
Enterprise Productivity – Future Directions

8.1 Introduction

The world economy today is more global than ever. Every organization is a potential global player with operations and/or trading partners spanning continents and time zones. As the physical boundaries of organizations expand, achieving synchronization within and across organizational boundaries becomes more critical. This synchronization is typically achieved through a technology platform – enterprise system, which enables the organization to deal with large volumes of data and coordinate their business processes across functional and organizational boundaries (Modi and Mabert, 2011).

Across industries, an effective Enterprise Resource Planning (ERP) system is recognized as an important driver of business success. Without a robust ERP solution, large organizations cannot fully align strategy with execution, optimize productivity or maximize their ability to serve customers. Organizations use ERP software to integrate and automate all the business process. World over for

Fortune 500 companies, deployment of business automation and processes integration systems like ERP has helped these companies to streamline businesses, reduce costs, improve productivity, increase service qualities, increase processes effectiveness and operations excellence across their internal departments, across their divisions and business units spread across geographically.

The authoritative Gartner report, *Market Share Analysis: ERP Software, Worldwide, 2013* published on May 5, 2014 puts the overall ERP market at US \$25.4 Billion in 2013 showing a growth of 3.8% over 2012. SAP continues to be the market leader with a share of 24%. It indicates that companies continue to spend big on ERP. With more business functions being brought under the purview of ERP, its importance continues to be in the upswing. The legacy ERP systems designed to integrate enterprise functions within the four walls of the enterprise have introduced software solutions with a Web-interface essentially extending to Internet-enabled CRM (Customer Relationship Management), SCM (Supply Chain Management) and other Internet-business models (Rashid, Hossain and Patrick, 2002). The concept of ERP seems to be growing and even more so, expanding. It will be useful to investigate topics such as how the companies using the ERP system perceive these trends of extension, how they will cope with the changes and challenges that pose ahead, what tools are needed, such as the infrastructures available to them and the kind of skills and expertise required (Addo-Tenkorang and Helo, 2011).

Organizations invest significant resources in implementing ERP systems with the expectations that ERP systems would help manage organizational resources in an integrated manner. Thus, after an ERP system is implemented and used for some time, it is worthwhile to know whether the implemented system is able to justify its returns on investments or not. The focus of a post-implementation review (PIR) is often on estimating whether the system meets the requirement definition, i.e., ‘does the system do what it is designed to do’? However, the scope of the PIR may include a post-hoc review of the development and operation processes, an examination of the information and support provided, an analysis of the actual use process, and cost/benefit analysis of the system and its effects on user productivity. An important approach that can be used in the PIR is User Attitude Survey. This method is used in operational evaluation. Operational considerations refer to whether the input data is adequately provided and the output is usable. This type of attitude surveys is conducted through questionnaires and/or interviews to appraise the user’s perceptions of the information and support given by the ERP system (Goyal, 2011).

Ranganathan and Brown (2006) have shown that that what is important for achieving business value from an ERP platform investment is not project size per se, but the degree to which distinct organizational units are being integrated via the ERP project. ERP assimilation is the extent to which the organization has progressed from understanding the ERP system’s potential and functionalities to mastering and deploying them in their key value chain processes. A fully assimilated ERP system would bring many tangible and intangible advantages for

all functional, managerial, strategic and organizational areas of the organization which can drive Enterprise Productivity (Haider, 2013). The ERP user is central to this assimilation process with organizational support being a catalyst.

Linda Sanford, Senior Vice President, Enterprise Transformation, IBM in an investor briefing in 2011 identified “Quantitative benefit of realization measurement and tracking” as one of the important differentiators as far as Enterprise Productivity Initiatives in IBM was concerned. Measurement is therefore a key while looking at Enterprise Productivity which is easier said than done.

8.2 The Crux of the Present Work

The present work has looked at only the user’s view on the impact of ERP on Enterprise Productivity in the refineries of Assam. The ERP users in the refineries of Assam are not much accustomed to the term Enterprise Productivity. Though training programmes on productivity are held, all SAP users in the refineries of Assam have not had the opportunity to attend those training programmes. For the SAP users in the refineries of Assam, the understanding of Enterprise Productivity is closely related to “Efficiency and Working Smarter”.

As reported in Chapter 4, the study has clearly showed the deficiency in training of SAP users in the refineries of Assam. Though there is general agreement on the need to measure Enterprise Productivity, the ERP users in the refineries of Assam could not give many insights into productivity measures which may be

used to measure Enterprise Productivity because of the use of ERP. A measurement framework for measuring Enterprise Productivity has been proposed along with a strategy to implement the same in Chapter 5. It is based on a combination of literature review and input obtained from the ERP users in the refineries of Assam. The impact and importance of SAP as far as Enterprise Productivity is concerned is found to be quite uniform across all the refineries in Assam which is reported in Chapter 6.

8.3 Conclusion

Of late, there is increasing complexity in refinery operations. This is because refiners are adding new units to provide flexibility in processing heavier and higher sulfur feed-stocks. Product specifications have also become more geographically complicated and restrictive. The increasing use of biofuels often leads to multiple product blending steps and transport restrictions on the refineries. Complying with new and existing government regulations is consuming ever increasing resources. This is more so with the increasing emphasis on clean fuels. Now, more than ever, efficiency and productivity are the names of the refining game. ERP is being implemented by the refiners to achieve these efficiencies and improve the overall performance of their plants. It enables more efficient operations, decrease costs and increase profit levels. The movement towards a global ERP system is a key factor in the strategic focus of the refiners, which in turn is somewhere shaping the future of Enterprise Resource Planning in the petrochemicals sector and investments made therein. Investments will continuously be made by the refineries in top-of-the-line ERP

systems and returns in terms of increased productivity expected. The current study is therefore only a beginning to understand the effectiveness of ERP on Enterprise Productivity.

The investment that has been made on the implementation of ERP in the refineries of Assam is in the nature of capital investment. If the investment data is made available, it can be used to understand the impact of capital investment on Enterprise Productivity in the refineries of Assam. The cost of ERP implementation will include the licence cost of SAP, the infrastructure costs, the training costs and the costs incurred on consultancy services.

The Enterprise Productivity Measurement Framework that has been proposed needs to be tested and fine-tuned so that it can be used for measuring Enterprise Productivity.

There is an obvious need for examining effectiveness of ERP on Enterprise Productivity trends over time, specifically along operational-level measures for which implementations are anticipated to have significant and potentially strategic impacts. Without a concerted focus on targeted process effects, the benefits accrued by such initiatives may be difficult to reasonably assess. From a methodological perspective, this conclusion adds greater credence to the call for more targeted, in-depth research in measuring effectiveness of ERP on Enterprise Productivity. The current work is only a beginning.