region samples (ideally probability-based), longitudinal or mixed-method designs, and performance data at the program or department level. The findings suggest several implications for the management and further study of Total Quality Management (TQM) in higher education. First, higher education administrators should strengthen visible and sustained Leadership Commitment to quality management. Leadership should extend beyond policy formulation and accreditation compliance to include clear communication of quality objectives, adequate resource provision, recognition of employee contributions, and consistency between institutional policies and actual practices. Given that Leadership Commitment was the only TQM dimension that demonstrated significant

mediation through Employee Satisfaction for both organizational performance indicators, leadership represents an important pathway through which quality-management practices may translate into institutional outcomes.

Second, institutions should adopt a more people-centered approach to quality management by incorporating Employee Satisfaction into quality-assurance and institutional monitoring systems. Regular feedback mechanisms, recognition, professional development opportunities, manageable workloads, transparent communication, and mechanisms for addressing employee concerns may strengthen employees' experiences while supporting quality initiatives. Employee Involvement should likewise be made more meaningful by providing employees with genuine opportunities to participate in decision-making, problem solving, and quality-improvement activities, accompanied by appropriate feedback and follow-through.

Third, institutions should recognize that organizational performance is multidimensional and outcome-specific. The differing relationships observed for the Number of Accredited Programs and Overall Board Performance indicate that a single TQM intervention cannot be assumed to improve all institutional outcomes. Accordingly, quality-assurance offices, human resource units, and institutional leaders should monitor TQM practices, Employee Satisfaction, accreditation outcomes, and board performance together and investigate unexpected or divergent patterns before expanding particular interventions.

From a theoretical perspective, future applications of TQM in higher education should retain its multidimensional character rather than relying exclusively on an aggregate measure. The findings also support examining Employee Satisfaction as a potential mechanism linking quality-management practices with institutional outcomes, while recognizing that its mediating role may be selective rather than universal. Future models should likewise distinguish among different dimensions of organizational performance, particularly quality-assurance outcomes and academic or professional performance outcomes.

Future research should expand the institutional and geographic scope of the study and employ longitudinal, mixed-method, and comparative designs to determine whether the observed relationships are consistent across different higher education contexts. Researchers should also examine additional mediators and moderators, such as employee engagement, organizational commitment, organizational culture, psychological empowerment, organizational learning, and innovation capability. Other indicators of institutional performance—including graduation, retention, graduate employability, research productivity, student satisfaction, faculty performance, and financial sustainability—may provide a broader assessment of TQM outcomes.

Particular attention should be given to the study's unexpected negative relationships, especially those involving Employee Involvement and Customer Focus with the Number of Accredited Programs and Employee Satisfaction with Overall Board Performance. These findings should not be interpreted automatically as evidence that such practices are detrimental. Qualitative or mixed-method investigations may clarify whether institutional size, resource constraints, accreditation stage, workload, governance, or other contextual factors account for these patterns. Overall, future research should move toward more context-sensitive explanations of how TQM practices, employee experiences, and distinct institutional outcomes interact in higher education.

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