PREFACE

The last ten years have been very hectic and eventful years for manufacturing professionals in India. With increasing heat of global competition, Indian manufacturing industries have launched a series of initiatives to upgrade their capabilities to global standards. The auto industry started the process of upgradation by demanding the toughest standards from the component industry to conform and perform. This intense phase took the Indian engineering industries through modernization of plant and equipment, computerization, ISO 9000, TQM awareness, Manufacturing System Design, Business Process Reengineering, 6 Sigma, TPM, to name a few. Thus the nineties were a learning period for the manufacturing industries. The second half of nineties were devoted to more difficult and ambitious projects set on wider canvas such as Business Process Reengineering (BPR), 6-Sigma, CAD-CAM and ERP. These projects required considerable investments of money and human efforts for extended periods, up to a couple of years. Industries who took the lead in these initiatives acted responsibly and allowed other professionals to visit their plants and freely shared their experiences. BPR was a very promising concept and yet intriguing. BPR concepts were easy to grasp, but how to go about with BPR remained elusive for most save a few management consultants. Those who took up BPR found out that this was the beginning of unending series of new projects, all demanding to be executed speedily and effectively, to face the new competition. Many Indian engineering organizations benefited by adopting BPR together with the robust Manufacturing System Design methodology. Toyota Production System is a comprehensive manufacturing philosophy, which needs careful study to comprehend in all its details and many years of practice to adopt. Systematic study of these major change projects is essential to gain insights so that major manufacturing improvement projects could be executed successfully, realizing maximum gains from these expensive initiatives – expensive in terms of cost, commitment and executive time. This study, is an attempt to generate insights by a comparative study of two organizations and contribute to the list of studies of Indian manufacturing organizations.

The first Chapter gives an overview of the Indian Manufacturing Organisations, with emphasis on engineering sector, which forms the setting for the current research. Issues of global competitiveness are reviewed from nations and industry perspectives. Status of Indian manufacturing industries is brought out in detail by the three manufacturing
futures studies carried out a few years apart. The phenomenon of Business Process Reengineering is then described taking help from rich literature available on the subject. BPR in Indian Industries is then briefly discussed drawing more from experience sharing, conference papers and seminars notes. There is very little published literature about Indian Industries on this topic. The chapter concludes by developing a framework for carrying out the research study.

The next chapter on Survey of Literature begins with the review of the evolving thoughts and theories on manufacturing strategy, which deals with the issues of achieving durable competitive advantage by the manufacturing function. Of the two streams of manufacturing strategy research, the process and execution or implementation streams, major work has been carried out on implementation of manufacturing strategy. Studies of Implementation include critical and empirical studies of different strategies viz. JIT, TQM, BPR, etc. The next section reviews literature on BPR addressing issues of what really is a business process, what are its methodologies, critical reviews on BPR concepts, experiences and empirical research studies on BPR. The most difficult part of a manufacturing improvement programme is its implementation, involving change over of existing organizational practices and at times, philosophies. Hence the next section takes look at the literature on management of change. Social scientists and management scholars say that power and politics in organizations play a deciding role in determining the trajectories of change programme implementation. Politics in organizations is a well-known phenomenon, but little understood and even less studied area. Review of literature of power and politics in organizations has been carried out with a view to developing a researchable concept of organizational power & politics and the way it affects BPR projects. Manufacturing is a dynamic area impacted by numerous internal and external variables. Rightly it has been recognized as a complex system, where linear logic rarely helps. The study of complexity phenomenon and how researchers have tried to probe complexity in organizations yields a quantified measure of complexity. With this background, the research question was formulated.

The third Chapter on Research Methodology sets out the research objectives for the two phases of study, the exploratory and the detailed study phases, adopted for research. The purpose of the exploratory study was to understand the implementation experiences and to identify the important factors determining implementation effectiveness in different areas. The findings of the exploratory study lead to the phenomena to be researched in the
detailed study. The scope of study is then established by formulating the research objectives. After due consideration of the data adequacy and analysis, the research questions are formulated and hypotheses to be tested by the study have been articulated. Research Design envisages Development of research instruments for data collection, a structured questionnaire to capture BPR Implementation Experiences is explained and an instrument to measure the construct to estimate the effect of politics on BPR implementation. The development of the ‘Initiatives Inventory’ based on MACH V Attitude Inventory for study of Machiavellianism has been elaborated. The chapter concludes with the scheme of statistical analysis of data, including establishing data reliability and the limitations of the study.

Chapter 4 explains Data Analysis and Interpretation. It begins with a brief explanation of data items and the statistical methods of analysis they would be subject to. Next section briefly describes the profile of respondents of Questionnaire survey in the two organizations studied. A brief account of BPR Project in each organisation gives a bird’s eye view of situation in which BPR was undertaken before presenting the detailed Statistical analyses for hypotheses testing. Data analysis for each organization is followed by a comparative study and hypotheses testing. Each parameter tested is followed by discussions of the results. For each organization, the results are summarized and significant results are discussed. The next section, covers correlations and factor analysis of basic data to gain insight into ways in which components of parameter acts. With the help of Multiple-Regression a relationship is established between success scores of individual manufacturing units and influencing factors.

The last chapter summarises the conclusions drawn from the data analysis and interpretation of results. Implications of the findings for the practicing executives are then presented. The next part gives the suggestions for future research and the chapter concludes by taking note of contributions of this study.

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