CHAPTER 7
IMPLICATIONS

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IMPLICATIONS

On the basis of the present study, many new ideas have been triggered and new vistas of research have been opened up. From the several conclusions of the study, this chapter describes the application value of the study for manufacturing organizations, ERP vendors and researchers. The important managerial implications for ERP vendors and manufacturing organizations and theoretical implications for researchers are as follows:

7.1 IMPLICATIONS FOR MANUFACTURING COMPANIES

• The study showed that organizational performance and productivity had improved after the installation of ERP system. Hence, companies should rejuvenate the legacy systems they use and upgrade their systems from time to time as the development of the IT technology accelerates constantly.

• Our study provided managers, a clear view of the relative performance of the various parts of the enterprise, which can be used to identify needed improvements and take advantage accordingly. Managers could periodically evaluate the performance indicators in the study, benchmark the results with the expected satisfaction levels and diagnose which factors are problematic and need further consideration. Organisations that have future designs will form a clear understanding of business requirements, gain more vision and acquire ability to expand knowledge and skills to better assimilate and utilize ERP system, and therefore minimize the risks associated with this particular investment.

• The study has identified that user resources were not properly handled during implementation process. Top level management should focus to the support needed from their side to the change management. This refers to the need for the
implementation team to formally prepare a change management program and be conscious of the need to consider the implications of such a project. The key task is to build user acceptance of the project and a positive employee. Companies should provide opportunities to enhance the skills of the employees by providing training opportunities on a continuous basis to meet the changing needs of the business and employees. Companies should concentrate on training, and do not train their employees only for the first time, but, they should believe on the both sides of the training process-on the job training and off the job training as well. Managers should focus about the multidimensional feature of ERP users' satisfaction and assist them to develop appropriate intervention practices and processes, aiming to increase their users' satisfaction during and after the implementation process.

- This study shows that the difference in means for some factors of organizational performance is not high after adopting ERP system. Ultimately, the results can help managers in their decision to redirect less affected organizational performance indicators in ERP.

- The study showed that hardware component of ERP in implementation phase is mainly associated with change in organizational performance caused due to ERP system. Hence, managers should be more concerned with synergy among the technological, organizational, and implementation factors because that is where the real benefits can be found.

- The study showed that many organizations have still not corporate many ERP modules into their organization. The number of combinations possible is dizzying (same as the price for acquisition, implementation, and maintenance). Therefore, companies who want to buy ERP or add extra modules to existing ERP software, a careful combination of modules should be chosen with proper focus on implementation process, which will serve the best purpose for an organization.
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- This study intends to focus the research issues in an organizational context. Hence, companies that aim to gain a respectable return from this huge capital investment should concentrate on the scientific research, because through this, they will develop new methods of doing job very well and pave the way to new technologies to be seen in the coming future.

7.2 IMPLICATIONS FOR ERP VENDORS

- The outcome of the study indicated that users were not satisfied with the implementation phase of ERP system. Unlike other information systems, the major problems of ERP implementation are not technologically related issues such as technological complexity, compatibility, standardization, etc. but mostly about organization and human related issues. Hence, users should be well informed of the projects to avoid misleading assumptions and speculations regarding the project. A high level of sustainable employee morale and motivation is also required throughout the implementation. It is recommended that the training facilities should be developed and training should encompass the development of IT skills and should be a comprehensive training plan, which must be a part of master implementation plan.

- The results indicated that hardware and networking resource were associated with changes caused by ERP system on organizational performance and productivity. Hence, the vendors should make sure that adequate infrastructure is planned for in a way that it becomes reliably available well in time (both for the pre-implementation and the post-implementation stages). They should ensure network support, deploying of adequate server/ network, even during the training/modelling phase and introducing new PCs with latest configuration.

- The study has identified various modules which are still not used in the manufacturing organizations. Since, ERP system is now becoming a way of life and may be a lifelong commitment for many companies. There will always be new
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modules and versions to install and better fits to be achieved between business and system. Consequently, vendor support should include extended technical assistance, emergency maintenance, updates, and special user training.

- The study indicated that the mean value was not high for different resources involved in the implementation phase. This suggests that users were not highly satisfied with the resources involved in the implementation phase. Vendors are the individuals who are responsible for the implementation of the software, and it is also their responsibility to make sure that all the resources are properly given complete focus. The following suggestions may help the vendors in the better execution of ERP system:

  - Project Management involves, clear outlining of the milestones and critical paths along with the training and human resource plan and creation of a steering committee which includes top level management from diversified business functions. There should be an active monitoring of the status of milestones and targets in order to check the progress of an ERP project.

  - Focus on building a teamwork environment where team size spans across the entire organization. ERP education should be carried out across the organization about ERP success and failure practices.

  - Taking into account the most important needs of the implementation; the overall ERP architecture should be established well before the deployment. To ease the process; rigorous and sophisticated software testing should be performed.

  - Variety of test cases should be executed in order to perform a rigorous system testing before the system goes live. This includes performing simulation and executing test cases to check the robustness of the system.

  - The ERP team should consist of "best and brightest brains" in the organization. It should include cross-functional expertise and a blend of internal staff and the
external consultants. The amount of interaction between them makes the contributing factor for the success of the project.

- Communication among various functions/levels and specifically between business and IT personnel is another identified critical area. This requires a communication plan to ensure that open communication occurs within the entire organization, including the shop-floor employees as well as with suppliers and customers.

7.3 IMPLICATIONS FOR THE ACADEMIA

- Since the research was conducted in manufacturing organizations of Pithampur and Dewas, with a unique organizational culture, the results might not hold true in other organizations and environments of other cities. Hence, the result cannot be generalized and therefore variation in the user's perception can be checked by conducting the same research at different locations.

- The present study was carried out in manufacturing organizations only due to some special characteristics of manufacturing. A similar study examining the same subject in a diverse sample of other types of organizations could serve to further extend and enhance these findings in different types of industry. This opens the scope of comparative research in the ERP system; since users belonging to different type of organizations will have different exposure and perception related to ERP system.

- The sample of the study targeted the individuals belonging to manufacturing organizations where ERP is installed at least one year back. Since, ERP is becoming a pre-requisite for the manufacturing organizations, it was found during the study that number of organizations opting for ERP is increasing. Many organizations implemented ERP system recently, but could not be taken for the
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study due to the time factor. A study however can be taken after a time period to understand the perception of those companies also.

• It is important for researchers to be aware of the fact that many firms are reluctant to share financial information. It is very likely that either the case study methodology will continue to be the empirical research tool of choice in this financial area, until usage of this system become more widespread and routine.

• ERP system is meant to improve organizational performance and productivity. Researches can also be focused upon ways to take the maximum usage of ERP system.

• The sample of the study was restricted to manufacturing organizations having ERP system installed in at least any two core areas. However, for a better picture of a specific module, this restriction can be removed and in-depth analysis for specific module of ERP system can be carried out.

• Also, longitudinal data gathered after a satisfactory time frame from the same companies, by surveying the same respondents, will reveal whether satisfaction level has changed and which factors, if any, contributed to this change. Furthermore, through an empirical research, it would be interesting to explore, possible differences in the perception of respondents.

• The study has given emphasis on the perception of ERP users who have experienced usage of ERP system. While the technology comfort length, level of experience, amount of usage and frequency of assessing ERP could be considered in order to segregate the ERP user into early adopter, late adopter or laggard. Hence, it opens a scope of further research in special context of ERP users.

• As this study was based on a self-administered exploratory survey, where only closed ended questions were used in the response sheet. This restricted the ability
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of researcher to ask open-ended questions, which may have assisted in offering a better understanding of effect of ERP on organizational performance and productivity.

• Managers may want an in-depth evaluation of ERP system in their organization. A case-study method might also have been adopted for an evaluation of effect of ERP system on single organization.

• Similar studies can also be carried on cross cultural domains to explore cultural dissimilarities and to explore whether effect of ERP system is consistent across cultures or not and there by conducting study in these areas, one can compare the results and look the gap in order to further investigate the effect of ERP system.

• Although major resources were identified to illustrate successful implementation of ERP, more detailed studies are required that can focus on specific stages of the implementation process (i.e. planning, justification, installation or commissioning) and their effect can also be determined. However, results of this study are providing a foundation for future studies on effects of ERP system on organizational performance and productivity.