

# An Empirical Analysis of Soft TQM, Hard TQM Practices and Organizational Performance in India

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## Abstract

The rapid evolution of insurance technologies has made it essential for Indian industries to boost their performance in global competition. The Indian insurance sector, in particular, is compelled to cut down production costs and offer good quality products. The objective of this research is to find the effect of TQM practices on the organization's performance in India. It will try to see in what way the application of those practices will help in getting operational and financial growth for the organization in the long run. For this study, data from 423 employees working in the life and general insurance sectors in Chandigarh Tri-City area was collected. The research has concluded that TQM practices like leadership, employee participation and customer-centered operations which are termed as Soft TQM practices, were found to improve the operational performance of the organization but their financial performance impact was not significant. On the other hand, quality management practices such as process improvement and benchmarking are hard practices exhibited significant enhancement in both operational and financial performance. To sum up, the research suggests that soft TQM practices are a source of organization's productivity while hard TQM practices lead to a financial accumulation over the long term. This research reveals how incorporating TQM practices in Indian insurance organizations can, thereby, upsurge their performance. The findings of the research offer not only practical guidelines for organizations to improve performance but also strategic insights to secure a long-term competitive edge.

**Keywords:** Organizational Performance, Quality Management, Soft and Hard TQM practices, Top Management Commitment, Total Quality Management.

## Introduction

Insurance technologies that are evolving rapidly nowadays are not only driving significant advancements but also bringing about revolutionary changes that are proving to be indispensable for industrial growth and success in the present era of global competition (1). The development of the insurance industry not only speeds up the cycle of a country's economic development but also, along with other industries, contributes to the overall development of the world's economy. The growth in this industry leads to more efficient operations, creation of new jobs and enhanced international competition which, in turn, result in the global economy being more stable

and expansive. If we understand this correctly, it becomes evident that growth of Indian economy is dependent on the Indian insurance sector. The Indian manufacturers are having a hard time keeping up with the global standards as they have to lower their production costs and at the same time produce quality, innovative products that will

be able to compete in the market. So, to cope with that, Indian insurance companies are changing the way they operate and are putting in place new business development tools that will help the organization to perform better. Indian insurers' adoption of TQM philosophy will mean that they can cut down insurance cost by a huge margin (2). Total Quality Management is an all-encompassing management system which targets constant enhancement of the quality of the organization's processes, products and services (3). According to TQM's effective management, it leads to a remarkable rise in organizational performance which has a positive effect on diverse factors. Majorly, TQM consists of such elements as staff participation and empowerment which eventually lead to the enhancement of their productivity and dedication (4). Besides, if the organization encourages innovations and keeps the best practices, it would be in a position to enjoy a competitive advantage (5). Supplier Quality Management is, moreover, one aspect of TQM that

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has a positive effect on the quality of products and on the reducing costs as well (6). Implementing technical changes along with the quality control processes is one of the ways to increase an organization's efficiency (7). Practicing TQM in India brings about an exceptionally good impact on a firm's performance, particularly in the insurance and service sectors where TQM practices substantially increase efficiency, productivity and customer satisfaction (8). In Tamil Nadu, for instance, a study showed that the TQM practices had an impact on the project results of up to 79.5% which, in turn, improved customer satisfaction and service delivery time. Moreover, the effect of total quality management practices expands beyond productivity and quality; customer satisfaction also gets better along with the distribution of services, innovation and the promptness of service (9). All in all, TQM is a powerful tool that brings about the total enhancement of organizational performance in various respects which makes it easier for organizations to gain and maintain their position in the marketplace full of competitors.

Total quality management (TQM) has been recognized as a quality philosophy that many companies worldwide have adopted to improve their insurance and performance (10). A considerable number of organizations practicing TQM have become competitive world-wide in the production of high-quality and low-cost products (11). The implementation of TQM in organizations has a primary goal to ensure that the processes are customer oriented. Not only will there be the improvement in plant performance, but also a culture of continuous improvement will be established that encourages innovation at every level of the organization. Moreover, this approach facilitates the development of employee's capabilities and skills to make more efficient contributions to the realization of organizational goals (12).

The relation between total quality management practices and organization performance has always been the subject of research to reduce cost, increased productivity and organizations competitive position, customer satisfaction and eventually the company's longevity (13-15). In fact, the research studies have drawn contrasting conclusions, for instance, while some research claims the TQM practices have a direct and considerable positive impact on the performance

of an organization, others have not been able to demonstrate such strong correlation. The conflicting conclusions denote that the link between TQM and performance is not a simple one and require more profound, organized and diversified investigation on this matter to discover in what situation, industry or structure TQM practices are actually most potent (16,17). Nevertheless, a section of the research community posits that the application of quality management techniques does not result in any direct or significant change in the performance of the organization.

The improvement in performance is attributed not only to quality management strategies but also to other factors like the competitive external environment, the leadership style, the technical resource availability and the employee commitment which direct and determine the level of the performance (18-20). Besides, the existing research studies have overwhelmingly investigated the relation between the implementing TQM practices and organizational performance in various industrial sectors, including chemicals, automotive insurance, food processing, textiles and power. The aim of these studies is to clarify what different aspects of TQM have impact in terms of the organizations' efficiency, quality improvement, cost control, innovation capability and customer satisfaction in the specific industrial contexts and production activities. The findings of these studies thus imply the industry-specific conditions under which TQM impacts are felt and the results are not universally alike (21, 22). As a result, it is vitally important to conduct a study that will provide an analysis of the relationship among the most prevalent TQM practices applied and the operational and financial performance of the organization.

The literature reveals that the continuous support of the top management is the sine qua non of achieving business objectives and leveraging the labor force (23-26). At present, the insurance sector's main target has moved to cutting down insurance costs so as to offer cost-effective and efficient products (27). Consequently, organizations have begun to incorporate modern insurance technologies to minimize the costs and the time needed for production. TQM has still been regarded as a key strategy for improvement that

not only brings about efficiency but also allows organizational environment flexibility (28).

Additionally, the improvement of organizational management is linked to the coordination of processes in a manner that is in accordance with the strategic planning guidelines, which are based on performance indicators (29). TQM is considered to be a collection of practices that not only provide a solid foundation for the organization's continuous development but also ensure the participation of every member (30). The concept of total quality management is viewed as a management philosophy that encourages a culture of continuous improvement within the organization. In order for this method to be successful, it is not enough to implement only technical measures; strong commitment from top management, as well as active and voluntary participation from employees, are also crucial. TQM, by giving utmost importance to customers' needs and expectations, forms a quality-oriented organizational structure where such thinking is developed at all levels. Total quality management is regarded as a holistic approach that, through the participation of all employees, enhances competitiveness and efficiency across the organization (31).

The organizations performance is the level of effectiveness with which that organization accomplishes its business objectives and long-term goals. This performance is normally assessed with respect to a variety of quantitative and qualitative indicators, of which the most important are considered to be: productivity increase, sales improvement, market share expansion, constant and increasing profitability, ROI improvement and positive change in customer satisfaction index. Organizational performance is not merely an indicator of economic success, but it also reflects the extent to which an organization is performing sustainable growth and long-term survival amidst competition. Two types of performances can be identified with great precision from organizational performance: financial and non-financial (32, 33) and the organizations that have successfully adopted and implemented TQM practices have shown much better financial performance than those that did not incorporate these practices in their operations (34). Thus, the improved performance of an organization further motivates the top management to better plan the

organizational objectives and to implement TQM practices (35).

Majority of the previous literature measured an organizations performance through its financial and operational performance (36). Therefore, the performance of the organization will be assessed in this study by relying on these two indicators. Timely delivery, fewer complaints, satisfied employees and improved infrastructure are some of the operational performance metrics. Whereas, financial performance is all about the rise in sales revenue, exports and profitability (37).

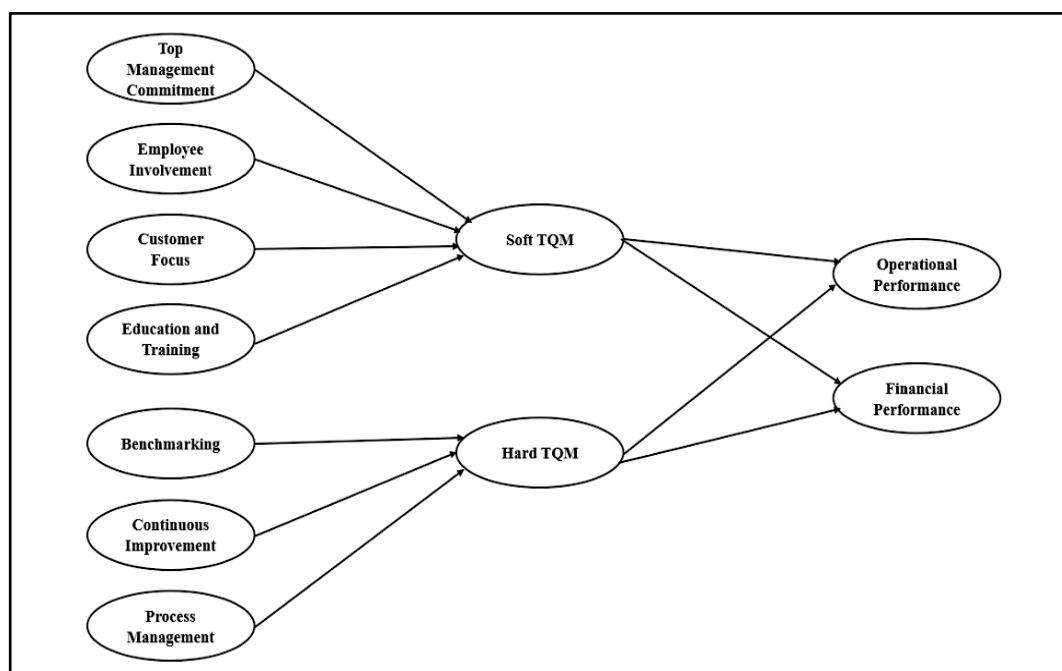
Numerous scholars in the last few years have compulsively investigated the correlation among different elements of TQM and organizational performance through the usage of advanced statistical methods, particularly Structural Equation Modeling. The researchers have tried to clarify how TQM features like leadership commitment, continuous improvement attitude, employee engagement and customer-focused approach influence productivity, profitability, market competitiveness and customer satisfaction as performance metrics. By utilizing structural equation modelling, not only the direct effects were evaluated by the researchers but also the indirect and mediating effects were recognized, thereby making the comprehension of this field more orderly and empirically strong. The studies have played a critical role in denoting the possible relationship that might exist between the two variables, i.e., TQM and Organizational Performance. The objective of this research was to determine and examine the exact factors that directly or indirectly impact organization's performance. This not only covers management policies, active participation of employees and customer-oriented strategies, but it also accounts for the external competitive climate and the availability of technological resources. A proper framework of this research fills the gap of existing theories and real-life applications and this is done via systematic and structured methods to convert theories into real-life applications.

Quality management has six key pillars (38). The main factors consist of supplier relations based on trust, TQM education and training for workers, a customer-oriented view, reward and recognition systems and the application of information technology. Simultaneously TQM has no influence on International Organization for Standardization-

9001 practices of certified Indian insurance organizations has been studied and it was concluded that, organizational performance was dramatically improved by ten TQM practices. These practices are customer first approach, distribution management, training & education, continuous improvement, process flow management, top management support, fact-based decision-making, employee empowerment, process monitoring & control and incentive & recognition systems.

The process of TQM application is often not a bed of roses, with the majority of the organizations going through only little successes or even disillusionment (39). The slim chance of successful TQM implementation deters a lot of organizations from aiming for such high acknowledgments as the Deming Award. Hence, TQM advisors and manager practitioners need to make the most profound insights about how to improve the organizational performance via the proper use of TQM practices. The understanding of the connection between these practices and performance of the organization gives very strong support to strategic decision-making. In addition, the practitioners and consultants should not only conceptualize but also proper TQM framework for their organization in terms of need and context and make sure that it is effectively implanted.

The literature review clearly indicates that the prevailing research, which applies a variety of statistical methods, limits itself mostly to the examination of a small number of TQM components or major success factors and their connection to the performance of the organization or the business. The previous research has dealt with a much narrower range of TQM practices and has confined itself to certain industrial sectors including chemicals, automobiles, food processing, textiles and electrical (40). What is very surprising is that most of the above-mentioned studies have not sufficiently recognized the particularities of Indian companies and their contextual factors. The situational variations like management styles, work environments, resource availability, market conditions and regulatory frameworks make India a unique case compared to other countries. If these factors are overlooked in the research, the results seem to be globally applicable but not suitable for direct implementation in Indian industries and organizations. Hence, the Indian context has been ignored which in turn has limited the practical relevance of the research and its implications for local organizations (41). Furthermore, there has been no research so far that has sufficiently categorized the TQM practices of International Organization for Standardization-certified organizations and analyzed them from the viewpoint of successful implementation.



**Figure 1:** Conceptual Model

The study which is being suggested intends to eliminate these research gaps by scrutinizing the relation between quality management practices (TQM) and organizational performance in a systematic manner through the specific perspective of Indian organizations the same has been shown in Figure 1. The goal of this research is to not only ascertain the impact of these practices but also to comprehend the factors of Indian industries such as work culture, resource availability, market conditions and regulatory framework that influence the relationship. Therefore, the study will add the local context to the global literature and will provide the Indian organizations with more relevant and practical insights that can be incorporated in their policies and strategies. Based on the above-mentioned gaps, two objectives have been set out. Investigates the relationships among commonly used TQM practices employed by organizations and organizational performance. To examine the impact of TQM practices on financial and operational performance.

## Methodology

### Sampling and Sample Size

The sample selection was done in a very careful and systematic manner in this research, which not only increased the accuracy of the results but also made them more widely applicable. The sampling design is the very foundation upon which the survey sample is built and significantly affects various crucial aspects of the survey. The Chandigarh Tri-City area (Chandigarh, Panchkula and Mohali) was intentionally chosen since 50 out of the 68 insurance firms have their offices in this area. Only the employees working in the branches of life and general insurance companies located in this area were considered as the sample frame for the study.

The "Ten Times Rule" principle was the basis on which the sample size was set, which is a method that has been suggested by past study (42) and is generally accepted in structural equation modelling literature as a standard practice. So, it is suggested that the minimum sample size of any study should be equal to ten times the total number of items used in the questionnaire. The questionnaire for this study had a total of 42 items, so according to this principle the minimum sample size needed was  $42 \times 10 = 420$  respondents. For

the sake of more grounding the research reliability and validity, data were gathered from 423 respondents. Stratified Random Sampling technique was employed in the selection of the sample. By doing this, the branches of the insurance companies were divided into two main categories—public sector branches and private sector branches—to make sure that different types of companies were represented and that the results could be generalized to a greater extent.

### Research Instrument

The main instrument of research has been a structured questionnaire which has been the primary means for data collection. This questionnaire has been tailored to get the required details from the employees of insurance companies. The questionnaire holds a 5-point Likert scale format and invites the respondents to evaluate their concurrence or dissent, where 1 indicates "strongly disagree" and 5 signifies "strongly agree". Besides the two main aspects of total quality management—soft TQM and hard TQM—questions concerning organizational performance, market orientation, service quality and employee satisfaction are all part of the questionnaire. In order to identify these parameters, scales have been used from different earlier studies, for soft TQM (43), hard TQM (44), market orientation (45), service quality and organizational performance. The scale has been used for employee satisfaction (46). The primary goal of designing this questionnaire is to collect and analyze data that will help understand the impact of TQM on organizational performance.

The researchers implemented various significant measures in order to limit the influence of bias from the respondents. First, the questionnaire was designed in a meticulous way so that neutral and unambiguous language was used, thus allowing respondents to reply free of any preconceived notions. Moreover, confidentiality of identities was guaranteed to all participants which made them more willing to reply truthfully and subjectively. Researchers also made sure that the questions' order and format were such that social desirability bias was kept at a minimum. Furthermore, during the data gathering process respondents were informed very distinctly that their answers will be solely for the purpose of academics. All these efforts aimed at acquiring more reliable, unbiased and research objective-aligned answers.

Common Method Variance is the bias in results that might be caused by the data collection process or the measurement technique used in the study. If this situation is not managed properly, it could harm the trustworthiness and the correctness of the research conclusions. That is why common method variance is identified and minimized as an essential step in every empirical study.

To test for bias, Harman's Single Factor Test was applied to the data. This method involves carrying out factor analysis on all the items without any rotation. The outcome was a single factor explaining total variance of 35.692 percent, which is much less than the cutoff of 50 percent. So, it can be inferred that there is no major issue of common method variance in the data and the findings can be deemed as reliable and free from bias.

### Data Analysis Tools and Techniques

Structural equation modelling was employed for the testing of the hypothesized paths as proposed in the study. The SPSS AMOS software package was used for the structural equation modelling

execution. Analysing and visualising the data through SPSS AMOS software is straightforward and very effective. It gives trustworthy outputs for both small and large data sets (47). The researchers opted for SPSS AMOS rather than Smart-PLS as it is viewed as more powerful for theory validation offering superior fitted value for the case of large normally distributed data sets.

### Sampling Profile

A glance at Table 1 shows that 51.06% of the respondents have master's degrees while 44.68% have bachelor degrees. The majority of the employees in the companies (56.74%) possess over 10 years of experience. Around 62.41% of the companies are International Organization for Standardization certified and local or international quality awards have been granted to 88.89% of the companies. 72.58% of the companies are using quality tools and techniques, the most popular being scatter diagrams 26.95% and control charts 21.28%.

**Table 1:** Sampling Profile of the Respondents

	Categories	Count	%
Highest Education Level	Higher Secondary	9	2.13%
	Diploma	8	1.89%
	Bachelor's degree	189	44.68%
	Master's degree	216	51.06%
	Ph. D	1	0.24%
Employee with the Company	1-5 years	135	31.91%
	5-10 years	48	11.35%
	more than 10 years	240	56.74%
International Organization for Standardization Certification	Yes	264	62.41%
	No	159	37.59%
Local or International Quality Award	Yes	376	88.89%
	No	47	11.11%
Quality Tools and Techniques used by Company	Yes	307	72.58%
	No	116	27.42%
Tools and Techniques used by Companies	Cause and Effect Diagram	46	10.87%
	Scatter Diagram	114	26.95%
	Run Chart	57	13.48%
	Control Charts	90	21.28%
	None	116	27.42%
	Total	423	100.00%

## Results

The measurement model serves the purpose of getting a clear picture of the relationships between the observed variables (items) and their corresponding latent constructs, hence, giving a guarantee that the constructs are indeed represented. The measurement model measures the constructs like Top Management Commitment,

Employee Involvement, etc. through different items. The measurement model's fit indices, shown in Table 2, reveal that the data has a very good fit overall. The value of CMIN/DF (Chi-square/Degrees of Freedom) is 1.805, which is in the range of 1 to 3, indicating a great fit (48). The CFI (Comparative Fit Index) is presented as 0.937. This

is a bit lower than the perfect cut-off of 0.95 for a great fit but still shows a good level of model-data tie (49).

**Table 2:** Fit Indices of Measurement Model

Measure	Chi-square	Degree of freedom	Chi-square/DF Ratio	Comparative Fit Index	Standard root mean square Residual	Root Mean Square Error of Approximation	p-value for RMSEA close fit test
Estimate	1487.358	824	1.805	0.937	0.039	0.044	0.999
Threshold	--	--	Between 1 and 3	>0.95	<0.08	<0.06	>0.05
Interpretation	--	--	Excellent	Acceptable	Excellent	Excellent	Excellent

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**Table 3:** Reliability and Validity of Model

	Instrument/Items and constructs	Loadings	( $\alpha$ )	CR	AVE
Top Management Commitment	TMC1: We ensure that companywide goals and policies are understood by all stakeholders.	0.765	0.904	0.907	0.521
	TMC3: We encourage organization-wide healthy work atmosphere.	0.744			
	TMC4: The company ensures its operational activities result in improvement in the company's return on assets in the last 3 years.	0.734			
	TMC5: The company ensures its operational activities result to significant improvement in the company's return on equity in the last 3 years.	0.736			
	TMC6: The head of Unit/Department in our company accept their responsibility for quality.	0.72			
	TMC7: Top management has an Inclination to allocate adequate time and resources for quality improvement through.	0.697			
	TMC7A: Conducting training programs for employees.	0.698			
	TMC7B: Promptness in service.	0.715			
Employee Involvement	TMC7C: Introducing customer centric policies.	0.685	0.891	0.887	0.613
	TMC7D: Flexible premium payment system.				
	E11: All employees' suggestions are acted upon.	0.762			
	E12: Policies and quality goals are understood within the company.	0.746			
	E13: Our employees participate in the decision-making process.	0.754			
Customer Focus	E14: Our employees participate in quality improvement activities.	0.842			
	E15: Our employees are accustomed to implement changes.	0.804			
	CF2: Satisfying our customers and meeting their expectations is the most important thing we do.	0.679			
	CF3: There is record of customers to access them easily using telephone, email and website.	0.814			
	CF4: When we find out that customers are unhappy with the quality of our service, we take corrective action immediately.	0.734			
	CF5: When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.	0.812			

Education and Training	ET1: We ensure that specific work skills training related to job profile should be given to employees throughout the company.	0.817	0.833	0.854	0.595
	ET2: We conduct programs to develop teamwork between employees.	0.759			
	ET3: We provide training for problem identification and solving skills, quality improvement skills.	0.73			
	ET5: Most of the time there is some kind of employee training going in our company.	0.778			
Benchmarking	BG1: We visit other organizations to investigate their practices.	0.773	0.835	0.82	0.603
	BG2: We conduct research to find out the best practices of other organizations.	0.775			
	BG3: We monitor competition to find out best industry practices.	0.781			
Continuous Improvement	CI1: Continuous quality improvement is an important goal of our organization.	0.828	0.83	0.828	0.616
	CI3: Employees in this branch are constantly improving their company's performance.	0.756			
	CI4: Employees in this branch are regularly analyzing their work to look for better ways for doing the job.	0.768			
Process Management	PM1: The processes for designing new products/services in our company ensure quality.	0.766	0.889	0.888	0.612
	PM2: Managers and supervisors understand how to motivate employees and encourage them to perform at their highest levels.	0.805			
	PM3: Processes important for client satisfaction have been identified, defined and documented.	0.803			
	PM4: Working norms are available for all positions in this branch.	0.77			
	PM5: Statistical techniques are used by our branch for business improvement.	0.768			
Operational Performance	OP1: In my opinion customers of this branch are getting on time delivery of service.	0.749	0.891	0.892	0.579
	OP2: In my opinion number of customer complaints of this branch has been reduced over time.	0.75			
	OP3: In my opinion customers of this branch feel satisfied with the services provided.	0.773			
	OP4: In my opinion I as an employee feel satisfied with my job.	0.822			
	OP5: In my opinion customer satisfaction with the quality of products and services has increased over the past 3 years in this organization.	0.686			
	OP6: In my opinion infrastructure setup in this organization has improved over the last 3 years.	0.779			
Financial Performance	FP1: Our company's market share has grown over the last 3 years.	0.798	0.795	0.804	0.579
	FP2: Our company's sales (for insurance policy) have grown over the last 3 years.	0.753			
	FP3: Our company's ROI has grown over the last 3 years.	0.73			

The findings of the measurement model, which assessed the reliability and validity of the study's variables, are shown in Table 3. The main criteria for this evaluation were Factor Loadings, Composite Reliability and Average Variance Extracted (50). According to past study, factor loadings equal to or over 0.70 are considered sufficient for the items to portray the constructs while the composite reliability values above 0.70 confirm the presence of strong internal

consistency (42). Average variance extracted values of over 0.50 indicate that the constructs' variance is more than the measurement error. All constructs surpass these limits; thus, the composite reliability values are higher than 0.70 and the average variance extracted values are more than 0.50, which means the constructs have been reliable and valid and well represented for further analysis.

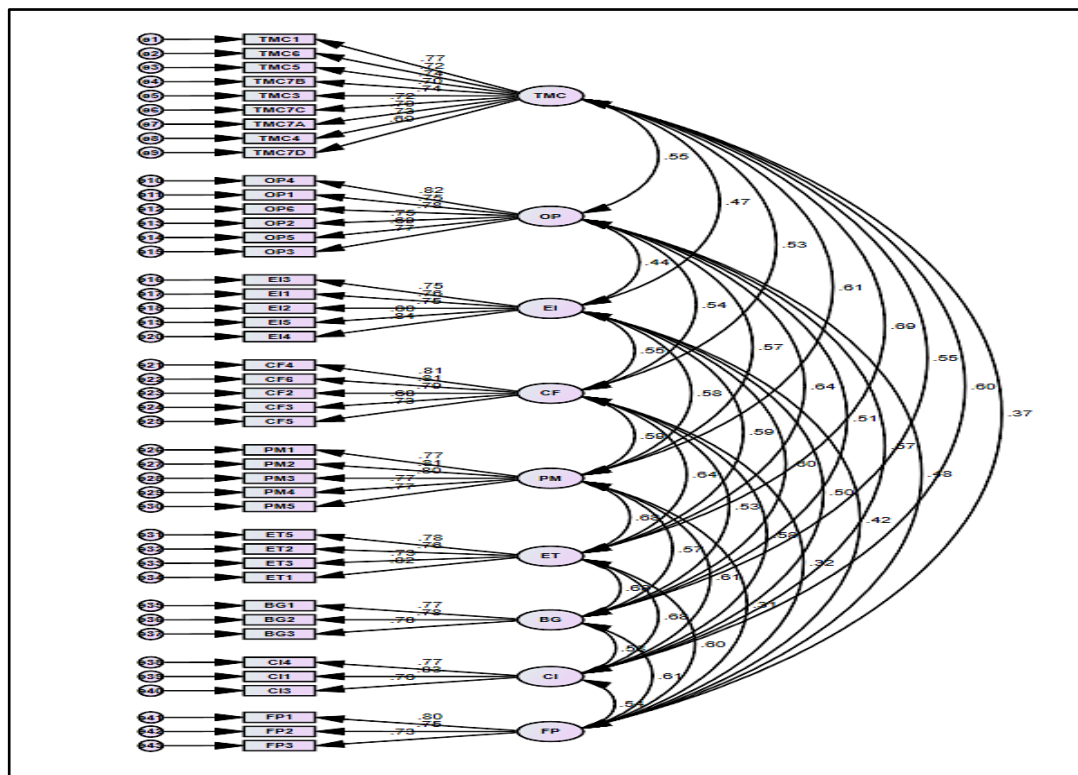
**Table 4:** Assessing Discriminant Validity

Variables	Top management commitment	Operational performance	Employee involvement	Customer focus	Process management	Education and training	Benchmarking	Continuous improvement	Financial performance
TMC	<b>0.722</b>								
OP	0.553***	<b>0.761</b>							
EI	0.473***	0.436***	<b>0.783</b>						
CF	0.534***	0.545***	0.554***	<b>0.767</b>					
PM	0.609***	0.572***	0.581***	0.589***	<b>0.783</b>				
ET	0.689***	0.645***	0.591***	0.637***	0.681***	<b>0.772</b>			
BG	0.551***	0.511***	0.601***	0.530***	0.575***	0.679***	<b>0.777</b>		
CI	0.597***	0.566***	0.500***	0.583***	0.610***	0.681***	0.578***	<b>0.785</b>	
FP	0.370***	0.479***	0.418***	0.317***	0.312***	0.600***	0.614***	0.543***	<b>0.761</b>

Source: SPSS data analysis

The estimation of discriminant validity is given in Table 4, which shows the level to which each construct is separate and different from the other constructs. The Fornell and Larcker Criterion was used for the assessment of discriminant validity, which is based on comparing the square root of the Average Variance Extracted of each construct with the correlations between that construct and other constructs. The diagonal values in this table (indicated in bold) show the square root of the

average variance extracted for each construct, while the correlations between constructs are represented by the off-diagonal values. For discriminant validity to be confirmed, the square root of the average variance extracted for each construct has to exceed its correlation with the other constructs. The validity of the measurement model confirming all constructs as distinct from one another is implied when this condition is fulfilled.



**Figure 2:** Measurement Model

In this scenario, each of the diagonal values (e.g., TMC = 0.722, OP = 0.761, EI = 0.783) surpasses its respective off-diagonal correlations, thus, the constructs are said to have discriminant validity. This denotes the fact that every construct of Figure 2 are quite different from the others, thus, it is proved that the model's constructs are not mixed up and they are indeed measuring different

facets of the concept being researched. So, the model fulfills the specified standards for discriminant validity.

**Structural Analysis**

Table 5 illustrates the non-standardized regression coefficients and the significant value that are indicative of the impact of soft total quality management and hard total quality



On the other hand, hard total quality management has a considerable impact on the areas of process management ( $\beta = 0.768$ ;  $p = 0.006$ ), benchmarking ( $\beta = 0.803$ ;  $p = 0.012$ ) and continuous improvement, with a value of 0.722 ( $p = 0.019$ ). Moreover, hard total quality management also has a significant positive influence on the operational performance ( $\beta = 0.530$ ;  $p = 0.005$ ) as well as the financial performance ( $\beta = 0.449$ ;  $p = 0.006$ ). These findings highlight the necessity of both soft and hard TQM practices being implemented in order to improve the different performances of the organization, especially in the case of operational and financial performance, though the impact of soft TQM on financial performance is not statistically significant.

## Discussion

This research was conducted to very thoroughly analyze the effects of soft and hard total quality management practices in International Organization for Standardization-certified organizations. Soft total quality management practices include human and behavioral aspects like the support of top management, involvement of employees, teamwork, training and the organizational culture; whereas hard total quality management practices rely on technical and structural measures such as the usage of quality control tools, statistical methods, standardization, quality audits and process improvement. A study sought to determine the degree to which these two types of practices would affect the operational performance (productivity, efficiency and quality improvement) and financial performance (profitability, cost control and return on investment) of organizations. The outcomes provided in Figure 3 suggest that the practices of soft TQM have a major impact on four such factors, namely, top management commitment, employee involvement, customer focus and education and training. It suggests the critical importance of top management, a well-trained staff and a customer-centric approach for TQM to take root and thrive. The need for continuous skill development through education and training is also pointed out. These results are in agreement with the outcome of those studies that recorded similar observations regarding the beneficial impact of soft TQM practices on organizational performance. In addition, the findings of the current study indicate

that while soft TQM does have a positive impact on the operational performance of a company, the same cannot be said of its financial performance where TQM is not the case. This observation concurs with the conclusion drawn by researchers who argued that soft TQM may not directly result in financial gains in the short term even though it increases operational efficiency (51). Conversely, hard TQM practices lead to substantial advancements in process management, benchmarking and continuous improvement. The researchers argue that the adoption of structured, process-driven methods is a prerequisite for TQM to become effective (52). Hard TQM practices have generated continuous improvement, which the researchers also consider a critical factor in keeping the quality standards high. The results obtained from this study also support the claim that hard TQM has a positive effect on both operational and financial performance. Thus, it can be concluded that the emphasis on structured processes and efficiency can yield business outcomes that are measurable. The finding is in line with those of earlier studies, which pointed out the important role of hard TQM practices in obtaining visible improvements in organizational performance.

## Conclusion

This study highlights the importance of Total Quality Management (TQM) practices in improving organizational performance, providing a clear guideline for managers and entrepreneurs. The results provide several important recommendations for effective decision-making. Unwavering commitment from the top management is of utmost importance, as it is the foundation for the successful implementation of TQM. Encouraging a culture of high employee participation is not only motivational but also utilizes rich experience from the front line. Customer focus is also equally important, as sustained success is inextricably tied to customer satisfaction. Moreover, organizations must recognize education and training as an endless investment in their human capital. Finally, a systematic approach to process management is also essential for sustained improvement and high quality, which can be further enhanced by benchmarking with industry leaders.

Theoretically, the importance of this study is that it makes a substantial contribution to the field by

articulating the specific roles of soft and hard TQM practices. The study argues that soft TQM practices, which include leadership, employee participation and customer focus, are the driving forces behind enhanced operational performance. On the other hand, hard TQM practices, which include process management and continuous improvement, are more directly related to improved financial performance. The most important aspect of this study is that it recognizes the dialectical relationship between these two sets of practices.

Although this study offers important findings, it is not without its limitations. First, the generalizability of the findings may be constrained by the industry or region and thus the findings may not be generalizable. Future studies need to replicate this study in different settings to generalize the findings. Second, the study may have used a cross-sectional design, which allows for the identification of associations but not causation. Longitudinal studies are required to validate the causal nature of these findings. Third, the study may have used perceptual measures of performance, which may be subject to biases. Future studies need to use more objective measures of performance, such as productivity and audited financial statements, to offer a more comprehensive analysis. Finally, although the study identifies the association between soft and hard TQM practices, it does not examine the underlying mechanisms by which these practices interact. Future qualitative studies would be important in examining these underlying mechanisms and developing a more comprehensive theory of how these practices can be effectively integrated.

### Abbreviations

BG: Benchmarking, CF: Customer Focus, CI: Continuous Improvement, EI: Employee Involvement, ET: Education and Training, FP: Financial Performance, OP: Operational Management, PM: Process Management, TMC: Top Management Commitment, TQM: Total Quality Management.

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### Author Contributions

Chahak Kataria: conceptualization, methodology, literature review, data collection, data analysis, writing- original draft, interpretation of findings, critical review, editing of the manuscript, Meru Sehgal: conceptualization, methodology, literature review, data collection, data analysis, writing- original draft, interpretation of findings, critical review, editing of the manuscript. Both authors contributed substantially to the work and approved the final manuscript for publication.

### Conflict of Interest

The authors declare there is no conflict of interest.

### Data Availability

The data supporting the findings of this study were collected from employees of insurance companies through structured questionnaire.

### Declaration of Artificial Intelligence (AI) Assistance

We have used generative AI and AI-assisted tools for styling during the preparation of manuscript.

### Ethics Approval

The study involving human participants was conducted in accordance with ethical standards. Informed consent was obtained from all participants prior to data collection and confidentiality and anonymity were maintained throughout the research process.

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