CHAPTER 7 CONCLUSIONS AND RECOMMENDATIONS

In this chapter, the major findings of the study are given in the first instance. In the next part of the chapter, some recommendations are made on the basis of the study. At the end, the limitations of the study and scope for further research in this area are given.

7.1 CONCLUSIONS

7.1.1 ISO 9001

- ISO 9001 is universally accepted quality standard and is well accepted in all types of organizations.

- According to the responses given by the firms, ISO 9001 certification is expected to improve the working system. This is considered to be the biggest motivating factor with a mean of 4.35 and a standard deviation of 0.780. Next important motivating factor is ‘to improve the quality of products’. Any firm would expect the quality of product to improve once it starts following ISO systems. The mean is 4.30 which is very close to the first ranked mean. With a mean of 4.10 ‘to reduce customer complaints’ is at no. 3, but with a little higher standard deviation of 1.037, which indicates that there are variations in the opinions of different firms regarding this factor. Very similar to the third ranked factor, the fourth rank is ‘to improve customer satisfaction’. One can very easily understand that this perception is very closely related to the third ranked factor, i.e. Improvement in customer satisfaction is resulted due to reduction in customer complaints. On fifth rank there are two motivating factors ‘to experience continuous improvement in the work processes’ and ‘to reduce rejection rate’ both with a mean of 4.02. This can also be understood as if the work processes are improved on a continuous basis, then they will become more and more perfect and as a result of that the rejection rate would be reduced. The next rank in the motivating factors before the companies were registered is ‘to qualify as a supplier for the companies demanding ISO certification’.
Following the above factors, the next motivating factors according to their mean values are as under:

- To increase productivity of labour and machines.
- To improve cooperation and coordination between workers and management.
- To increase market share/turnover.
- To boost up morale of employees.
- To reduce cost of production.
- To improve export potential.

- The SMEs are not considering ISO certification for improving the export potential, may be because the small and medium enterprises are generally seen to be catering to the needs of the local or domestic market.

- It may be concluded that ISO 9001 certification helps in achieving objectives mentioned in the quality policy.

- ISO 9001 certification increases the documentation work on the employees as 59% of the respondents confirmed this.

- Based on the responses given by the respondents certified with ISO 9001 it can be concluded that the cost incurred in implementing ISO 9001 is justified to a great extent.

- Conclusions may also be made, with respect to the continuous improvement, maintenance system with a view to reduce downtime, evaluation of processes and vendor rating exercise, that majority of the certified companies follow these practices. Even when vendor rating exercise is a requirement of ISO 9001 around 24% of the firms responded that they do not carry out the same on regular basis.
Customer complaints should be considered as the biggest and most serious non-conformity. However, it may be concluded that 40% of the certified firms did not consider this as a non-conformity.

When asked to the respondents about their plans regarding TQM, 23% replied positively, 62% were negative while 15% said that they already had. This indicates very that SMEs do not seem to be considering TQM as an important tool for quality management and majority of them seem to be contended with ISO certification.

According to the survey result, it was found that the biggest benefit derived by the SMEs is improvement in the quality of products. The second rank is given to the improvement in working system. Next benefit is meeting with the delivery commitment to the customers. The fourth rank is given to improvement in customer satisfaction. The firms rated reduction in rejection rate on 5th rank and increase in number of orders from the firms for which ISO certification is the prerequisite on the 6th place. Continuous improvement in the work processes was experienced on next position and improvement in coordination and cooperation between workers and management was given 8th rank. The remaining benefits in the descending order are: increase in market share/turnover, increase in the productivity of labour/machines, improvement in the morale of the employees, reduction in cost of production and at the last position improvement in export orders.

It can be concluded with the ANOVA test that in terms of the benefits derived by the respondents there is no significant difference between various legal establishments like sole proprietorship, partnership, private and public limited companies. Further, no significant difference was found between various industries like manufacturing, automobile and chemical. However, there are differences in the same between different size of the companies like small, medium and large firms.
• With the help of paired sample ‘t’ test, it may be concluded that there is a significant difference in terms of the benefits perceived by the SMEs and the benefits actually experienced by them.

• The factor analysis of the benefits derived by the firms resulted in four main categories. They are as under:
  ▪ Improvement in customer satisfaction and internal process & HR benefits.
  ▪ Improvement in overall working system, quality and productivity.
  ▪ Improvement in volume of business and timely delivery.
  ▪ Improvement in export potential.

7.1.2 TQM
• It may be concluded that the most important element in the opinion of the companies is ‘Continuous Improvement’. It seems that there is less awareness about ‘Kaizen’ amongst the SMEs. Rest elements in the descending order of their importance are ‘Process Management’, ‘Housekeeping’, ‘Quality Chain’, ‘Team Working and Synergy’, ‘Employee Empowerment’, ‘Benchmarking’; and ‘Creativity and Innovation’.

• Various benefits are derived as a result of following TQM principles by the firms. The greatest benefit of them is reduction in the number of products/service defects, errors or failures; and with this customer satisfaction shown improvement. The other benefits in the descending order are ‘reduction in the complaints from customers’, ‘emerging a new culture which emphasizes quality’, ‘improvement in the employee satisfaction’, ‘better relations with suppliers and as a result of the same better quality of incoming materials’, ‘reduction in employee turnover’, and ‘increased participation of employees in the quality improvement teams’. In comparison with the other benefits, it was observed that there is no significant improvement in the financial results of the firms.
It may be concluded that the biggest difficulty faced by the SMEs in implementing TQM principles is ‘resistant to change’, while ‘lack of resources’ was not considered as a major difficulty. The other hurdles in the descending order are ‘lack of effective measurement criteria’, ‘costly consultancies & training programmes’, ‘lack of evaluation procedures and benchmark indices’, ‘Lack of understanding’, ‘Lack of system and structures for TQM activities’, ‘Lack of rewards and recognition’, and ‘Training with no purpose’.

7.1.3 Quality Circles and 5S

- The concept of having ‘Quality Circles’ is not as popular as it is expected to be. Only 57% of the respondents replied positively about having quality circles in their organization. It was found that 43% of the firms did not have quality circles. However, the firms with quality circles experienced benefits like ‘improvement in the quality of product’, ‘improvement in the working environment’, ‘reduction in the rejection rate’, ‘motivated employees’, ‘reduction in customer complaints’ and ‘improvement in the working processes’.

- There is considerable lack of awareness amongst the SMEs regarding 5S Housekeeping standard, even when the companies are either ISO 9001 certified or following TQM principles. Only 55% of the respondents were aware about it, while 45% were unaware about it. Further it is found that, out of whatever firms aware about it, only 65% of them implemented 5S principles.

7.1.4 ‘Non ISO/TQM’ firms

- There is awareness about ISO certification and TQM amongst ‘Non ISO/TQM’ firms as 80% of them are aware while only 20% of them are unaware of it.

- It was accepted by a considerable 32% of the respondents (Non ISO/TQM) that they have lost the orders because of not being ISO certified. This may motivate them to go for certification in future.
• Quite a reasonable proportion (59%) of ‘Non ISO/TQM’ firms feels that ISO can increase the volume of their business. This can also work as a motivating factor for them to go for the quality standards in future.

• It may be concluded that majority of the ‘Non ISO/TQM’ firms feel that following ISO certification increases their documentation burden. This perhaps is considered to be a negative aspect of ISO certification.

• ‘Non ISO/TQM’ firms also believe in quality and they also feel the importance of providing quality products to their customers. These firms manage quality with the help of following:
  - A systematic procedure for handling orders and enquiries.
  - A systematic procedure for designing the products.
  - Approval of design and development outputs prior to release/manufacturing.
  - A systematic flow chart for manufacturing activities.
  - Confirmation of purchased products with the specified purchase requirements.
  - A quality plan for each job.
  - Qualified quality personnel for each critical task.
  - A proper Maintenance system.
7.2 COMPARISON BETWEEN ISO/TQM AND NON ISO/TQM FIRMS

7.2.1 Comparison between ISO & TQM firms
- It was found that companies with ISO 9001 certification were less motivated to go for TQM; whereas except for one company all TQM companies were having ISO 9001 certification.
- The organizations with ISO 9001 certifications were not much inclined for the formation of quality circles in comparison with TQM companies.
- The awareness about ‘5S’ standard was more prevalent in the TQM companies in comparison with the ISO 9001 certified companies.
- When compared, it was found that implementation of TQM has relatively more difficulties as compared to ISO 9001 certification.

7.2.2 Comparison between Non ISO/TQM & ISO/TQM firms
- Both types of firms believe firmly in quality management.
- Both types of firms have their quality plan for each job.
- The ISO certified companies use readymade model available from ISO for design and implementation of system whereas Non ISO companies devise their own system and hence there are chances of wrong design of system and inconsistency in implementation of the same.
- Non ISO companies are relatively very small in size.
- Non ISO companies are also aware of ISO and TQM.
- ISO certified organizations are carrying out vendor rating exercise while Non ISO firms do not do this in a systematic way.
- Most of the ISO/TQM companies implement the concept of forming quality circles.

7.3 LIMITATIONS OF THE STUDY
- Conclusions are based on convenience sampling.
- There may be lack of seriousness on the part of the respondents.
• Period for which the firms have gone for ISO certification or TQM has not been taken into account while carrying out analysis.

7.4 RECOMMENDATIONS

• It has been categorically observed in the present study that SMEs derive number of benefits through ISO 9001 certification. Hence, the non ISO companies should seriously give a thought in this direction.

• It has been observed that a few of the SMEs were not contended with just ISO certification and they moved further in the journey of quality management through TQM. Hence, it is recommended to the ISO certified companies to advance towards TQM implementation.

7.5 FUTURE SCOPE

• A concentrated study can be carried out on the companies with ISO and TQM both and to find out the benefits derived by the firms due to combination of the two.

• A qualitative study can be carried out to look at only the internal benefits like cost reduction, reduction in rejection rate and rework etc. with the help of case studies of a few companies.

• A study can be carried out to compare SMEs with Large scale companies with a view to find out what are the differences in their perceptions, practices and benefits derived with the help of ISO certification and/or TQM implementation.

• A study can be carried out to see the impact of certain quality management tools like quality circles, 6σ, control charts, etc.