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The Role and Impact of Project Management in ERP project implementation life cycle

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The Role and Impact of Project Management in ERP project implementation life cycle

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Abstract- Recent advancement of Information Technology in business management processes has flourished ERP as one of the most widely implemented business software systems in variety of industries and organizations. This paper presents review on the impact of project management in ERP project life cycle by studying various project management methodologies. Also the role and critical activities of project manager, project team and hence project management is explored in ERP projects implementation in organization of different sizes and culture.

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I. INTRODUCTION

ERP is a system for the seamless integration of all the information flowing through the company such as finances, accounting, human resources, supply chain, and customer information [8]. The selection, procurement, and deployment of an ERP system are nothing but involvement of high risks in exchange for significant business and financial rewards [12]. A successful ERP system can be the backbone of business intelligence for an organization because it can give managers an integrated view of the processes involved within it [14]. The effective ERP implementation brings in reduction of cost improvement in quality, productivity & customer service, better resource management, improved decision-making, planning and hence organizational empowerment [15]. Despite the wide spread applications and benefits of ERP systems, the statistics show that about 30% of ERP implementations have been successful [16]. In order to overcome failures through comprehensive literature review 11 critical factors for successful implementation of enterprise systems were identified as ERP teamwork and composition; change management program and culture; top management support; business plan and vision; business process reengineering with minimum customization; project management; monitoring and evaluation of performance; effective communication; software development, testing and troubleshooting; project champion; appropriate business and IT legacy systems.

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II. PROJECT MANAGEMENT METHODOLOGIES AND TECHNIQUES

ERP is a management mode or techniques. Many companies regard ERP system implementation as a project management [7]. The implementation of ERP projects involves various management functions, which inevitably leads to different levels of management reorganizations [9]. Successful project management is about managing the risk. Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. This can be done by using a formal project management structure (PMS). One of the worlds famous PMS is project management body of knowledge (PMBOK), which is developed by Project management institute (PMI). This methodology includes 5 processes/phases of project management such as project initiation, planning, execution, control, and closing. Also it is comprised by 9 knowledge areas such as Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resources Management, Project Communications Management, Project Risk Management, and Project Procurement Management. The results from the study on project management strategies under PMBOK frame work by Fergal et- al[3], illustrates PMBOK as bit fit for ERP projects and also reveals that the importance of project governance and the need for a multi-level structure spanning both the cooperate and local levels. These structures would ensure the project to be directed properly & focused, and to reduce delays & rework due to the fact that timely problem resolution could be carried out [3].

Since ERP environment faces constant change and reassessment of organizational processes and technology [18] and hence the project management method used with ERP deployments must provide adaptability and agility to support these evolutionary process and technology [17]. The major problem with software development/deployment is managerial, but not technical. Therefore a method of augmenting structured project methods with agility to produce a new approach to managing projects is proposed by Alleman [12]. This method is based on venture capitalist approach which includes: staged investments, managed risks & people (team involved). The author discovered that traditional IT project management waterfall model which includes

planning, change and stability had several erroneous assumptions. However he suggested that through planning in the presence of uncertainty, avoiding dysfunctional relationships and improper pretensions, we can overcome the flaws in traditional approach. By applying agile values, author proposed the following principles for managing ERP projects in agile manner: assume simplicity, embrace change, enabling the next effort, incremental change, maximize stakeholder value, manage with a purpose, multiple views, rapid feedback, working software is the primary goal and travel light[12].

III. ROLE OF PROJECT MANAGER

Jones et-al [19] explained that the first six out of sixteen technology factors associated with software disasters are specific failures in the domains of project management, and three of the other technology deficiencies can be indirectly assigned to poor management practices. The top 10 ERP management headaches rank issues are project size, staffing, risk management, unreasonable deadlines, funding, organizational politics, scope creep, unexpected gaps, interfaces, and resistance to change [20]. One of the basic principles for assuring the ERP implementation success is the appointment of the project manager, who should be most talented business manager. The characteristics of a successful project manager are flexible, disciplined, quick learner, good decision maker, ERP expert, having business experience, political clout, good formal education, well liked, and motivates staff [23]. In order to make ERP project successful, the project manager must work efficiently in the following areas: deciding on project scope, managing risks, discovering gaps, the right staff, preventing brain drain, project scheduling, interface with other systems, monitoring progress, and managing chaos[20]. In addition, the focused management by project manager of the following critical activities that streamline the ERP project management will enhance the success of any ERP project: Embrace overall goals and objectives, defining requirements, review as is – to be, use proto education, business system test/conference room pilot(CRP), execute timely cut-over/conversion processes, and going live and beyond[11].

IV. THE IMPACT OF PROJECT MANAGEMENT IN ERP IMPLEMENTATION

The strategic project management in [system evolution] enables success by first detecting the need for change in all relevant corners of the company, and second, servicing the need with appropriate resources. By actively addressing the change needs of people, process, and technology, the SPM will ensure the system that is deployed meets tenets of overall business strategy while also becoming the enabler of success.

a) *Pre implementation*

In the article [21], the author proposes that the key to successful ERP implementation is through the use of project management life cycle theory analysis of various stages of ERP implementation, and it cannot be considered lead to failure. He supports his stand by introducing the Tasly ERP projects in the pre project research, project organization and project management in the process of successful experience. Throughout the project management concepts and methods of operation, ultimately leads to success of ERP system and enhances the overall enterprise management level. And due to comprehensive survey & evaluation, efficient project management team, sound project management information and because of the need and the change continues to improve the Tasly was successful in implementing ERP.

b) *During implementation*

Tsai et al[7], through an immense literature review identified and categorized 8 achievement level of project management as (1) fulfilling business implementation goal (2) full of top management support (3) meeting schedule goal (4) meeting budget objective (5) triggering effective communication (6) solving problem (7) fulfilling integration of system and (8) user acceptance[7]. The study and the empirical investigation on consultant criteria, project management and performance enhancement indicated that these three factors are integrated and the service quality one affects the other and hence adds to performance enhancement of the ERP implementation [7].

c) *Post implementation*

Ying shi [12], through a case study in application research of project management in ERP system implementation process, revealed that the Project management theory and methods were used in the construction of enterprise information, in line with the overall planning, step by step principles for the business to the ERP project involves all aspects of effective planning, organization, management and monitoring, thus to achieve the desired goals and effect for the enterprise benefits.

d) *Organizational culture*

Public and private sectors: The recent years have shown a tremendous growth in application of ERP systems in public and government sectors. It is observed that public leaders are more concerned in implementing the best practices for each business process provided by ERP. In general the ERP project implementation is based on the three factors as people, process and technology. But the IT based challenges in government sectors are mostly human than technical. And one of the main causes among them is poor project management [5]. From the study on Jordanian culture in [4] the author described that there is a significant difference in project

management aspects, in ERP implementation, when applied to public and private sectors. Moreover, since the critical decisions and approvals are taken only by top management and due to rigid hierarchy and structures, more bureaucracy and delay in decision making in public organizations leads to affect timely implementation [4].

Large and SMEs: Through the appropriate use of Characteristic Analysis Method (CAM), a tool to ensure that the IT project is manageable and consistent by its different goals content and development approaches, a case study on three SMEs, the author shown inadequacies in the fields of management and leadership that the implementation of ERP system causes risks in companies [15].

e) *Risk Management*

ERP projects implementations are complex, resource-intensive and risky. And risks can be mitigated through strong executive sponsorship, communication and involvement of stakeholders, and good project management [5]. Davide et- al[6] classified ERP project failure into four levels as process failure, expectation failure, interaction failure, and correspondence failure, which directly relates to the critical activities of project management team as explained earlier in this paper [6]. Hence an emphasis must be placed on project team selection and project manager's pursuance should be on specific areas of ERP life cycle, i.e. if any unclear area not solved in exploration cycle of ERP project must be taken care in implementation else this would reemerge post go-live with disastrous consequences [3].

V. CONCLUSION

By studying various project management methodologies and techniques, and also through various literatures, it is found that in ERP project life cycle, the project management plays a key role and hence a proper emphasis must be placed in selecting the project team that ensures proper decision making and results in timely project completion. Hence by applying the theory and method of project management life cycle on project implementation will consequently endure success. The future research can be carried out in enhancing ERP implementation through web 2.0 technologies and also Lean management, which indeed suffice with ERP software.

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