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Papers Published, Research Seminars delivered based on this Doctoral Work

1. Thirugnanam, S. and Devadasan, S.R. “Development of Decision Support System for Innovation Management of Quality Circles”, Abstract booklet of International Conference on Optimization Techniques and its applications in Engineering and Technology, pp.54. (This international conference was organized by Faculty of Engineering and Technology of Raja Balwant Singh College at Agra during September 22 – 23, 2001. Proceedings containing full text of the papers was not released during this conference)


Research Seminars

1. Research seminar titled “Development of Decision Support System for Innovation Management of Quality Circles” was delivered by the author, at PSG College of Technology, Coimbatore, on 26.06.2001

2. Research seminar titled “Development of Decision Support System for Innovation Management of Total Failure Mode and Effects Analysis” was delivered by the author, at PSG College of Technology, Coimbatore, on 10.01.2002.
Papers communicated

The following papers, reporting two modules of this research work have been communicated to European Journal of Innovation Management, United Kingdom.


The following paper is under consideration for submission to a suitable journal.


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PREFACE

This thesis reports the doctoral work which was started at the time when the application of TQM philosophy alone was found to be inadequate to meet the requirements of customers' demands and the core competence required to face tough competitive era. Both theorists and practitioners have been looking for new strategies to excel in modern day competitive situation. Among all the strategies, innovation enhances the contributions of organizations to a greater degree. At the same time, the Japanese miracle that happened during 1970s proved that 'quality' is the vital ingredient to face the competitive situation. Hence, innovations without quality would not be a proper proposition to beat the current tough market forces. On realizing this imperative, the problem of this research work was chosen in such a way to contribute models linking innovations and quality.

The literature review indicated that not many researchers in working quality engineering field have emphasized upon the usage of innovation. It was true in the case of researchers in Innovation Management (IM) who also have seldom contributed models linking innovation and quality. With the primary objective of filling these lacunae, three quality enablers were chosen during this doctoral work, which were infused with IM principles. These three quality enablers are Quality Circle Programme, ISO 9001 based Quality System standard and Total Failure Mode and Effects Analysis technique. By infusing IM principles with these three quality enablers, the following three models were designed.

1. Innovation integrated Quality Circle Programme
3. Innovation integrated Total Failure Mode and Effects Analysis.
The above three innovation integrated quality enablers were taken to companies to check their practicality of implementation. As the practicing professionals lack adequate knowledge on IM principles, the above three models could not be subjected to complete test implementation. Hence it was found to be prudent to develop Decision Support Systems (DSSs) for aiding to implement these three innovation integrated quality enablers. The knowledge gained by carrying out theoretical design and practical implementation study of these IM integrated quality enablers were consolidated to design the DSSs. Since the author lacked in-depth knowledge on programming languages, the services of Meridian Tech Solutions, Coimbatore were availed to develop the programming codes of the DSSs. Further as the author is a full time faculty member, he availed the help of undergraduate and post graduate engineering students for conducting practical implementation study in companies. These students used the data, information and knowledge gained by helping the author to develop their final year main projects.

The experiences of carrying out this doctoral work have revealed that the intense exposure to IM principles to the organizations of all types and sizes is the need of the hour to supplement TQM activities with innovations. The author believes that the contributions of the DSSs developed during this doctoral work would be highly useful to carry out this imperative task in today's modern organizations.