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STUDY ON TOTAL QUALITY MANAGEMENT AND ITS IMPACT ON PRODUCTIVITY AND COMPETITIVE ADVANTAGE OF SMALL AND MEDIUM SIZED ENTERPRISES

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Abstract:

Now companies have to be globally competitive to sustain or grow in the global market. The organization should create a global distinctive competence. To remain competitive in the market organization should provide the same benefits with lower cost or provide more benefits with low cost. Processes must be improved continuously. Total quality management (TQM) is one management philosophy used by many companies to produce quality product and services. TQM helps to improve quality of products and services, quality of business processes, quality of suppliers, quality of employees.

SMEs played important role in Indian economy. They act as complementary units for large scale industries and act as an ancillary unit to them. SMEs having a significant role in socio-economic development of India. SMEs produce their products with traditional processes hence these products have low quality. These low quality products can't compete with other global product hence SMEs unable to survive in global Market. SMEs can use TQM management philosophy to improve quality of the products so these SMEs can sustain and grow in the global market. Objectives of this study is to find out relationship between TQM implementation and productivity of the SMEs and find out impact of TQM implementation on Competitive advantage of SMEs. This study use correlation and regression analysis. this study concluded that SMEs can improve productivity by using TQM implementation. Competitive advantage of SMEs dependent on TQM implementation.

Key words: Total quality management(TQM), Productivity, Competitive advantage, SMEs

I. Introduction:

Nowadays companies face stiff competition in global market. Each company tries to sustain and grow by using some additional distinctive competence. Companies provides goods and services with high quality than other competitor in the market. Now companies have to be globally competitive to sustain or grow in the global market. So they can't only produce product organization need to create distinctive competence and always try to improve product and processes. The organization should create a global distinctive competence. Business should acquire a global orientation. To remain competitive in the market organization should provide the same benefits with lower cost or provide more benefits with low cost. Processes must be improved continuously. Companies can't survive in the global market by without using certain management philosophy. TQM is one management philosophy used by many companies to produce quality product and services. TQM helps to improve quality of products and services, quality of business processes, quality of suppliers, quality of employees. TQM is management philosophy which take care of quality from raw material supplier to final customer. TQM provides principles which helps to maintain qualities to purchase raw materials from suppliers, provides standards for production of goods and services, provides certain standards to maintain high quality for supply chain and logistics. TQM finally helps for high quality products and services to the customers. TQM provides innovations in products, services and processes so companies can provide high quality products and services to customers. TQM focus on quality and durability of product. TQM not used only inside company this philosophy also applicable beyond boundaries of the company. It includes raw material suppliers, logistics and distribution provider, wholesalers, retailers and customers. TQM enhance quality of each and every process involved to satisfy customers need. TQM consist each and every person related with company and every person tries to improve quality by providing innovative solution to the quality

related problems. TQM having the main objective of fulfilling customer expectation by continuous improvement in quality and it consists of organization-wide ownership. There are three important terms in TQM 1) customer expectations 2) continuous improvement. 3) Organization-wide ownership, it means each and every employee should involve in TQM. It uses statistical process control tools like control charts are used for evaluation of process and for improvement in the process. TQM concerned with improving work processes and methods in order to maximize the quality of goods and services. TQM consist planned and continuous change. TQM deals with certain problems such as low quality and high cost.

SMEs played important role in Indian economy. They act as complementary units for large scale industries and act as an ancillary unit to them. SMEs having a significant role in socio-economic development of India. SMEs played very crucial role in economic development of India. SME sector provide large employment opportunities to rural people which are unskilled in nature. In this way SMEs try to bridge the gap between rural and urban disparities. Many SME owners in rural areas use natural resources to produce their products. In urban areas SMEs act as ancillary units to large scale organizations. These SMEs produces sub components for large scale organizations which help to large scale organizations for increasing production capacity to satisfy increasing customer demands of global market. Below table shows role of SMEs in economic development of India, hence SME sector is more important sector for developing country like India.

SMEs have constraints and issues other than large scale organization, these constraints create problems to SMEs for survival in stiff competition. These constraints consist lack of adequate capital and credit, poor infrastructure, product reservation, inadequate access and marketing linkage, lack of skilled human resources, lack of access to new technology, cumbersome regulatory practices. SMEs produce their products with traditional processes hence these products have low quality. These low quality products can't compete with other global product hence SMEs unable to survive in global Market. SMEs can use TQM management philosophy to improve quality of the products so theses SMEs can sustain and grow in the global market.

II. Need for the Study

SMEs of India play a crucial role in the Indian economy. They act as a stabilizer of society. They help to reduce economic disparities between rural and urban by providing employment to rural area people. Development of SMEs is necessary for social and economic development of India. India thinks to develop SMEs because they are the solution for new job creation. SMEs having many challenges like limited internal resources, the high cost of business, quality of employees, lack of government support, limited funding. So to improve the performance of SMEs it is necessary to reduce their challenges and improve their strength. This can be improved by making research and finding solutions to their problems. Hence research in SMEs is necessary. Research in SMEs helps them to create innovativeness and awareness about quality and research in SMEs help them to participate in the global market. Research on SMEs product will definitely reduce cost and improve the quality of the product. This improves the productivity of SMEs. Hence to participate in global value chains or markets and to increase innovativeness SMEs required research.

There are many researchers carried out research on TQM in large companies for improvement quality of product and services provided to customers. Results achieved from TQM in large scale may not achieve in TQM of SMEs. Because SMEs have different challenges, issues and constraints than large scale organizations. There is paucity of research in TQM in SMEs area. Hence it is necessary to study role of TQM in SMEs.

III. Review of Literature

N. Al-Qahtani (2015) This paper explained relationship between TQM implementation and firm performance in terms of financial performance. Different quality initiatives help to improve quality of the product and services also helps to improve customer satisfaction which is very important to survive in global market. Top management commitment is very important element for the success of TQM implementation. This study ignored some factors such as company size, culture of the organization and present stage of the innovation in the company while implementing TQM.

D. Gharakhani et al. (2013) This study described that TQM helps organization for long term success in global market. Many research shows that TQM helps for improvement in financial, quality and innovative performance. Recent study found relationship between organizational performance and TQM implementation. TQM helps to improve customer satisfaction by providing product and services as per the need of the customer. TQM implementation required proper strategy and its deployment in the organization. TQM helps to improve customer satisfaction which finally helps to improve organizational performance. TQM helps organization to provide quality products with on time delivery and reliable product which helps to improve customer satisfaction and customer loyalty.

Hendricks, K.B. & Singhal, V.R., (1999) This study explained that TQM implementation helps for long term stock price performance. This study found that many companies fail to show positive change in stock price performance but many companies gives high positive stock price. This study shows that TQM implementation improve stock market performance of the companies. This study also suggests that awareness about TQM implementation is very important for companies to enhance their performance.

Kaynak, H., (2003) This study found that TQM is positively related with firm performance. This study described that management leadership is very important for successful implementation of TQM Management leadership is directly related to training, employee relations, supplier quality management, and product design, and indirectly related to quality data and reporting, and process management. Effective leadership by management also indirectly affects firm performance through the mediating effects of the other six practices of TQM. This study also found that training and employee relations are very crucial for TQM implementation. Training, employee involvement and effective leadership are important for TQM implementation.

Douglas, T.J. & Judge Jr., W.Q., (2001) This study explained positive relationship between TQM implementation and competitive advantage of the organization. Companies can improve their competitive advantage by using successful TQM implementation. This study also found that organization structure influence effectiveness of TQM implementation. This study shows positive relationship between financial performance and TQM implementation.

S.Sahoo.& S.Yadav (2018) This study explained that many large companies achieve high firm performance through successful implementation of TQM. SMEs have various other issues and problems hence these SMEs resist to TQM implementation. This study also explained different barriers to TQM implementation in SMEs such as lack of willingness, lack of knowledge, lack of budget, lack of time, lack of training and employee resistance etc. this study also suggests some critical success factors for TQM implementation such as healthy management leadership, proper strategic planning, employee involvement, employee training. This study also suggest that it is necessary to take many more studies on TQM implementation in SMEs which helps for successful TQM implementation in SMEs for performance improvement.

IV. Research Methodology:

Descriptive research design is adopted to take over this study under survey method. Researchers used purposive sampling technique to select Manufacturing SMEs from Mumbai region. Total 38 SMEs were selected for the study. The primary data is collected from 38 senior managers of 38 manufacturing SME's in Mumbai region. The secondary data was collected from print media like books, research journals, magazines, research articles and research papers available online and offline and other sources. Primary data was measured on five point Likert scale for conversion of qualitative information in quantitative. Inferential estimations of statistical relationships among dependent and independent variable was done using SPSS software.

Objectives:

1. To study correlation of TQM implementation with Productivity of selected manufacturing SMEs.
2. To study Impact of TQM implementation on Competitive advantage of selected manufacturing SMEs

Hypotheses:

1.1H01= There is no significant relationship between TQM implementation and Productivity of selected Manufacturing SMEs in Mumbai region

Ha1= There is no significant relationship between TQM implementation and Productivity of selected Manufacturing SMEs in Mumbai region.

1.2H0= Competitive advantage is not dependent on TQM implementation of selected Manufacturing SMEs in Mumbai region.

H1= Competitive advantage is dependent on TQM implementation of selected Manufacturing SMEs in Mumbai region.

V. Data Analysis and Interpretations:

1.1H01= There is no significant relationship between TQM implementation and Productivity of Manufacturing SMEs in Mumbai region

Ha1= There is no significant relationship between TQM implementation and Productivity of Manufacturing SMEs in Mumbai region.

Table 1: Correlations-TQM Implementation and Productivity

		<i>TQM Implementation</i>
Productivity	Pearson Correlation	.675
	Sig. (2-tailed)	.002
	N	38

To find out the correlation between Productivity and TQM implementation, researchers used data of 38 selected manufacturing SMEs of Mumbai region related with production and TQM implementation. Correlation coefficient (r) between Productivity and TQM Implementation is .675, indicating positive relationship. As Pearson's r is positive, it indicates that if one variable increases in value, the second variable also increases in value and represents positive correlation. *P*-value for this correlation coefficient is .002. As $p < .05$, the relationship between Productivity and TQM implementation is statistically significant. Thus, it can be concluded that when TQM implementation increases, Productivity also increases.

1.2H0= There will not be significant prediction of Competitive advantage by TQM implementation in SMEs.

H1= There will be significant prediction of Competitive advantage by TQM implementation in SMEs

Table 2: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.546	1	1.137	4.343	.004 ^a
	Residual	5.496	36	.264		
	Total	10.042	37			

a. Predictors: (Constant), TQM implementation

b. Dependent Variable: Competitive Advantage

The ANOVA table indicates that the regression predicts the dependent variable significantly. P-value indicates the statistical significance of the regression model. Here, $P < 0.05$, and indicates that the regression model statistically significantly predicts the outcome variable i.e. it is a good fit for the data.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.675 ^a	.455	.0350	.514

a. Predictors: (Constant), TQM implementation

The above table provides the R and R^2 values. The R value represents the simple correlation and is 0.675 (the "R" Column), which indicates a high degree of correlation. The R^2 value (the "R Square" column) indicates how much of the total variation in the dependent variable, Competitive advantage, can be explained by the independent variable, TQM implementation. In this case, 4.55% can be explained, which is low.

From ANOVA table it is clear that ANOVA test carried to check dependency of dependent variable on independent variable is significant since the alpha value is 0.010. It shows that Competitive advantage is dependent on TQM implementation by SMEs. From R square table we can see that R square value is 0.455. Which shows that Competitive advantage is 45.5% dependent on TQM implementation by SMEs. So, null hypothesis is rejected in this case. Which shows that Competitive advantage is dependent on TQM implementation by SMEs.

VI. Findings Conclusion and Discussion:

From this study it is found that there is strong correlation between TQM implementation and productivity of selected manufacturing SMEs of Mumbai region. SMEs can improve their productivity by implementing TQM. this enhanced productivity helps SMEs to sustain and grow in global competition. The research also concluded that competitive advantage of SMEs dependent on TQM implementation. SMEs can improve their competitive advantage by implementing TQM. As seen from the results, TQM implementation gives enhanced productivity of SMEs hence, it is strongly recommended for SMEs to implement TQM to achieve enhanced productivity. As seen from the results, TQM implementation gives positive impact on competitive advantage of SMEs hence, it is strongly recommended for SMEs to implement TQM implementation to achieve enhanced competitive advantage. The geographical region and the size of companies also can be studied individually in further research studies.

Limitations:

- Findings may change from sector to sector.
- This study considers Manufacturing SMEs from Mumbai only hence results cannot apply to all geographic locations.
- The findings of the study solely based on information provided by respondents.

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