

POSING SIX EFFECTIVE SUCCESS FACTORS TO IMPLEMENT AND GO LIVE ERP IN SUPER ORGANIZATIONS WITH MORE PERFORMANCE

Mehdi Zaferani Moattar

*Iran, Tehran, Parand New City, Islamic Azad University of Parand
M_Zaferani@yahoo.com*

ABSTRACT

This article mainly focuses on how to design and implement an ERP (Enterprise Resource Planning) system from start point to the end point and considering all conditions and limitations of the enterprise and offers some dynamic tools in order to prevent repetitive works. Although necessity and importance of resource planning and business process reengineering in the organization will be discussed. Further more the way ERP can cover Production planning, Purchasing, Material management and warehouse, Maintenance, Production, Quality control and sales and distribution and finally how to run cost accounting system will be posed. Also necessary organizational chart and integration issues as well as organizational culture will be discussed and optimized.

KEYWORDS

Integration, Project organizational chart, Dynamic components

1. INTRODUCTION

Main focuses of manufacturing systems were on inventory control in decade 1960. After that in 1970 decade managers made their attention to MRP systems. This view caused to pay more attention to production planning systems. After that and in decade 1980 MRP II, which is extended version of MRP, was main involvement of software manufacturers. This system integrates maintenance and human resource systems with MRP [2].

Also necessity of resource planning, business process reengineering to improve decision making in all fields of production, customer service, finance, commerce, human resource and distribution are main reasons to use ERP systems. Also mentioned systems will cause decreasing cost and time of operations and consumed costs will be returned after going alive. Also cultural and organizational problems and how to improve the situation to run ERP systems and making it alive and also adding some other facilities to ERP such as run time forms and reports to do all functions and get cost accounting functions with including all software engineering concepts .

So the main goal of the article is to pose a scientific approach, according to software engineering concepts adopt on culture of big organizations. So we will pay attention to life cycle of ERP implementation and prerequisites of that in super organizations.

Also proposed software engineering concepts and considered models will be posed and also a model to keep integration of software will be shown. In addition some facility tools will be introduced.

2. DESIGN AND IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING SYSTEMS

In this part we will discuss about how to design, implement and customizing systems. It is necessary to mention business process reengineering is one of most important perquisites of ERP implementation.

2.1 Arrangement of organizational chart for ERP development team

First of all organizational chart of the project will be proposed, regarding scale of the project and functionalities. Also you can find committees and roles required and proposed to run ERP system [10]. Proposed organizational chart is one of innovations of the article.

So you can find a sufficient project organizational chart to supervise project implementation and find user satisfaction and also making decision of high management's idea operational and using efficient energy of software developers and also how to divide responsibilities between advisor users, ambassador users, business analysts and application developers [8].

Importance of the proposed chart will be recognized and bolded when conflicts occurred between employer and contractor and also when you want to go live the ERP system. The main reason of failure of ERP projects is the conflicts have been occurred between employer and contractor and it is because of non-clarifying exact responsibilities of them. The proposed chart is considered as one of success factors in ERP projects. Proposed chart has been shown in figure 1. It is composed of employer and contractor side and also two committees and boards proposed to control project trend and requirement change controlling.

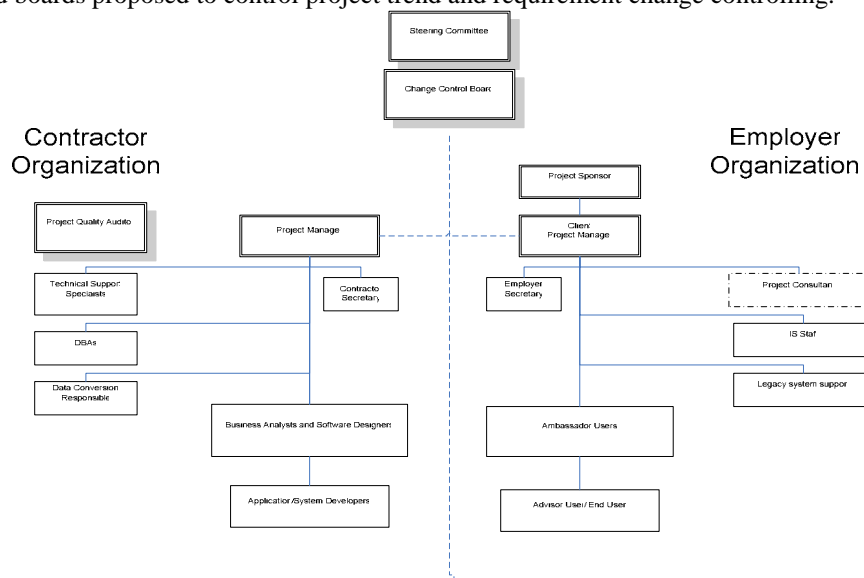


Figure 1. Project organization chart

As seen the roles are exactly defined. Non clarifying tasks will have the following negative side effects:

1. Conflict between IT and Business
2. Having no clarified boundary for tasks and responsibilities
3. Non clarified project scope
4. Non exact time and cost control
5. Non exact project progress trend
6. Non adoption of projects outputs with standards of software engineering and agreements
7. Non exact supervision for go-live phase

2.2 Business Process Modeling, Data Modeling, Function Modeling and Prototyping

Process modeling is looked at as a major phase in any software project [5]. This article focuses on training process modeling to users and to make the model by user with help of business analyst in order to make a sense of ownership in users to help making the ERP project go-live phase easier and with less cost [9].

So having training to the users in some scheduled meetings and number of sessions is depends on knowledge of users. In these training sessions understandable standards should be trained to user. This article is looking to the mentioned approach as a success point of the project. In fact process models will be

transformed to function models and data models and more supervision and coach of business analysts is very important.

Also we can avoid doing repeated jobs and un-necessary jobs, if we care more, when doing business modeling activity and these are the main reasons of computerization and the reason which we spend lots of time and cost to achieve ERP systems. Also quick reporting and having enough detailed information in manufacturing, Sales, procurement, HR and finance are the main reasons of ERP implementation, which will be exact after business modeling task [4]. Also we may encounter with some improvement when we are modeling the business and so we should do business process reengineering which called BPR. For example we put an acceptance department to control operation of procurement department before sending the material to warehouse, when we did an ERP project using the guidelines, which have been posed in this article.

Data vision of the system will be deployed after process modeling and in this step we will look for data modules of system and degree of connectivity and will deploy data model of system with collaboration of user and high involvement of user in this step will cause more interest of him in project. After data modeling Function modeling of system and also prototyping should be done and we should assign data fields of our data model to the edit box and visual components of prototypes. Also we should get confirmation of user for each of prototypes in order to avoid future coming conflicts.

2.3 Integration

The other key point of ERP implementation is clarifying integration points in a higher level and agreement with user on that [1], [7]. We proposed software named Integration Matrix to show what system is generator of what data for what system. The tables defined for each system in this matrix and database will be double checked using this software and forgotten foreign keys will be shown. Clarifying integration points will help us to make the test scenario and to see if any thing is adopted with business or not.

2.4 Form Generator and Report Generator

Regarding that most of ERP costs are for maintenance and adding facilities for ERP system, we propose some tools to be trained to users and install as a component of ERP system to allow users to make some forms and reports in runtime and add some facilities to ERP system [6]. It is clarified that, users should be trained about entity relationship diagram for this case as explained in part 2-3 of this article. Security of created forms and reports will be given to creator and any body he tend. Also form and report creator should be defined in system by system administrator.

2.5 Culture Making and Dynamic Knowledge Repository

Because may be most of users have not information about reasons of ERP system implementation or have not enough information we should make appropriate culture in different ways such as trainings, workshops, making brochures and etc [9]. because as you see in the proposed organizational chart in figure 1 end users will have a very important role in go-living ERP system.

Also we this article propose a dynamic knowledge repository with different access levels in order to inform every body in project about the status, transferred letters and agreements between team members. Also standards of software engineering and methodology are included in the mentioned repository.

2.6 Technical Infrastructure

Forecasting for infrastructure is one of the issues should be considered from first phase of the project [3]. Because if you imagine the condition that, project software components are ready, but we have no computer hardware or network infrastructure, you will be disappointed. So this article looks to the issue as a vital activity which should be considered from first phase and also looking as a failure point if has not considered on-time.

3. CONCLUSION

Regarding the body of article we should have business process reengineering before any activity of ERP implementation. After that we should arrange the proposed team and then making business process model and data model with collaboration of ambassador user and then designing prototypes and functions and getting sign off from user on that in order to avoid coming conflicts.

This article proposed some tool generate reports and forms in runtime to decrease the costs of ERP maintenance and also Integration Matrix to keep integration of system. Also culture making and forecasting project knowledge repository for project to make more information and reporting for users as well as forecasting suitable infrastructure is necessary and should be done from first day of project start.

This article is looking to the mentioned points as six effective success factors to implement and go live ERP in super organizations with more performance.

REFERENCES

1. Anders Rom, Carsten Rohde, 31 December 2006, *Management accounting and integrated Information systems: A literature review*, *International Journal of Accounting Information Systems* 8(2007) 40-68, Department of Accounting and Auditing, Copenhagen Business School, Denmark, pp 6-12
2. F. Robert Jacobs, F.C. 'Ted' Weston Jr., 12 December 2006, *Enterprise resource planning (ERP)—A brief History*, *Journal of Operations Management* 25 (2007) 357–363, Kelley School of Business, Indiana University, Bloomington, IN 47405-1701, United States, pp2-5
3. George L. Kova'cs, Paolo Paganelli, *Computers in Industry* 51(2003)165–183, *A planning and management infrastructure for large, complex, distributed projects—beyond ERP and SCM* George , Computer and Automation Research Institute, 1111 Budapest, Kende U13-17, Hungary, pp13-16
4. H. Shen, Y. Chen, B. Wall, Y. Shang, Q. Wang, 2–4 February 2003, *Enterprise model management for industrial re-use: establishing a well organized reference enterprise model repository*, *Proceedings of 31st International Conference on Computers & Industrial Engineering (ICC&IE)*, Sheraton Fisherman Wharf, San Francisco, CA, USA, 2003, pp. 104–108.
5. Hui Shen, Brian Wall, Michal Zaremba, Yuliu Chen, Jim Browne, 13 February 2004, *Integration of business modeling methods for enterprise information system analysis and user requirements gathering*, *Computers in Industry* 54 (2004) 307–323, Department of Automation, Tsinghua University, Beijing, China, pp2-15
6. In-Gyu Kim, Doo-Hwan Bae, 16 February 2007, *A Component Composition Model Providing Dynamic, Flexible, and Hierarchical Composition of Components for Supporting Software Evolution* In-Gyu Kim, Doo-Hwan Bae, Jang-Eui Hong, School of Electrical & Computer Engineering, CBNU, 12, Gaeshin-dong, Heungduk-gu, Cheongju 361-763, Korea, pp 13-15
7. Jaideep Motwani, Ram Subramanian, Pradeep Gopalakrishna, 21 July 2005 , *Critical factors for successful ERP implementation: Exploratory findings from four case studies*, *Computers in Industry* 56 (2005) 529–544, Seidman School of Business, Grand Valley State University, Department of Management, 401 West Fulton, Grand Rapids, MI 49504, USA, pp12-13
8. Jen-Her Wu, Yu-Min Wang, 1 September 2005, *Measuring ERP success: The key-users viewpoint of the ERP to produce a viable IS in the organization*, *Computers in Human Behavior* 23 (2007) 1582–1596, Department of Information Management, National Sun Yat-sen University, 70 Lien-Hai Road, Hsi-Tze Wan,
9. Kwasi Amoako-Gyampah, 11 January 2005, *Perceived usefulness, user involvement and behavioral intention: an empirical study of ERP Implementation*, *Computers in Human Behavior* 23 (2007) 1232–1248, Department of Information Systems and Operations Management, Bryan School of Business and Economics, University of North Carolina-Greensboro, Greensboro NC 27402, USA, pp11- 13
10. Weiling Ke, Kwok Kee Wei, 2007, *Organizational culture and leadership in ERP implementation*, School of Business, Clarkson University, Clarkson Ave., Potsdam, NY 13699, United States, pp3-7