TQM In Indian Smes And Using PILOT Model For Improvement Of Production Management To Maximize Production Rate

Ajay Kumar Pagare, Mohammad Salman Ilahi, Robin Khandelwal, Chandrasekhar Rajora, KanuPriya, Dr. Mohammad Israr

Abstract: Over a past decade has been much more awareness of the requirement to improve quality in the manufacturing industry sector. In many studies the effect of TQM implementation on company performance has been investigated. In comparison of large manufacturing enterprises, small and medium sized manufacturing companies are less-faster and often unwilling to accept total quality management policies. For business organizations that pay out significant amounts of capital periodically on employees training, the production management is an important question. The aims of this paper is to explore the relationship between quality management and firm production, and to elevate an approach for achieving production management training which alliance E-learning with offline training including practical parts, taking into account of manufacturing SMEs (Small and Medium Enterprises) as central point of investigation. Along with it, the aim is to determine the mighty obstacles to acceptance of quality management policies in Small and Medium sized Enterprises.

Keywords: Total Quality Management, Production Management, Industrial Achievement, Employee Performance SMEs.

1. INTRODUCTION

Nowadays, small and medium-sized production companies are under competitive stress due to increment in universal competition and different consumer’s needs. In the last few years these challenges along with larger material and energy costs, pressurized many small and medium industries to unbrokenly redesign and enhance their activities both at methodology and convenient levels [1]. The large number of successful goods development organizations have squeezed Total Quality Management (TQM) philosophy and executed its precious benefaction [2]. In India manufacturing SMEs have been slow to adopt TQM, in comparison of large organizations [7]. Furthermore, based on ongoing production system of manufacturing goods in SMEs, execution of a quality management approach could be inexpensive and low preservation with required a few/little documents. With ever growing requirements on small and medium sized enterprises on cost, fine quality and distribution, the extremely beneficial method to improve the assurance of consumers is, through a controlled and authentic quality management process [8]. Many Small and Medium size Enterprises are essential in goods development supply chain network in India. Usually manufacturing SMEs fight with technical, economical and time frame blow by blow an amount of barricades, like as managerial and technological “competency together with personnel inadequacies” [9]. To developing the relationship between inputs and outputs of a production process for growth in enterprise production performance, is the main aim of Production management [10]. People need to identify and apply the theories or procedure such as Total Quality Management (TQM), Total Productive Maintenance (TPM), Agile Manufacturing (AM), Lean Manufacturing (LM), Six Sigma (SS), Kaizen, Theory of Constraints (TOC) for enhancing production and improving the production management network [11]. Such SMEs require elevating even more concepts and methods on addition of new concepts and configuration conditions. Skilful personnel together with advanced access technology are needed in order to employ the newest technologies for production improvement. As result complete training and everlasting education of personnel is a challenge. To program a training framework, the training provider needs the requirement of the challenges that support the learners to deliver the experience into accomplishment of production management. To provide confirmation with regard to major TQM implementation barriers that are encountered by small and medium sized manufacturing companies in India, the current concept targets on how to design an efficient, methodical and standardized training containing online education with offline practice.

2. LITERATURE REVIEW

SMEs play an important role in emerging economies of India as they produce considerable amount of revenue and export earning origins/resources and they illustrate major source of employment. By the number of factors and criteria, such as size, structure, number of employees, value of assets, technology, location, age, organization, sales volume and ownership etc. SMEs can be defined in either established or emerging economies [12]. Based on their investing fund in machinery and plant (initial costs including building and land) and value of assets, Indian manufacturing sectors are classified. Organizations which investing fund between 25 lakhs rupees to 5 crores rupees are defined as small scale enterprises, furthermore the organizations which investing fund between 5 crores to 10 crore rupees are defined as medium scale enterprises. With a share of about forty to forty five percent manufactured products and exports SMEs involvement to Gross Domestic Productis around seventeen present in India [13]. In the past of 1980s, SMEs in India, earned lot of possibilities to go with large scale MNCs, due to the globally extension of market demand. In Indian SMEs TQM practices have a reasonably short history and lots of important sectors and questions are usually not compared in research. Considering the emerging economies of India as a focal point of research, the impact of TQM execution on SMEs production is evaluating in very few researches.
2.1. Total quality management and SMEs performance

Total quality management process developed in Japan in 1980s. It is a management approach that helps to improve quality and productivity in companies. TQM gained popularity in 1990s among manufacturing firms which focuses upon the customer satisfaction and improves company’s performance started to adopting this management philosophy [14]. Many companies give positive relationship between TQM and firm performance, in research of TQM and even now some companies’ also record less than excellent results [19]. In context of SMEs, not many researchers offered experimental results to appreciate Total Quality Management impersonation relationship. The implementation of TQM have considerable success in SMEs has found in some studies/researches.

2.2. Obstacles to execution of total quality management practices in SMEs

To organize their business practice and to adopt total quality management principles, organizations do face challenges of manipulating and convincing business partners when dealing with such external relationships [23]. More extensible working conditions are the result of less interdepartmental connections and organizational structure of SMEs. Also in Indian SMEs there is very own and unique problem is present. The work force is come from poor and less educated background, which works in these manufacturing SMEs. They expend their skills misstep and routine, and they learn their job by casual preparation methods [24]. To renew and adjusting to new systematic work habits and routines, workforce with lesser education background shows an intimate resistance that strongly affect the activity of TQM execution [25]. These intimate conditions with accommodating work forecasting can be very dangerous for the regulation of processes. By some main internal issues such a culture, skills dominate to ‘application of same tools to fix all problems’, use of incorrect tools to fix a problem’, understanding of total quality management practices and lack of experience/knowledge and so on, few manufacturing companies misapply the total quality management practices [29]. Inadequate technical knowledge, unluckily results in unplanned selection of distinguished approaches, but break-down to recognize the culture and set-up wide approach is essential to support such practices [24]. Small and Medium sized Enterprises would require economic facilities to appoint specialists and also, to help the real execution of these concepts, this lake of knowledge could be overcome through use of external advising, but this is usually not a possibility, this lake of knowledge could be overcome through use of external advising, but this is usually not a possibility [9]. Most SMEs are financially incompetent and poor in financing arrangements. Furthermore, SMEs may lake of the market capability to affect business partner facilities, especially providers to choose quality assurance and management philosophy.

3. MANAGEMENT IMPROVEMENT

A TQM implementation can be successful only, if employees are intricate with several business procedures and if they are actually skilled to get additional excellence [31]. Many investigators founds in his research, that manpower (workers) are necessary for execution of total quality management approach, after all workers are usually the key components in operations. Consequently, during the formation of TQM procedure in SMEs, poor resources obtainability and poor training are some of the prominent impeding elements encountered [32]. A multi-method principle is established which provides both, actual time quality development and long-lived planning, with regarding training. The education department focuses on challenges based knowledge and collaborative missions rather than the lectures and theoretical contents [33]. A training environment that actually look like an occupational environment which designed by Vin as Lean Factory [34]. Four principles suggested by Salas into training which makes training a systematic process are: information, validation, practice, and evaluation [35]. The three educational models, such as education institution based knowledge, perfectly practiced based knowledge and practice based knowledge with tutorial involvement (mechanism learning, mechanism research, project work) presented by Billett [36]. A production-based training approach gives by Ganeefri which can enhance the trainees’ entrepreneurial involvement[37]. A learning method which contain four domains and seventeen abilities represented by Bedea for an integrated customer-provider interrelationship and the expansion of shared experience, abilities and perspective in supply chain relationship [38]. As an alternative, there is a lack of Online education and Offline practice. With the use of PILOT model, the presented principle mainly helps to whip-out this gap. This model was developed by Chinese researcher in the past issues, in our country must need these model but they were not improve challenges in production strategies so we are introduce new process with theme in future. The evolved PILOT model contains five parts (see Fig. 1) and deliver as a principle for characterized training suggestion for businesses. The training involved with man-to-man learning and case histories, is one of the major reason for PILOT model which usually causes either trainees finite interactivity or passive acceptance and conversation.

Figure 1. PILOT model for training approach

Initially, the fundamental knowledge will be initiated. In the next step, the aim of information collection is to increase an additional understanding with respect to customer prospects and requisitions. The learning stage is built on the basic philosophy and to present the accomplished or appropriate knowledge on a higher order. Ultimately, the orientation of practice has attentions on the transmission of information in the procedures perfectly in individual
environment/culture. Not least of all, for continual growth of training and for measuring the eligibility of learners the test and evaluation phase is necessary. This arrangement provides many models like as E-learning and online assumptions accumulation by contrast of learning factories training which expedites the intercommunication between trainer and trainees. The specific goals and conflicts of PILOT model are explained by following subdivisions:

3.1. Preparation

To attain comparable trainee's background acknowledgement base, planning are essential. The key knowledge will be proposed like as the training framework and the total information of the content in this section. In preparation phase, focus on educational elements like quiz, videos, cartoons and comments to inspire trainees and to cause, feedback on customers and market demands in designing of course system. The main configuration of the E-Learning content on the Moodle (Modular Object-Oriented Dynamic Learning Environment) contains inspiration, base content, development and reviews.

3.2. Information collection

Assumptions and necessities of learner will bring together. The consumer could analyze their requirements and certain queries depend on the response of own-knowledge at E-Learning, so the information stage states best relation among preparation and learning stage, in this systematic model. According to the knowledge based training, the instructions is collected in the following three sequences such as, what your demands and expectations are, what kind of your challenges are during the work and which kind of stage you are on the problem.

3.3. Learning

Firstly, the trainer develops the legislative training elements which depend upon the needs of consumers. The manual, principles, relevant tapes and functional images, in addition with creative pictures are composed. In final stage, execution approach is established on the basis of five points, such as, data content, process, work outputs, informational papers, and time period. Focus on time period is the main point in overall training. Generally the time taken by a elementary part is of about 30 minutes. The mean of Input data is which type of knowledge required to be expressed to the trainees. The outputs will clarify the awaited results of learning phase.

3.4. Orientation of practice

The orientation of practice wants to be determined by initiating the speculative experience in the Learning stage. In this research, researcher shows the present situation in the manufacturingindustries. The result of this stage is to attach the practice with speculative experience. The trainees are encouraged to deliver the experience with their particular dynamic environment and are capable to understand the experience severely.

3.5. Test and Evaluation

The examination and judgment comprises two parts: Initially, it is the test for learners to checking the qualification after the learning. More perfectly, it entails the learners work on a small size project at their company to put out the perceived knowledge. Finally, the trainees self-evaluate the result of training with limited time period. In confirmation, the learning topic 'Lean Line Design' (LLD) is pointed. In order to eliminate waste and capable to improve production process and handling, the learners step-up the systematic actions to reorganize a process are the outputs of Lean Line Design training approach through PILOT model which increase production. Based upon this prosperous educational skill the learners are inspired to continually acquire skills and interact with the trainer. Hence, in comparison with one program with finite instant period for learning the PILOT model presents a positive and wide atmosphere for end to end knowledge.

4. CONCLUSION

The outcomes of this research validates honest connection among total quality management enactment and behavior of a company and small and medium sized new manufacturing financiers could imagine the justifiable effective expansion by removing the constraints that resists to the continual development of production processes by best proficiency/establishing the following principles integrated with TQM: Management Control: To make easy the implementation of Total Quality Management philosophy, Manufacturing Productivity, Competitive Benefit Formation and to increase company’s market focus and Human Resource Management practices, the managerial behavior and attitudes is necessary [40]. Management commitment drives total quality management implementation. Strategic Planning: A methodological written master plan that includes the following elements: specific points of references, specific approach, huge methodological schemes, activities for scoring the huge objectives or projects, an administrative mission, an administrative vision should be formulate by Top Management. Personnel freedom and participation: Fascinating and/or to encouraging the personnel is so critical in SMEs. The action of the association to provide more authority and freedom to its employee relating to making decisions, suggestions and activities which is favorable for the organization refers to the employee empowerment. Standard education and training:In India possibility of capable and talented workforce and experienced executive is a question. With respect to TQM execution, capital spending in improving the work environment/culture and capital spending in education and training of employees should be perfectly planned, on focusing long lasting competitive advantages instead of short lived profitability, by top management. To checking quality improvement and to attain significant amount for successive development, efficient teaching indicating on problem solving concepts concentrating on quality tools and practices would help to personnel in his job. The identification and proves of an acceptable methodology for implementing training with relative to production management especially for small and medium sized manufacturing companies are presented in this approach. The combined pattern of offline training and online learning as well as practical training and theoretical learning is presented in this PILOT model. As one of the innovation, it gives the characterized approach to create a training method which can maximize the learning
knowledge of learners. Furthermore, it gives the extremely improved worth, like as creating new standardized training advancement, keep better communication between trainer and learners, increasing self-experience of trainees, saving the planning and training preparation time for the trainers. This developed model could add the perfect groupings for different target group like, production line leaders, production managers and production engineers for the next activity. According to target group’s functional report the substance details need to be improved for each target group. By this, it can be more effective to carry the industrial needs. When applying the PILOT model a case study is assumed to quantitatively and qualitatively confirm the possibility and the benefits. Till the execution of this model is in process and the analytical result is remaining which is in further study.

REFERENCES


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