



Use of Business Intelligence to Improve the Effectiveness of Enterprise Resource Planning: A Literature Survey

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Abstract-- Milk industry is very sensitive and their operations are very time bounding. Milk unions always find great difficulty in quickly making out required information because of voluminous data, improper segregation, departmental arrangements and unprecedented delays. ERP – Enterprise Resources Planning is important tool to manage these resources. For any organization with multi location and multiproduct nature well placed ERP is very essential. ERP helps to integrate the data in organization under one common platform. ERP can cut down costs; improve the quality of working time and by and large. The paper also highlights use of ERP will not serve the purpose its effectiveness will be improved by using Business Intelligence. Business Intelligence (BI) is a set of theories, methodologies, processes, architecture and technologies that transform raw data into meaningful and useful information for business purpose.

Keywords-- Enterprise Resource Planning, Business Intelligence, Data mining , ERP, BI

I. INTRODUCTION

It is necessary to study the impact of ERP implementation on overall performance of organization where it is implemented. After implementation of ERP the cost of man power and productivity will be reduced, which is affecting the growth and productivity of value added product and by products. Study includes how dairy Cooperatives automate the tasks involved in performing a business process. Implementation of ERP has tremendous payback. Conceptual Model suggested will be used further in practice by cooperative milk unions to implement their ERP. The model will be theoretical because purpose of study is not to develop system but to integrate the components already exist. This would then help to determine the best way forward in future ERP implementations and assist management to achieve their full potential. The study will focus on the implementation initiatives taken by the operational level in dairy. The dairies that will be taken into consideration will be that have implemented ERP systems and are relatively satisfied with their operations.

Using data captured at source through ERP further information can be generated using Business Intelligence (BI). BI technologies provide historical, current and predictive views of business operations. Business intelligence can be applied to the various business purposes like measurement, analytics, reporting, collaboration and knowledge management in order to drive business values . The basic elements of BI are Data Warehouse, Data Mining and Decision Support System. BI can use structured data collected through ERP for analytical techniques. BI can access data from ERP, provide mechanism to transform into knowledge and display knowledge which will help for effective decision making for management.

II. SIGNIFICANCE OF STUDY

ERP is Enterprise Resource Planning is management tool for decision making, provides cross functional integration, employs proven business processes leads to better customer service, productivity and lowering of costs links customers and suppliers lays foundation for e-commerce. In the world of internet one can enter data into system or can view data from anywhere.

III. OBJECTIVES OF THE STUDY

1. To study the present status of Business Intelligence used in milk unions.
2. To study impact of ERP and Business Intelligence on performance of milk cooperative unions.

IV. SCOPE OF THE STUDY

- o Selected milk unions in western Maharashtra
- o Limited to only milk unions running on co-operative basis
- o To develop Road Model for ERP with Business Intelligence.

V. LITERATURE REVIEW

For the present research work the following relevant literature review have been referred such as published and unpublished work, Ph. D. and M.Phil thesis, research articles, articles in news paper, opinions/statements of experts, discussion with experts etc is considered. The research work has major two components Enterprise Resource Planning Implementation and Business Intelligence. Hence literature review is categorized in two category i.e. Literature related to ERP implementation and Literature related to BI.

A) Literature Related ERP Implementation

- The article entitled Critical factors in Enterprise Resource Planning implementation at Indian SME by Ganesh L and Arpita Mehta in Asian Journal of Management Research – Sept 26, 2010 – Explains phases of ERP implementation. Identified critical factors influencing failure of ERP implementation.
- In the Journal of International Technology and Information management dated 1/1/2008 Title – Strategic approaches to ERP implementation by Salimi, Farshad, Dankbaar & Ben. Presented typology of ERP implementation. It is empirical research for both Manufacturing and services. Distinguished between bottom-up and top-down approaches and between process oriented and technology oriented approaches
- Emphasized ERP implementation and compliance programs are not separate. How to reduce compliance cost and additional remediation work to improve the efficiency and effectiveness of sustainable compliance program. By Kenneth Gabriel in Intranet Journal dated 13/3/2007. In the article entitled Combining compliance controls and ERP.
- International Journal of Management and Enterprise Development 2007 Vol: 4, No – 3 published article which review work published in various journals on the topics of Enterprise Resource Planning (ERP) between January 2000 and May 2006. Which focus on developments in field of ERP.
- In Sept 26, 2010 Arpita Mehta and Ganesh L – Asian Journal of Management Research — Title – Critical factors in Enterprise Resource Planning implementation at Indian SME . Explains phases of ERP implementation. Identified critical factors influencing failure of ERP implementation.
- Prof. S.T.Bhosale and Dr. B. S. Savant – International Journal of Information Systems (A Journal of SIMCA) ISSN:2229-5429 June 2012. Title – Cloud ERP: An Innovative Technology for Enterprise Resource Planning. Explained novel idea of Cloud ERP system for manufacturing business firm. Also presents the current status with some major themes of ERP research relating to technical aspects of cloud computing and cloud ERP with its benefits over traditional ERP systems. This article value to researchers and practioners.
- Article entitled – A survey on recent research literature on ERP systems. By V. Botta Genoilaz P.A.Miller and B. Grabot – Computers In Industry, February, 2005. Explained Primary analysis of literature of two years on the basis of classification according to categories: Implementation, Optimization, Management and software. ERP for supply chain management case studies were explained.
- David C Yen, David C Chou Jane Chang – Computer Standards and Interfaces Dec.2011. Title – A synergic analysis for Web Based enterprise resource planning systems. Explained how Enterprise Resource Planning (ERP) systems are central nervous system for managing an organization’s missing and critical business data and also it becomes the backbone of e-business implementation. Article provides a synergic analysis for ERP and e-business implications of ERP also well discussed.

Concluding Remark

All studiers are generic and various aspects of Enterprise Resource Planning has been considered. The following factors were considered during the other related studies.

- Evolution, Benefits, Costs and Return on Investment
- Role of Implementation partners, Planning and Training
- H/W and System Software Requirement
- implementation issues, Methods and Life Cycle
- Customization required
- Critical success factors & Factor Influencing Failure
- Related technologies
- Developments - Trends
- Cloud Computing over Traditional ERP
- Evaluation
- Security majors and risks

B) Literature related to Use Of Business Intelligence in ERP Implementation

- Vishnu Anand in PC Quest – May 2010 –Article Rapid ROI with BI deployment. Explained scenario before BI (Business Intelligence) and benefit of BI deployment. BI works on top of ERP i.e. Data generated from ERP will used for BI.
- Paper entitled – Progress in Business Intelligence System research: A literature Review by Rina Fitriana , Eriyato and Taufik Djatna in International Journal of Basic & Applied Science Vol-11 June – 2011. Paper reviews the literature of progress in system & Research. Highlights integration between Business Intelligence and data

mining, customer relationship management, data warehouse, decision support system, performance score card, knowledge management, artificial intelligence, enterprise resource planning.

- In International Journal of Computer Applications as proceeding of International Conference 2012 in Recent Trends in Information Technology - . Article by Sumaiya Khan and D.R.Kalbande. Title – Adaptive Business Intelligence (ABI) model for cross functional integration for manufacturing Industry. Described BI model which will help the managers to take business decisions corrected by considering cross functional view of the system.
- The article Improving Business Intelligence: The Six Sigma Way by Dorthy Miller in International Journal of Business intelligence Research October-December-2010. Explained a critical need exists to apply the six sigma methods which have worked for the rest of the organization to business intelligence operations and products.
- Provided framework that identifies the evolution, applications and emerging research areas of BI and A by Hsinchun Chen, Roger H.L. Chiang and Veda C Storey in MIS Quarterly – December-2012. Titled – Business Intelligence and Analytics (BI & A): From Big Data to Big Impact.

Concluding Remark

I have carefully gone through various research papers published and unpublished thesis and books. The related review of literatures have been referred and during study the following conclusions has been drawn – The all studies are generic and various aspects of Business Intelligence like benefits, deployment, data generated, literature progress, business models, six sigma methods, relation with analytics, technology requirements, designing, implementation, factors influencing and tools are discussed.

All the literature is in general purpose. Common guidelines will be useful. It gives concepts of ERP and BI in general. Dairy specific work is necessary hence study will significant to implement ERP using BI. The present study is different than studies already undertaken as its considered following issues –

- Use Business Intelligence for effective ERP implementation.
- Milk Dairy specific study will be conducted.
- Planned to Design conceptual model for ERP with BI.

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