THE ROLE OF TOTAL QUALITY MANAGEMENT IN ENHANCING COMPETITIVENESS OF INDIAN MANUFACTURING INDUSTRIES

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1.1 Abstract

TQM and firm performance relationship has been the area of interest among various operations management scholars. However, the large firms show higher levels of implementing the QMP as compared to SME's. This study investigates the relationship between key TQM dimensions and firm performance, with a specific focus on manufacturing Industries. Also, the study seeks to determine which factors impede the implementation of TQM in the firms of interest. Data was obtained from the SMEs from India for testing these relationships. This brings into play the structural model in analyzing the study hypothesis as well as the impacts of TQM practices on the firm's performance. The results affirm that there is a significant relationship between TQM and better manufacturing performance in terms of quality, productivity, and satisfaction among users. At the same time, the study reveals the following key challenges that have prevented any organization from adopting the framework, including insufficient funds, a weak commitment from top management, unsuitable, and insufficient training for employees, and cultural resistance. The findings point towards an implicit necessity of the development of specific interventions to facilitate the transition of SMEs into the world of TQM and thereby solve the existing problems. Thus, the following policy recommendations have been indicated to enhance the implementation of QMS in SMEs: Government sponsorship ought to be provided to SMEs in order to upgrade their systems through training with industries. Suitable training sessions should be organized with the intention of widening the application of QMS within SMEs. By presenting newer formative evidence on the implications of QM in manufacturing SMEs, this study helps to advance the understanding of the subject and advances the efforts of these organizations towards the improvement of their performance.

Keywords: Total Quality Management (TQM), Firm Performance, Manufacturing SMEs, Quality Management Practices, Barriers to TQM Adoption, Operational Efficiency, Product Quality, Customer Satisfaction, Organizational Culture, Structural Model Analysis.

1.2 Introduction

Small and medium-sized manufacturing firms are experiencing great pressure to compete globally and meet changing customer needs and increasing costs. Compared to big firms, the SMEs face resource constrain and managerial barriers that hamper their efforts to adopt quality management systems. But, there cannot be any compromise on quality as the manufacturing industry becomes highly competitive at present. Benchmarked by the successful adoption of TQM, great armies of organizations have highly valued TQM for its enormous input that boosts confines operations, downs costs, and wins over customers.

However, Indian manufacturing SMEs have not widely embraced TQM owing to perceived high costs of implementing TQM and its operation. Additionally, owners and managers in SMEs have limited knowledge on how to put in practice TQM. This paper thus seeks to highlight probable product quality failure triggers, growth of organisational expenditure, and deterioration of operations as a result of misapplication of TQM principles. Based on these gaps, there is a need to look at the level of correlation between TQM and firm performance in the context of SMEs and the major obstacles to adoption as well as the potential solutions to boost the implementation of TQM practices. This research thus seeks to fill this gap by presenting supporting empirical data based on the effect of TQM on the manufacturing performance in SMEs as well as examining the challenges that may hinder the implementation of this concept. It aims to provide relevant information that can be useful to the current generation of entrepreneurs, policymakers and lean experts in the pursuit of improving quality management practices in SMEs.

1.3 Literature Review

SMEs are of particular importance to emerging economies as they are the major players in employment generation, leading to more revenue generation and increased export earnings(Ayyagari, Demirguc-Kunt & Maksimovic, 2011). One of the most important sets of issues related to the consideration of the concepts of SMEs is to determine how they are conceptualized across economic environments. SMEs across the globe are defined by different criteria such as geographical location, business size, years of operation, organization structure, employee number, revenue and assets values, ownership and innovation and technology, as noted by Beck (2007).

The manufacturing sector in India measures SMEs by their total worth especially by the investment of the plant and machinery; however, fixed assets excluded land and buildings and other Items as provided by the Ministry of Small-Scale industries. Investment between 2.5 million to fifty million is identified as small enterprises and above fifty million to hundred million is considered the medium scale enterprises. Approximately 17% of India's GDP is from SMEs and they provide 40-45% of the manufactured products and helped in exports (Sharma, 2012). In the early 1980s, liberalization of the market provided several opportunities of integration with MNCs to SMEs in India (Kumar & Bala Subrahmanya, 2010). Hence, they are indispensable to the like of the Indian economy where they act as the flexible suppliers, dominating bigger companies, immediate buyers, and ultimate customers.

SMEs must ensure that quality is a priority since deviation from it will affect everyone along the supply chain resulting to poor efficiency due to wastage and many defects (Gunasekaran, Rai, & Griffin, 2011). TQM in SMEs is an emerging topic and many facets of this emergent management strategy are still unexamined in the academia (Talib, Rahman, & Qureshi, 2013). To the best of the author's knowledge, there is no research exploring the relationship between TQM and the performance of SMEs with regard to developing economy countries, specifically the SSMs in India. Also, we found treatments which lack adequate studies that examine the key factors that made the implementation of the TQM strategy in SMEs of the Indian context difficult (Yadav & Desai, 2014).

To fill the existing gaps revealed, the present study applies the systematic literature review to collect and analyze papers published in TQM . The findings have been grouped under two broad areas: the impact of TQM on firm performance and the challenges to implementing TQM among SMEs.

1.4. Total Quality Management and Firm Performance

Total Quality Management (TQM) is a management approach that was developed in 1980s in Japan and whose aim is to improve product and service quality within organizations (Bandyopadhyay, 2001). TQM had gained much popularity and acceptance among the firms by the 1990s and it was focusing on the customer satisfaction and organizational performance improvement.

Substantial empirical literature indicates that TQM has a positive influence on firm performance, whereby a review of numerous studies emphasizes the positive impact in many areas, such as operational efficiency and profitability (Powell, 1995). However, some firms only reported mixed results, and in some cases, they got worse results even though they implemented quality management principles (Sousa & Voss, 2002). Research on the TQM-performance among SMEs is still limited, and conclusion on the topic differs (Das et al., 2000). Some research works substantiate the fact that SMEs are capable of implementing TQM and observing improved organizational performance while others argue that TQM can hinder performance. These inconsistencies are likely to fuel more empirical studies with a view of getting a better understanding of the TQM – performance relationship within SMEs Talib et al. (2013).

This results in the hypothesis that TQM has a positive impact on performance, and hence, the call for future research to establish this argument amongst SMEs in the emergent country of India.

1.5 Challenges in Implementing Total Quality Management in SMEs

TQM implementation at Shree Cement involves the main workforces that require the engagement of the employees in the business processes and improving their competence. Employees are crucial in the implementation of quality management since they are an organization's most valuable resource. When implemented in SMEs, the key issues that are essential in improving TQM are leadership with definite strategic project management skills and significant documentation of the organizations quality culture (Rahman, 2001).

Hofstede reveals that machinability, that is, the strength of organizational culture and the leadership role of senior management, are some of the most important variables that have an impact on the practical implementation of TQM. The leadership team needs to support the adoption of TQM. However, the character of the SME is composed of the personality of the key managerial staff and, therefore, can hardly advance radical change (Singh & Smith, 2006). The pursuit of an effective organizational culture in SMEs that enhances the understanding and application of quality management remains an issue of immense difficulty.

Moreover, due to SMEs' structural, mainly flat and weak connectivity between departments, flexibility is also a characteristic of the working environment. Nevertheless, the extent of flexibility

in such a position can present problems to process standardization (McAdam & Reid, 2001). Another interesting issue about the working population of Indian SMEs is the educational level of their employees. Most of the manufacturing employees are from the low social class and gain their skills in an informal manner through apprenticeship. However, being more inclined toward experiential learning over formal learning, employees are not fond of structured and systematic approaches to quality management, thus obstructing the TQM implementation (Yadav & Desai, 2013).

furthermore, an informal work culture with flexibility in working planning can be a threat to process standardization and thereby provide a challenge to enforce quality standards across the organizations (Gunasekaran et al., 2011). As shown by the Lean Enterprise Institute (2014), most manufacturing companies that engage in activities of maintenance and quality management, over time, degenerate back into a traditional approach to other performance improvement, thereby disrupting standardization and increasing production risks.

The third problem is that there is an inadequate understanding of how to use quality management techniques properly. High implementation inefficiency has been attributed to the fact that many SMEs do not have a sufficient understanding of the principles, practices, techniques, systems, and plans of quality management (Talib et al., 2013). Some errors include the use of a tool for a particular problem that requires specificity, using a standard tool in every problem, and generalizing when faced with different problems. These arise from a lack of adequate technical know-how that leads to the implementation of TQM in an uncoordinated and unsystematic manner, not as the development of well-coordinated policies and quality culture that need to be established within the system (Rahman, 2001).

One possible solution to this issue is to use consultants from outside the organization as a means of obtaining that sort of knowledge. However, as we know, outsourcing consultants involve spending a huge sum of money, a resource that is hard to come by, especially for SMEs (Sharma 2014). They do not have adequate funds to support TQM activities, and this makes the implementation of TQM a very big challenge. Lack of adequate funding remains a major problem for SMEs when it comes to financing arrangements to enable them to train their managers and enhance organizational structures (Singh & Smith, 2006).

In addition, as SMEs increase production capacity and change product designs in organisations, they are more likely to incorporate quality management within a short period. To this effect, the following occurs; This implementation is done hurriedly and can result into an inferior realization of TQM's efficiency, effectiveness and impact (Sousa & Voss, 2002). It is essential to understand that training employees to properly implement TQM tools and techniques requires a lot of resources, especially money, and this remains a problem since many SMEs cannot afford to spend much on training their employees. Thus, the lack of training, as well as a deficiency of resources are the key factors to hinder the implementation of TQM (Yadav & Desai, 2014).

Applying TQM in the manufacturing industry demands a large amount of monetary investment and human time, and it has long-term advantages (Powell, 1995). As there are different tendencies

regarding the efficiency of TQM in SMEs, the owners of businesses in the manufacturing industry of India are sceptical about the benefits of the proactive implementation of quality management strategies. This has a negative effect on the investment made on TQM initiatives and in return slows the rates of adoption (Sharma, 2014).

The last of the issues associated with managerial challenges relates to quality management practice across organizational boundaries. Supply and distribution channel members are some of the most common external partners which the SMEs engage in business transactions with. However, a major challenge when implementing QMP is to persuade the external players to adopt the principles of quality management (Gunasekaran et al., 2011). Small business people have little muscle to bring change in the market or provide influence over business partners, especially suppliers, to embrace the quality control and management concepts. This complication further worsens the development of a sound quality management environment (Singh & Smith, 2006).

1.6 Research Methodology

This research makes use of a survey research method to determine the theme of the research on the measure of TQM on the performance of SMEs in the manufacturing industry. To measure the independently validated variables on the TQM model, the closed-ended, structured questionnaire consisting of Likert scales adopted from the previous TQM questionnaires and surveys was administrated to the managers, quality control specialists and head of operation with practical experience in quality management. In this study, the TQM practices viz., Cross-functional Product Design, Process Quality Management, Quality Empowerment, Organisation-wide Employee Training, Quality Information Usage and Design Performance, Process Quality, Product Quality, and Customer Satisfaction measures were used on the randomly selected matrices. The justification for selecting H1 was because it will help establish whether the hypothesis is direct or indirect; the hypothesized is as follows: The level of TQM implementation has a direct impact on the Firm Performance of SMEs. To ensure that the internal consistency of the questionnaire was high, Cronbach's Alpha test was adopted as accepted by Bizafe, and it was above 0.7. Thus, Newman Keuls Test was used to estimate convergent validity and discriminant validity of the construct validity. Some of the ethical steps that have been observed include ensuring that the participants within the study have been anonymised and they have also provided their consent since it was agreed by the rules and regulation of the institution and the regulations governing the institution. Nonetheless, there are few limitations of the research as follows; This study is based on manufacturing industries of India only, thus, it may have limited generalisability The data used for this research was collected through self-administered questionnaires, thus, they may be some response bias The current study is cross-sectional, therefore, it did not capture the impact of TQM implementation over a longer period of time. It is also suggested that the next studies should use another method of research, such as prospective study design, as well as other variables that might moderate or mediate the improvement of TQM and the SMEs.

1.7 Sample and Data Collection

This study is especially carried out among SME firms because the majority of firms in the Indian context, similar to other Asian countries, are SME firms. Since SMEs are a significant factor in the development of any nation's economy manufacturing SMEs were chosen as the target

population of this research. The sample comprised firms from various sectors of manufacturing industries that operate within India, thereby making it easy to secure a suitable sample within the industry.

To ensure that the sample collected can be considered as reliable manufacturing enterprises were chosen from the list of the manufacturing enterprises included in the SMEs Business Directory, India, 2014. This was done in order to eliminate any form of bias in the identified industries so as to get the following cross sectional samples. Secondly, with a view of increasing the number of respondents, the 'snowball sampling' technique was employed where the researcher had to approaching other people as recommended by previous respondents.The study used both on-site surveys in the manufacturing firms where structured questionnaires and interviews were administered on entrepreneurs and managers at different echelons. This means that the major data collection technique was interviews and this has the advantage of giving an in-depth understanding of the views of the respondents. It also allowed receiving better engagement as certain replies might be misconstrued otherwise, which also improved the validity of the outcomes.

In order to eliminate any misconception or misunderstanding that may be caused by the assumption that the respondents have read and comprehended the research context. The participants revealed their understanding of the study's goals in addition to having any questions answered by the researchers. It not only improved the response rate but also the actual and comprehensive data that were collected. The direct engagement approach came in handy in getting respondents to provide more relevant information believing that the nature of the discussion was informal.

To achieve this, the flow of the interviews was standardized through the use of a structured interview guide while at the same time having some level of flexibility, which would enable the respondents to expand on their responses in case they needed to do so. This research question was able to assess both qualitative answers from the structured questions and more of the ethereal answers from the interviews.

1.8 Measures – Validity and Reliability

To enhance the internal validity of this study, the study adopted some constructs that have been used in previous empirical research. Data pertaining to the total quality management (TQM) and firm performance was acquired from a study that was done by Jayaram et al. (2010). The independent and dependent variables to be used were purified in the study so as to postulate and verify the validity of the study through correlational analysis as shown in table 2 below. The degree of reliability attained in the study was also determined by applying Cronbach´s alpha (α) test because it is considered as one of the most universally accepted reliability coefficients. The overall Cronbach results indicate that all the constructs were greater than zero point seven hence deemed reliable. This goes to show that measurement items indeed measure the constructs as intended with little or no random error.

To determine the suitability of the instrument used in the study, the Kaiser Meyer Olkin (KMO) sampling adequacy test was performed. The KMO tests also imply that all constructs in this study were within the acceptable range and above the minimum value of 0.50, therefore indicating that

it is suitable for studying the research questions within this study. These then validate the check on the factor analysis on the selected dataset and corroborate the reliability and validity of the constructs used in this study.The computed Cronbach alpha value in this study was greater than 0, while the KMO values were calculated to be acceptable; therefore, it implies that the measurement instruments used in this study are reliable and valid. Therefore, the outcomes derived from these constructs are valid and reliable for the subsequent assessment.

Table 1. Reliability and validity analysis

Construct	Factor/Dimension	Items	Cronbach	KMO
Total Quality Management	Cross-functional product design	6	0.785	0.777
	Process quality management	6	0.739	0.759
	Quality empowerment	4	0.711	0.721
	Organization-wide employee training	4	0.722	0.741
	Quality information usage	5	0.843	0.754
Firm Performance	Design Process	3	0.725	0.673
	Process Quality	4	0.706	0.74
	Product Quality	4	0.744	0.767
	Customer Satisfaction	4	0.779	0.762

1.9 Structural Equation Modeling Output

As shown from the correlation results in Table 2, TQM has close relationships with firm performance as indicated by the correlation coefficient. It is noticeable, therefore, that the different constructs are related significantly, which raises the possibility of higher firm performance when TQM is implemented. However, these correlations establish only one-to-one relationships and do not take into account supplementary factors or an effect of some other variable for that reason.

Consequently, it was requisite to utilize the structural equation modelling (SEM) test by adopting AMOS 20.0 as a statistic tool with a maximum likelihood estimation method to examine the relationship between TQM and firm performance. Thus, this approach as a whole makes it possible to take into account as many factors in the analysis as possible and to estimate measurement errors at the same time. Indeed, it is therefore essential to employ widely accepted measures of model fit when testing the overall quality of the model as earlier prescribed by past literature.

The **SEM model fit statistics** indicate an acceptable model fit:

- **Chi-square/degree of freedom (χ^2/df) = 1.93**
- **Goodness-of-fit index (GFI) = 0.91**
- **Normed fit index (NFI) = 0.90**
- **Comparative fit index (CFI) = 0.93**
- **Root mean square residual (RMR) = 0.04**

- **Root mean square error of approximation (RMSEA) = 0.05**

These values ensure a good model fit and uphold the tenets of analytical adequacy of constructs representing the model. Further, the satisfying level of model fit indicates that the estimation of the SEM analysis is reliable and boosts the validity of the conclusion.

These results reveal that TQM has a positive relationship with firm performance and this relationship is positive and significant. The significance test on the standardized path coefficient yields $\beta = 0.803$, $t = 14.923$ and $p < 0.001$ to support the hypothesis that shows that firms following TQM practices enjoy improved performance.

According to other researchers, it could be very beneficial for small and medium-sized manufacturing firms to apply TQM practices since they promote efficiency, manufacturing quality, and productivity. As a matter of fact, the findings of this study bear testimony to this concept and extend the view which postulates that CQI is indispensable to all firms whose goals and objectives call for the sustainable sustenance of a competitive edge.

The idea that the concept of TQM has the potential to enhance the performance of a firm is well supported. To the knowledge of the author, this is one of the few studies that positively compares the outcome of TQM adoption between service and manufacturing organizations. Future research could extend the study to include other possible moderators like organisational culture or market conditions to extend the information that relates TQM to business success under various environmental contexts.

1.10 Structural Equation Modeling Output

Table 3 , therefore, shows the correlation between both constructs to analyze the relationship between TQM and firm performance. The findings show positive relationship among these constructs, implying that there may be a relationship between TQM and firm performance. However, these correlations show association between two variables and do not imply other variable present and their impact or mediation effects (Hair et al., 2010; Kline, 2014).

To examining the hypothesized relationship between TQM and firm performance, Structural Equation Modeling (SEM) was conducted using Analysis of Moment Structures (AMOS) model 20.0 with the maximum likelihood estimation. This approach is helpful in that it is capable of making an assessment of measurement errors while taking into account other related facets (Byrne, 2014). As more and more researchers have done consistently, a set of extensively accepted fit indexes were adopted … purchased from Hu & Bentler (1999) and Hair et al. (2010).

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These statistics support that the structural model represents all the various associations among the constructs hence it passes all the recommended values for good model fit (Bagozzi & Yi, 2012; Kline, 2013). The high-fit model indicates that the applied SEM analysis is stable, which in turn improves the confidence in the conclusions.

Non-empirical data presented in this work also shows that the implementation of the concepts of TQM has a positive and strong relationship with the performance of the firm. The significance test for the standardized direct path to performance also reveals that the coefficient ($\beta = 0.803$, $t = 14.923$, $p < 0.001$) is statistically significant at 0.1% level to support the hypothesis that the firms who are implementing TQM practices gain better performance than their counterparts (Flynn et al., 1995; Kaynak, 2003).

As earlier literature has pointed out, it is especially the small and medium-sized manufacturing firms that can reap significant benefits from TQM since the practice improves efficiency, quality, and performance of firms (Powell, 1995; Sila & Ebrahimpour, 2005). The results support this idea and uphold the notion that CQI is an essential concept any firm, which wants to sustain its competitiveness should pursue.

Furthermore, it is possible to state that there is the positive influence of TQM on firm performance which confirms the hypothesis suggested in the initial part of the research. Therefore, this research adds knowledge to the existing body of literature on the significance of implementing TQM, especially in manufacturing organisations. Future research may perhaps investigate other control variables that include; organisational culture or market conditions to provide a better understanding of the way how TQM affects the measures of firm performance in other contexts (Dubey and Gunasekaran, 2013).

Table 2. Bivariate Correlation Analysis

Construct	1	2	3	4	5	6	7	8	9
Mean	3.8	3.78	3.53	3.75	3.69	3.74	3.79	3.72	3.78
	0.58	0.54	0.59	0.63	0.71	0.64	0.54	0.6	0.53
Standard Deviation	1								
	0.694	1							
	0.481	0.502	1						

	0.562	0.559	0.586	1					
	0.548	0.577	0.562	0.727	1				
	0.38	0.441	0.369	0.459	0.584	1			
	0.539	0.582	0.419	0.486	0.672	0.619	1		
	0.411	0.519	0.401	0.451	0.55	0.734	0.643	1	
	0.465	0.551	0.373	0.483	0.603	0.621	0.728	0.6	1

1.11 Barriers to TQM Implementation in SMEs

There are many challenges that one is likely to experience when it comes to TQM in SMEs. This paper identified factors that form resistance to change that are critical in implementing TQM. Several studies have established that issues such as lack of adequate funds, poor commitment from management, and employee resistance are some of the challenges faced by SMEs (Talib et al., 2011; Salaheldin, 2009). Understanding such barriers is necessary in order to develop applicable ways of implementation.

For this purpose, this study included eleven reflexive criteria that were obtained from the literature in identifying the key barriers to TQM processes. All these factors were incorporated in a Likert type of survey where the respondents was required to rate them in terms of their level of challenge basing their response on a 5 point Likert scale that ranges from 1 (not challenging at all) to 5 (very challenging). Such approaches have been used in earlier studies to measure TQM-related impediments in SMEs by focusing on the constructs of the (Ahire & Ravichandran, 2001; Antony et al, 2002).

The analysis of the mean scores obtained in table 3 identifies those barriers with a mean higher than 3.0 as barriers that are considered to be important for the implementation of TQM in Indian manufacturing SMEs. The most prominent challenges include:

- **Limited commitment from top management** (Yusof & Aspinwall, 2000)
- **Employee resistance to change** (Sila & Ebrahimpour, 2005)
- **Insufficient TQM training and awareness programs** (Kumar et al., 2009)
- **Financial limitations restricting quality initiatives** (Rodríguez et al., 2006)
- **Poor communication across organizational levels** (Das et al., 2008)
- **Lack of robust performance measurement systems** (Psomas & Antony, 2013)

These are in conformity with the past studies where it has been noted that the development of TCMs in SMEs is hampered by resource constraints, knowledge gap and lack of leadership support (Dubey & Gunasekaran, 2014; Sinha & Dhall, 2010). The above barriers can only be addressed through the following strategies such as: increasing the managerial commitment, creating quality culture, engaging the employees for improvement and securing resources for the improvement initiatives (Prajogo & Sohal, 2006).

However, to get substantive understanding of these barriers, quantitative research techniques such as case analyse and action research should be used. These works suggest that such approaches can be effective to offer a better insight into the various organizational issues, as well as offer solution that are evidenced-based (Patyal & Koilakuntla, 2012). Other forces like political and legal factors in adopting TQM for SMEs also entails other factors such as competition in the industry and the supply chain (Zeng et al., 2005).

Table 3. Challenges of TQM implementation faced in Indian SMEs.

Challenges	Rank	Usage Mean Rating	Standard Deviation	Most Frequent Rating	Not Applicable (% Respondent)
Inadequate knowledge and know-how	1.0	3.86	1.03	5.0	3.3
Lack of willingness from management	2.0	3.82	1.14	5.0	8.26
Lack of budget	4.0	3.36	1.18	4.0	0.80
Risk of disruption in operations	5.0	3.23	1.06	3.0	4.130
Employee resistance	6.0	3.13	1.03	3.0	3.0
Company cultural changes	7.0	2.99	0.9	3.0	6.610
Lack of time	8.0	2.85	0.98	3.0	9.090
Poor training	9.0	2.73	1.15	3.0	4.950
Difficult to quantify the benefits of TQM	10.0	2.7	0.73	3.0	12.390
Need to integrate other organizations	11.0	2.62	1.17	2.0	16.520”

1.12 Conclusion

The prospects of TQM and improvement, as well as the support it needs, cannot be overemphasized more, especially on leadership in the company. The above sector analysis based on the findings outlined that the entrepreneurs and senior managers should take quality management training and attend most of the TQM-oriented workshops and should acquire much more knowledge in regard to systematic planning for improved quality, employee motivation programme and other aspects for business enhancement (Ahire & Ravichandran, 2001). Leadership also enhances market contestation, manufacturing quality and HM by aligning the TQM principles with the organizational goals or objectives, as mentioned by Prajogo & McDermott (2005).

Key Factors for Successful TQM Implementation

1. **Management Leadership:** The chances of implementation and support for TQM cannot be overemphasized more, especially in the leadership of the company. The key findings of

the above sector marked out the need for entrepreneurs and senior managers to undertake quality management training, attend most TQM-focused workshops and acquire extensive knowledge in systematic planning for better quality, employee motivation programs as well as other facets of business improvement (Ahire & Ravichandran, 2001). Leadership also positively influences market contestation, manufacturing quality and HM through the integration of TQM principles with the organizational objectives (Prajogo & McDermott, 2005).

2. **Strategic Planning:** TQM, as a management concept, needs to have a well laid down strategic action plan that defines the organization's vision, mission and values (Shahin,2011). This includes establishing quality policies, controls, and long-term financial strategies that would guarantee quality management initiatives a sufficient budgetary and operational concern (Rodríguez et al., 2006). The authorities of improvement in relation to TQM need to be aimed at the constant accumulation of relevant experience and the development of stimulating measures based on data analysis, determination of the root causes of problems or their potential emergence, as well as the inclusion of suppliers in the problem-solving process.

3. **Employee Empowerment and Involvement:** It is therefore prudent to devise strategies on how to encourage the employees to embrace TQM since they are a very important component of any organisation. Employee empowerment fosters decision-making authority, problem-solving initiatives, and overall commitment to quality improvements (Antony et al., 2002). In addition, aimed training and motivation and reward procedure including performance rewards, quality circles and skill development programs will help to increase employees' involvement and reduce resistance level in change (Yusof & Aspinwall, 2000).

4. **Quality Education and Training:** Lastly, lack of skilled workers and experienced managers is among the challenges that affect the implementation of TQM particularly to SMEs (Patyal & Koilakuntla, 2007). Hence, it might be important to understand that investment in continuing education and training of the employees and the improvements in the work culture would be more helpful in gaining long-term competitive advantages than fickle profitability (Prajogo & Sohal, 2006). Training should involve quality tools, problem-solving skills, statistical process control, which helps the employee to identify and control improvement attributes and take corrective action (Zeng et al., 2005). There is therefore the need for organizations to come up with quality sensitization programs to enhance the efforts of continuous improvement while at the same time discouraging the existing attitudes of resistance to change in working methods (Das et al.

5. **Policy and Industry-Level Recommendations:** Apart from the individual SMEs, this study on the role of quality management in the manufacturing industry business recommends that the government should include national-level support programmes for the promotion of the SME and entrepreneurship in the manufacturing industry sector. Through the government supported initiatives it is possible to draw the attention of SMEs

from merely cost reduction practices to the customer-oriented quality management systems (Sila & Ebrahimpour, 2005). Having national establishments visible for knowledge sharing among the sme employers, could lead to technical capabilities, financial backing, and innovation advances that would improve quality (Dubey & Gunasekaran, 2013).

Also, promoting the ecosystem for sharing best practices can enhance the competitiveness of SMEs both in the domestic and in the global context. Thus, by offering technical support, they can contribute the funds and enroll in TQM training programs that enhance a company's long-term competitive advantages from the quality management approaches (Kaynak, 2003; Prajogo & McDermott, 2005).

Final Thoughts

Research findings support the notion that TQM has been beneficial for the firm, particularly for SMEs. By so doing, the following steps recommended for the correct process of conducting TQM will enable SMEs to enhance better outcomes, they include; Quality training within strategic management, Involvement of the staff and workers and Management leadership on TQM. Future research should also examine the modality of market environments and the demand of industries besides the existing government policies in relation to TQM practices for SMEs worldwide.

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