Executive Summary

Importance

Quality management (QM) is an approach to improving the effectiveness and flexibilities of business as a whole. It is essentially a way of organizing and involving the whole organization. QM ensures that the management adopts a strategic overview of the quality and focuses on prevention rather than inspection. Today, QM has become a part of corporate management on a global scale. The importance of QM lies in the fact that it encourages innovation, makes the organization adaptable to change, motivates people for better quality, and integrates the business arising out of a common purpose and all these provide the organization with a valuable and distinctive competitive edge. A QM system ought to incorporate various tools which can help corporations sustain their standards of quality and compliance with any industry regulations. When all these tools are brought together in a single solution, it can be very simple for a company to enhance productivity and harmonize the relationship between productivity and quality.

Micro, small and medium-sized enterprises (MSMEs) are the engine of the nation's economy. They are an essential source of jobs, create entrepreneurial spirit and innovation in the country and are thus crucial for fostering competitiveness and employment. The MSMEs plays an important role in developing any particular sector, economy of any country, alleviating poverty, increasing employment. Nationwide entrepreneurship development with the appropriate scale, scope and relevance can catapult nation into the higher orbits of socio-economic prosperity.

The challenges and opportunities of economic liberalization and global market have shaken the economies of developing countries like India where industrial growth often gets retarded because of higher population growth, declining GDP, growing inflation, illiteracy and unemployment. In today's dynamically changing society there is an urgent need to create an environment of entrepreneurship to effectively counter these socioeconomic ills. Entrepreneurship is a dynamic process of vision, change and creation. An extensive array of research in the past decade has shown that the entrepreneurial movement led by the small units has contributed significantly to the economic growth of any nation.

There is also a growing worldwide appreciation of the fact that MSMEs play a catalytic role in development process of the most of the economies. This position gets reflected in

the form of increasing number, rising proportion in overall product manufacturing, export and manpower employment by these units. This makes them the backbone of industrial economy in a developing nation like India.

With the advent of globalization and opening up of Indian economy to outside world, competitions among industries have become stiff. To solve their engineering problems they look up now to Engineering Institutions. Similarly, there is an urgent need to prepare engineering students for jobs in companies, by exposing them to newer technologies and engineering methodologies. These objectives can only be achieved well by bridging the gap between industry and the academic institute. There are two key factors that are driving the trend toward industry institute interface. They are the development of technology that allows the academic institute to deliver quality coursework to the worksite and increased competitiveness at companies.

Considering the importance of QM with reference to MSMEs and its need of technological inputs from the academia, the objective of project is to develop a QM model suitable for MSMEs of Nashik District, Maharashtra State.

Objectives

The above introductory background throws up the following broad research objective which this project work has address to developing the QM Model which is applicable for MSMEs in Indian context.

- To ascertain the prevalence of policies and practices in manufacturing MSMEs in industrial sectors, which offer scope for quality performance improvement of MSMEs.
- To identify the strength, weakness, opportunities and threats (SWOT) for SWOT analysis of MSMEs and to carry the situation analysis for building a foundation for good decision making on program priorities and the use of limited resources.
- To develop model which suit to needs of MSMEs and provides useful framework for applicability of QM practices in MSMEs.
- To bring out policy implications to encourage the MSMEs for gradual growth and business development.

Methodology

The methodology used for to achieve the objective by using both qualitative tools (such as SWOT analysis, Interview, Brainstorming sessions, Situation analysis) and quantitative tools (such as Pair-wise Comparison Method (PCM), Analytic Hierarchy Process (AHP)) to developed the QM model which is suitable for MSMEs.

The survey method has used for collection of data. After identifying the target segment approved questionnaire has used to collect data from the selected sample of MSMEs. The data is collected through the three phase of questionnaire.

The objective of first part of questionnaire was to know the present status of quality management, working environment, co-relation of quality with income which decided to investigate the present status of quality system in MSMEs. It also tries to know the quality affecting parameters and variables in quality management and major barriers in the adoption of QM in MSMEs. The objective of second part of questionnaire was to know the present status of MSMEs. After SWOT analysis the situational analysis carried out to get insights into MSMEs status. The last part of questionnaire answer the question how can the attributes of QM are integrated in to a model for attaining QM practices within target MSMEs. The data was collected for to develop an instrument which could measure the progress of a unit towards the QM philosophy. The AHP tool is used for development of QM implementation model which uses and explicit the weightage system of its components by pair-wise comparison method. The paired comparison method was adopted as it is simple to administer to a generalist target group and provides reasonable confidence. The relative weights or priorities were obtained by taking the opinion of experts from the field of quality management.

Results & Discussions

The data was collected through the questionnaire and analysed. Even though MSMEs have recognized the importance of quality management and adopting new approaches, but yet many MSMEs are still using 'Traditional approach' for managing quality. The result of shows that two quality approaches are commonly used by Nashik district MSMEs i.e. traditional approach (46.54%) and ISO certification (32.72%). Only 14.29% MSMEs are used TQM and TQC approach. Many MSMEs have no formal quality control department. In many MSMEs the quality control manager is not well qualified. Poor information on QM (35.94%), low level of awareness and understanding of quality among employees (28.11%), lack of employee cooperation (23.50%) and lack of management commitment (17.97%) are observed to be the main barriers in the adoption of QM philosophy. Competition (54.84%); need to reduce cost (28.11%); customer satisfaction (35.48%) and reputation (7.83%) are found to be the most important motivational factors for quality improvement. From survey it is identified that about 93.55 % of the respondents have

written specifications in terms of quality tolerance limit for all products. With respect to organizational structure and management system, Target MSMEs are trying to put emphasis on management commitment, process control, employee commitment, use of SQC techniques and training for improving the quality of product.

From above study it is observed that the present situation of MSMEs is not very satisfactory; nevertheless it seems that all the problems existing presently can be overcome through education, communication, participation and facilitation. On this background, it is felt that there is a need for detail study of MSMEs to identify its strength, weakness, opportunities and threats (SWOT). The situation analysis helps for examination of current situation of MSMEs and external environment. It has identified that the major opportunities lie in the utilization of financial and non-financial support extended by government and gain vast export market. Owner management and flexibility are the some other areas, which provide opportunities for growth. The major external issues identified for the MSMEs of this region are competition from large and multinational organization, export market and rise in expectation of customer. The major internal issues are lack of financial strength, lack of quality consciousness, lack of financial strength, lack of quality work culture and need of trained workers.

To succeed in any field, weakness must be overcome through strength and threats must be transferred into opportunities. In the light of the above considerations, the need for quality initiatives in MSMEs was felt.

The purpose of creating this model was to set a challenge for industry to scale new heights of quality and leadership. This analytical study is carried out by using the paired comparison method (PCM) of Analytic Hierarchy Process (AHP). This exercise determines ranking of the various criteria according to their importance. For the purpose of researching the value of QM in MSMEs the framework of S-P model is used. The data were collected by quality experts from MSMEs through a well-designed questionnaire. The final weightage of attributes was carried out by PCM of AHP. In one point scale understanding of customer need (CN) has got highest weightage of 0.294 and ranked first. Customer need fulfillment ability (CA) has got weightage of 0.282 and ranked second, whereas common understanding of quality (UQ) has ranked three with weightage of 0.202. The other attributes viz. use of team process (TP), understanding of the organizational process (OP), focus on internal customer (FI), emphasis on the use of data (UD), understanding of techniques of improvements (TI), variability reduction

ability of product to provide greater reliability (VA), improvement ability (IA) has got the weightage of 0.156, 0.154, 0.149, 0.139, 0.129, 0.126, and 0.101 respectively. The attribute supplier partnership (SP) and ability to reduce waste (AW) has ranked last with the weightage of 0.089and 0.087.

Policy implication

The AHP model developed here can be useful for assessing the organizations on the basis of components of quality management. It can also identify the degree to which the various components of QM are present in the organization. Such a study can explore the degree of the impact of QM implementation on overall business performance and help in identifying problem areas and possible remedies. It can also be used to compare the MSMEs on the basis of QM variables and evaluate the status of QM for the given set of attribute. A developed model is very simple to understand and operate. It will be definitely help to MSMEs in their journey of QM.