A Theoretical Perspective on the Relationship between Change Management Strategy and Successful ERP Implementations

Ra'ed (Moh'd Taisir) Masa'deh

Management Information Systems Department, Faculty of Business
The University of Jordan, Jordan
E-mail: r.masadeh@ju.edu.jo

Hamzah Altamony

ERP-HR Consultant & Lecturer, King Faisal University
Kingdom of Saudi Arabia
E-mail: hamzahaltamo@kfu.edu.sa

Abstract

This research aims to explore the critical success factors in change management strategy in order to guarantee a successful implementation of an organisation's Enterprise Resource Planning (ERP) system. A comprehensive literature was reviewed. The findings indicate that successful change management strategy consists three phases: preparing to change, implementation of change, and measuring the impact on user. In the preparing to change phase, organizational leadership should prepare to change organisation culture and structure must be managed by watching individuals, organization and culture. Then, in the implementation of change phase, organizations must apply the following factors: project leadership/team effectiveness factors, end-user communication factor, culture factor, end-user training/involvement factors and development factor. Finally, in measuring the impact on user phase, organizations must measure the impact of change strategy factors on the end-user, also organizations pay attention to feedback in the previous three phases to modify mistakes and develop change strategy.

Keywords: Change Management Strategy, Enterprise Resource Planning

1. Introduction

Change does not occur solely at the organizational level, but also at the countries level of the world. For instance, in late 2010 and early 2011 sparked a wave of revolutions and protests throughout the Arab world or to be called Arab spring which aimed to change something in the Arab world systems. However, organization needs constant change to keep their customers, keep updated with technology and the ability to competition. Therefore, many organizations seek to possession the enterprise resource planning systems, in addition asserting that an ERP systems help the various elements of the organization share knowledge and information, cut back costs, and improve management of business processes (Aladwani, 2001). Despite the advantages of ERP system, it faces resistance to change when transition to another system (Finney and Corbett, 2007) and it collide in implementation difficulties because of employees' resistance (Aladwani, 2001; Al-Mudimigh et al., 2001; Al-Mashari and Al-Mudimigh, 2003; Jaideep et al., 2002; Kee-Young and Jae-Nam, 2008; Lashunda, 2010; Umble et al., 2003). Leon (2008) mentioned that 13%, 69% and 28% failure rate of the ERP systems as a result of

technological issues, people and method respectively. However, Foster et al. (2007) showed that 90% of firms that applied change management to ERP implementations believed that it had a powerful impact on the success of the project.

Nevertheless, ERP implementations are plagued with high failure rates and inability to understand promised advantages and the failure rate has been estimated as 60-90% (Al-Shamlan and Al-Mudimigh, 2011). The high failure rate within the implementation of ERP concerns to an improved understanding of the process (Somers and Nelson, 2004). In fact, several cases of the failure to implement ERP considered because of either or cancellations and time overruns have been reported (Ngai et al., 2008). Al-Mashari and Zairi (2000) assert that effective implementation of ERP needs establishing five core competencies that are the utilization of change strategy development, project management, change management techniques, integration of business process re-engineering, and technical aspects to push the infusion of ERP within the workplace. However, change management engages the successful balancing of forces in favour of a change over forces of resistance (Stebel, 1992).Comprehensive income statement is a measure of firm performance. The purpose of issuing this statement is to make firms to disclose some certain elements of financial performance to help user groups of financial reports in making better financial performance evaluation. Also, comprehensive income as a basic financial statement, should report in details all the recognized revenues and expenses of the firm. The focus of income statement is on the operating revenues and expenses. User groups of financial reports for decision–making require data related to all revenues and expenses (including gains and losses). Therefore, a basic financial statement to include such items and to show changes in owners equity related to those items is necessary.

Moreover, understanding ERP project implementation through a balanced perspective can thus forestall any unpleasant surprises, and can guarantee and guide the change management method to be embedded during an implementation painless fashion (Al-Mudimigh et al., 2001). Also, ERP system is usually related to elementary change to organizational processes that involve totally different stakeholders (Kee-Young and Jae-Nam, 2008). Therefore, attention should be paid well for the stakeholders of change strategy. Moohebat et al. (2010) in their article under the title of "A Comparative Study of Critical Success Factors (CSFs) in Implementation of ERP in Developed and Developing Countries" showed that change management considered being the most of important factor in developed countries in implementation of ERP in developed and developing countries. In order to scale back the failure rate of ERP implementation, a variety of research focusing on the critical success factors within the implementation of ERP (Finney and Corbett, 2007).

This paper discusses the change management strategies that led to success of an ERP system through strategies and processes. The motive of conducting literature review is to find out the impact of change management over the implementation of ERP. The aim of this paper is to analyse the theoretical approaches in the basis of practical derivations. Furthermore, literature review was focused on exploring various theories on the previous studies in change management area as well as its relation to enterprise resource planning implementation in order to understand better the relationship being studied. The support of ERP has been studied in reference to the process of getting organizational goals. The second section of this research considers the critical success factors of ERP implementations. Then, section three highlights current practices in change management strategies. The fourth one considers critical success factors for change management strategy. Finally, in section five, overall conclusion is presented.

2. The Critical Success Factors (CSF) of ERP Implementations

This study found that ERP critical success factors fall under one of five main categories, namely: change management (Aladwani, 2001; Alballaa and Al-Mudimigh, 2011; Al-Mashari and Zairi, 2000; Al-Mashari, 2003; Al-Shamlan and Al-Mudimigh, 2011; Amoako-Gyampah, 2004; Benders et al., 2006; Boersma and Kingma, 2005; Ettlie et al., 2005; Finney and Corbett, 2007; Hiatt, 2003;

Lashunda, 2010; Loarne, 2005; Mcadam and Galloway, 2005; Moon, 2007; Ron and Orit, 2008; Sia et al., 2002; Soh and Sia, 2004), top management support (Al-Mudimigh et al., 2001; Dong, 2001; Finney and Corbett, 2007; Ngai et al., 2008; Somers and Nelson, 2001), business process re-engineering (Gulledge and Sommer, 2002; Hong and Kim, 2002; Shah et al., 2011), vendor support (Somers and Nelson, 2001; 2004), and user involvement (Trimmer et al., 2002; Zhang et al., 2005). The following subsections discuss each.

2.1. Change Management

Change management is one among the most factors that led to failure in ERP implementation (Al-Shamlan and Al-Mudimigh, 2011, Hawking at el., 2004, and Trieu and Kuzic, 2010). For successful ERP system performance, change management is measured as a significant aspect. A group of articles in previous studies addresses the change management by explaining why it is necessary within the ERP implementation, the way to do it effectively, and the effective learning. Moreover, change management is needed to organize users for the introduction of the new systems, cut back resistance towards the system and influence user attitudes towards change (Kemp and Low, 2008). However, implementing an ERP system inevitably involves an outsized portion of the organization and sometimes accompanies with major business process reengineering efforts. Therefore, change management becomes an important topic within the ERP implementation. The idea of change management has been regarded as a kind of progressive method for attaining strong-minded conversion within a business or individuals sometimes. This realization is chosen during managerial and organizational skills (Nelson and Aaron, 2005).

However, the action of change management is additionally accomplished through the implementation of ERP. The declaration fabricated by Worren, et al. (1999) was over the appeal for abstruse technological participation. Hiatt (2003) was actual accurate about the appliance of change management on alone grounds. The researcher concentrated the analysis over the acceptance of technology by individuals within an organization for bigger commitment of his/her skills. Finally, change management may be a set of tools, processes, activities and principles that support employee understanding and organizational shifts from a current state to desired future state through the implementation of ERP systems to realize the organizational outcome (Al-Mudimigh et al., 2001).

2.2. Top Management Support

Finney and Corbett (2007) mentioned that top management is a key requirement to own committed leadership at the top management level in their research. Moreover, this idea noted the necessity for management to anticipate any glitches that may be encountered (Motwani et al., 2005). The senior management is deciding who will develop strategy plan. Sarker and Lee (2003) empirically proved that robust and committed leadership at the highest management level are important to the success of an ERP implementation. In several cases, ERP implementation failed as a result of lack of top management commitment (Al-Mashari and Zairi, 2000). Moreover, top management of the organization should analyze the sources of resistance and use the suitable set of strategies to offset them (Aladwani, 2001). However, management might notice that there is still robust workforce resistance to the operational changes ensuing from ERP implementation (Aladwani, 2001). ERP systems invariably need changes in workflow (Shah et al., 2011) which require organizational alignment that will be accomplished on a part of top management.

However, top management support is noted as a necessary factor having positive impact on the success of ERP implementation success (Shah et al., 2011). Moreover, top management must be given to the practical and identification of awareness for the ERP system by communicating its advantages to the staff (Aladwani 2001). Top management support and commitment do not end with initiation and facilitation, but must extend to the full implementation of an ERP system (Jarrar, et al., 2000). They must incessantly monitor the progress of the plan and schedule direction to the implementation teams.

Finally, special roles of top management towards ERP implementation may well include rising an understanding of the capabilities and restrictions of ERP system, establishing logical goals and providing strong commitment to the successful introduction of ERP system, and also communicating the ERP strategy to all staff in the companies (Al-Mashari et al., 2006; Svensson and Aurum, 2006).

2.3. Business Process Re-engineering (BPR)

Finney and Corbett (2007) mentioned that BPR was the third most ordinarily cited CSF in their analysis. Also, Moon (2007) cited that implementing an ERP system inevitably involves an outsized portion of the organisation and often accompanies with major BPR efforts, and an ERP system improves business processes management (Aladwani 2001). However, the BPR factor is important to success or failure of ERP projects. Al-Mashari and Al-Mudimigh (2003) described a case study of a failed implementation of SAP R/3 to re-engineer the business processes of a major manufacturer. Therefore, implementing an ERP system must force the BRP and/or developing new business processes to support the organizations goals (Umble et al., 2003). In addition, employees need learning, training and coaching to know and grasp how the system can change business processes (Aldammas and Abdullah, 2011; Al-Shamlan and Al-Mudimigh, 2011).

Nevertheless, BPR facilitates describing how the business can operate when the package of ERP is in use (Al-Mashari et al., 2003; Nah et al., 2001; Trimmer et al., 2002), besides the general goal of matching the requirements to the implemented system (Gulledge and Sommer, 2002; Hong and Kim, 2002). Thus, companies should be willing to change techniques such as business process modelling with minimal customization (Al-Mudimigh et al., 2001), or other vendor software and tools (Somers and Nelson, 2001; 2004). Software must not be changed, as a mean of potential (Sumner, 2000). Modifications ought to be avoided to scale back errors and to require advantage of newer versions and releases (Rosario, 2000). Also, throughout this part may embrace the necessity to reinforce the ERP interface quality (Aladwani, 2001). Furthermore, organizations have to be compelled to set up technology infrastructure (Mabert et al., 2003). Finally, vendors should additionally make a case for business process re-engineering of the embedded information needs (Soh et al., 2000).

2.4. Vendor Support

The selection of a suitable ERP vendor is very essential, as a good vendor can provide support ranging from technical assistance to training (Zhang et al., 2005). Indeed, vendor support that serves the implementation process is also an essential part of an ERP system. Moohebat et al. (2010) concluded that companies of developing countries more deepen on ERP vendors experience in compared to developed countries companies in their article. However, experiences of ERP industry must be shared with users that supported by leading ERP vendors (Moon, 2007). The chartering part includes selections resulting in funding of the ERP system project. Key players within the part embrace vendors, consultants, company executives, and IT specialists (Nah et al., 2003) in which the key player in ERP implementation is vendors support. Moreover, vendors should determine the needs of project such as tools, resources, applications and data, and they must also explain the embedded data requirements (Soh et al., 2000).

Nevertheless, as part of embedded data requirement, it is crucial to organize for experiences transfer from the vendor to the company (Al-Mashari et al., 2003) so as to reduce the dependency on the vendors (Skok and Legge, 2002). Also, with new technology, it is frequently significant to obtain outside expertise, including vendor support, to facilitate successful implementation (Sumner, 2000). However, organizations implementing ERP must work well with vendors to determine software problems. Problem solving, quick reaction, patience, resolve and capabilities are important, also, vigorous and sophisticated software testing eases implementation (Rosario, 2000). Nevertheless, through analysis articles from previous studies, it seems there are a lot of ERP vendors on the market that should be invited to conduct business studies before providing their proposals. Finally,

organizations should consult with ERP vendors and implementation partners to understand more regarding specific details of implementation methodology.

2.5. User Involvement

When implementing new information technology, the crucial goal of management is that the technology's intended level of usage is accomplished (Amoako-Gyampah, 2005). However, user involvements begin from setting the ERP project's vision and end with any post implementation actions (Calvert, 2006). Zhang et al. (2002) informed that user involvement at early phase of ERP system implementation is supportive to understand the system and to present a helpful feedback. Indeed, the involvements of users encourage them to develop their views avoiding chance that their jobs will be threatened by the ERP system, or that they will not know how to do the job within the scope of such an EPR system (Al-Mudimigh et al., 2001). ERP users are imagined to be hesitant to welcome the new ERP system if they do not be familiar with how it works. Training each of users in the groups of how the ERP system works is important in making consciousness.

Moreover, user involvement is required to prepare employees for the introduction of the new ERP systems, influence employees' attitude in the direction of change and reduce resistance on the road to the ERP system. However, the ERP system should not be introduced until a positive attitude is built and sustained among potential users (Al-Shamlan and Al-Mudimigh, 2011). Moreover, one main task is to build employee user approval of the ERP project and an optimistic user attitude (Kumar et al., 2002; Shanks and Parr, 2000). Approval of the ERP project must be through showing the benefits for an ERP system (Aladwani, 2001; Mandal and Gunasekaran, 2003; Motwani et al., 2005; Somers and Nelson, 2004). Part of the building of employee acceptance must also involve securing the support of view leaders throughout the organizations (Aladwani, 2001). Finally, ERP systems are really tangled and complicated systems and require exact training. Establishing an ERP system without adequate user involvement possibly will yield to dreadful result.

3. The Practices in Change Management Strategies

Aladwani (2001) mentioned that a review of ERP research revealed different strategies for implementing ERP successfully. These strategies are classified into technical, organizational and people strategies. Several of the technical strategies that have been planned to decide ERP success include technical characteristics of ERP installation, ERP complexity, adequacy degree of in-house technical capability, and cost and time of implementation (Al-Mashari and Zairi, 2000; Russo et al., 1999; Sarker and Sarker, 2000). Organizational strategies for supporting ERP implementation achievement include change strategy growth, change management methods, project management, organizational structure and capital, managerial ideology, coordination, and information system function characteristics (Aladwani, 2001; Al-Mashari and Zairi, 2000; Sarker and Sarker, 2000). People strategies contain employees and top management attitude, user involvement, and education (Amoako-Gyampah, 2005; Russo et al., 1999). There are many change management strategies in previous studies in which some of them present efficient techniques, approaches and models. Also, others are neither efficient nor practical. This section presents and illustrates most important change management strategies for ERP implementation.

Zafar et al. (2006) proposed a model for managing user resistance and successful ERP implementation and is illustrated by the change management model (Figure 1). The model recommends that the organizational resistance is predicted to be negatively associated with: resistance to changes is going to be negatively associated with achievement of predetermined goals, and also resistance to changes is going to be negatively connected to user satisfaction. The change management initiatives like obtaining the staff concerned and creating available support teams can mitigate the impact of resistance to change and enhance implementation success (Zafar et al., 2006). Early user

involvement within the design and implementation of latest business processes additionally as extensive top-down and cross-functional communication could generate enthusiasm for ERP implementation (Stratman and Roth, 2002). The tool of management is leadership, communication, training, planning, and incentive systems. These tools should all be used as levers to get rid of obstacles with minimal effort when applied properly.

**Figure 1:** Change Management Model (Zafar et al., 2006)
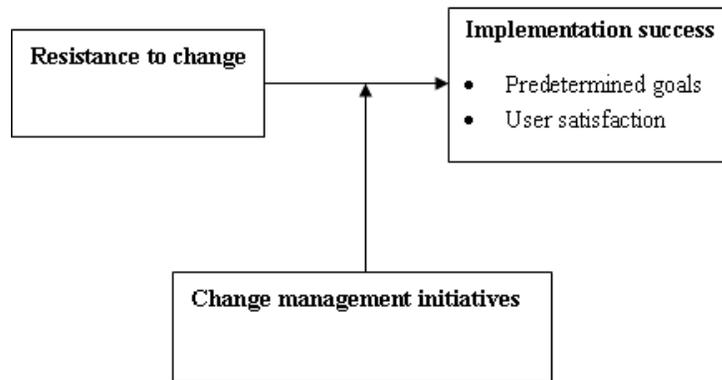
Aladwani (2001) suggests approaches on the link between marketing as a change management strategy and is illustrated by the approaches for managing change associated with ERP (Figure 2). Additionally, he suggests method oriented framework consisting of three phases: knowledge formulation, strategy implementation, and status evaluation. The study assumed that change management and management support ought to absolutely influence system awareness, feelings towards the system, and therefore the intention to adopt that system for users.

**Figure 2:** Approaches for Managing Change Associated with ERP (Aladwani, 2001)
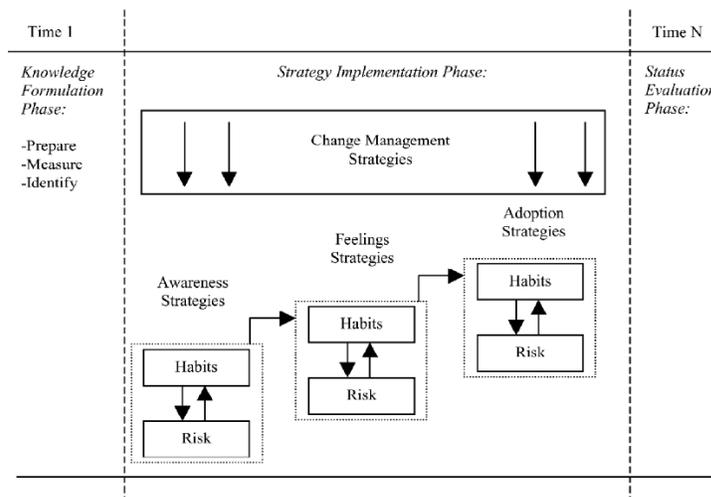
Kerimoglu and Basoglu, (2006) proposed a model for optimizing change management and implementing ERP successfully; and recommended the gaps between technology, human and organization ought to be minimized. The purpose surrounded by a dashed circle is the optimal point where the gaps are minimized. There are three places where compatibility is of worry: between organization and technology, between human and technology and between organization and human. Through reaching the optimal purpose utilization of ERP systems are going to be maximized and are illustrated by the actors of ERP project (Figure 3), it suggests an efficient and applicable change management plans ought to be applied for every stage where incompatibilities occur.

**Figure 3:** Actors of ERP Project (Kerimoglu and Basoglu, 2006)
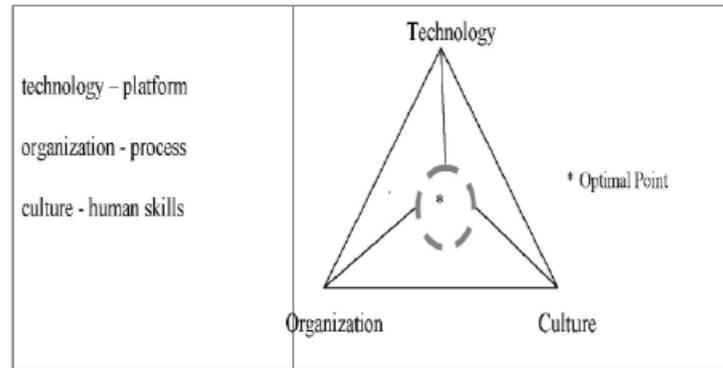
Trieu and Kuzic (2010) mentioned that the elements of change management strategies are common to successful ERP implementations in their study. The common elements identified include: top management support, project champions, effective communication, clear systematic plans and effective training/knowledge transfer. Trieu and Kuzic (2010) model is illustrated in Figure 4.

Figure 4: The Elements of Change Management Strategies (Trieu and Kuzic, 2010)
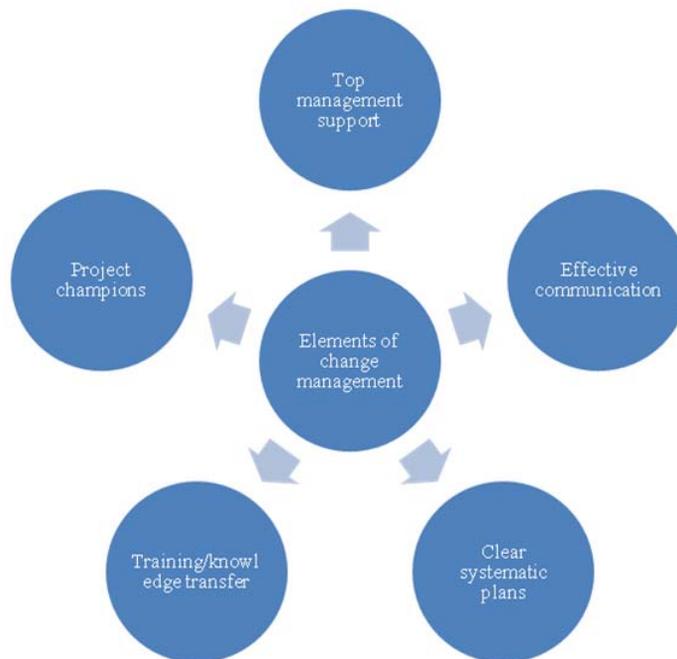
Calvert (2006) formulated a model of the foremost necessary mechanisms of effective change management in ERP systems. This 'ERP Change-Management Model' was developed when a comprehensive review and synthesis of IT change literature that encompassed the fields of IT project management, business process re-engineering, IT innovation adoption, and ERP systems. Ten change management mechanisms were identified as necessary in motivating ERP users to embrace change and to be taught to use an ERP system effectively. An adequate budget for change resources is the facilitating condition for these changes of management mechanisms (Calvert, 2006). However, the model introduced a pair of necessary outcome variables: First, an individual's effective use of the ERP system, as a final outcome, and an individual's motivation to learn and use the ERP system effectively. Calvert change management model illustrated in Figure 5.

Figure 5: Change Management Model (Calvert, 2006)
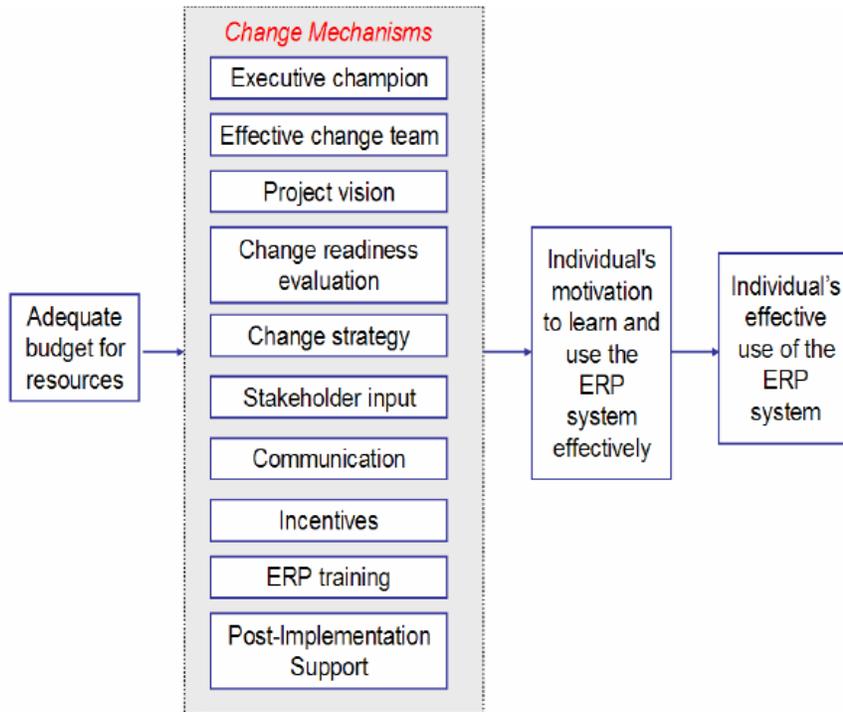
4. Critical Success Factors for Change Management Strategy

In the 2005 change management success factors survey from Deloitte (2005) information from twenty nine different firms was reviewed to look at the critical factors for change management strategy that play an important role in ERP implementation success. The distribution of the survey perceived in Figure 6. This illustrates that the area of change management success factors has common components.

Figure 6: Change Management Success Factors (Deloitte, 2005)
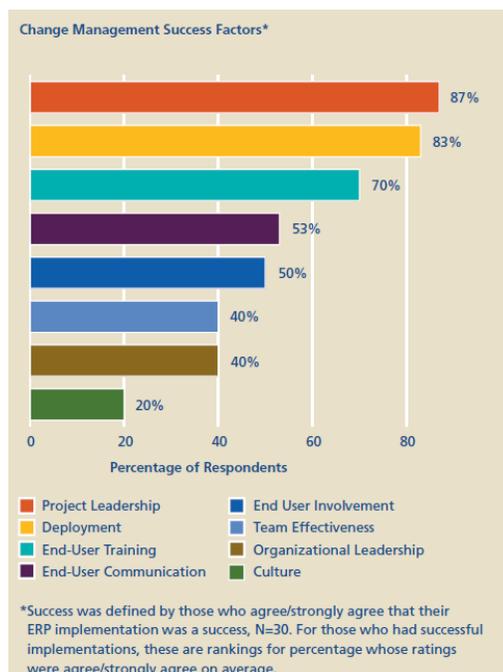
The change management factor contributing to the success of ERP implementations was the involvement and support of project leadership (87%). Ensuing most important success factor was a spotlight on deployment (83%), followed by End-User training (70%). Deployment activities embody using Super Users/Power Users to roll out the ERP resolution and providing end-user support when the ERP implementation. Surprisingly, just (40%) of respondents felt that the involvement of organizational leadership was an important success factor, a similar level as team effectiveness. Finally, just (20%) of respondents attributed success to the culture of the organization.

4.1. Project Leadership

Responsibilities of tasks must be assigned to group or individual of individuals to attain success in project leadership. Project scope must be clearly outlined and restricted. It needs the involvement of business units and quantity of current systems implemented and BPR (Rosario, 2000). Needs should be analysed against the advantages of organisations wants, if potential implement it at later stage. Also, time constraint must be in read when proposed changes are going to be done (Wee, 2000). Project milestones should be outlined, important methods must be determined and selections ought to be deadlines, taken, budget, and schedule must be maintained properly. Also, involvement of HR department is needed actively to resolve conflicts that emerge whereas achieving projects or plans milestones. Budget check, tracking of schedules, and focus results against fascinating outcome should be checked properly. Project leadership from project leader is thorough out the lifecycle of implementation somebody should be obtainable who run through the project in case of illness of project leader (Sarker and Lee, 2003).

4.2. Development

To facilitate avoid reconfiguration at each stage of implementation, ERP design must be established consistent with needs of the organization. Testing and troubleshooting are important stages for ERP implementation (Wee, 2000). Project team must work as teamwork to resolve the bugs of the system. They must work with patiently and diligently to resolve the matter. Testing must be completed in chunks since it is essential to implementation. Rosario (2000) claimed that acceptable techniques, tools, and ability will help in ERP success.

4.3. End User Training

Sufficient budget must be allotted on users within the training sessions and ERP design process (James, 2004). Their objectives must be clear to grasp the system (Umble et al., 2003). According to Wee (2000), support organisation is essential to satisfy user's requirements when installation.

4.4. End User Communication

Al-Mashari et al (2003) Conclude that effective communication is important to ERP implementation. It must be communicated at each level of ERP project life cycle. Importance must be given invariably to user input for his or her requirements, reactions, comments, and approval (Mandal and Gunasegaram, 2003). Project progress ought to be presented in front of organisational committee and managers to indicate the present status of ERP project. Any modification within the objectives, activities, updates, must be mentioned with staff (Mandal and Gunasekaran, 2003).

4.5. End User Involvement

End-user involvement is seen as the fraction of change management. User should be involved in planning and implementing there-business processes of the ERP system (Umble et al., 2003). Special training programs to teach them must be performed (Mandal and Gunasekaran, 2003). James (2004) stated that separate budget ought to be fastened on various types of training and education.

4.6. Team Effectiveness

Researchers focused on ERP project life-cycle running. Based on Rosario (2000) ERP project team must consist of the finest employees in the organisation. However, Sumner (2000) declared that team ought to consist of mixed employees: specialists, project managers, and skilled internal employees so they know how to develop technical skills for implementation and design. Structuring a cross-functional team also helps and has a very important role. Technical and business knowledge are necessary for the achievement of ERP implementation (Sumner, 2000). Wee (2000) stated that team staff need to be allocated full-time to for running and must be co-located as one to smooth the progress of working together. Regarding to Rosario (2000) and Wee (2000), teams should be familiar with the total arrangement of the managerial processes so they know what requirements to be done in handling business risks. Also, partnership expected between organisations is very important and managed often with performing meetings (Wee, 2000).

4.7. Culture

Company with an understanding culture would have higher understanding of information management, application functionality, and a lot of accepting ERP systems. In other words, staff's attitudes in the direction of computers and organisational confidence on computers play a vital role for ERP implementation (Huang and Palvia, 2001).

4.8. Organizational Leadership

Improvement change management strategy in ERP implementation involves change. Internal client is important for a company to avoid the difficulties related to this change (Al-Mashari and Zairi, 2000; Aladwani, 2001). Change management strategy is vital within the entire life cycle of the ERP implementation. Rosario (2000) declared that change enterprise culture and structure ought to be managed by watching three factors: individuals, culture and organization. Winning ERP implementation needs robust readiness to simply accept modification with quality and computing ability, and commitment management and implementation efforts for using the ERP. Regular communication, operating with company culture, recognising job aids for end-users and making friendly surroundings will result in successful implementation (Al-Mashari and Zairi, 2000).

5. Conclusion

Change management strategies are extremely well-known for the sustainability of an organization. Adopting ERP through change management will add a lot of success to a company. But to deem the surroundings and other people as the major tools are the basic that would like for the total system to work well. Also, there is the necessity to induce a preparation for any kind of hurdle that comes. Handling complicated beneath efficient leadership is that the core matter of pains for a sleek ride of ERP. A need into the planned and pre-implemented strategy followed by implementation and post-implementation consequences will bring in views for achieving organizational goals. In addition, based on the preceding review on the explored literature of change management of ERP implementations, change management becomes a crucial topic within the ERP implementation. Moreover, a collection of articles addresses the change management by explaining why it is necessary within the ERP implementation, the way to do it effectively, the best practices, the successful experiences, and therefore the appropriate change management strategies.

This study found that the ERP critical success factors fall beneath one of five main categories, namely change management, top management support, business process re-engineering, vendor support, and user involvement. However, based on previous studies conducted in the study area from 2000 to 2011, the change management strategy, one among the foremost widely cited critical success

factors in ERP Implementation. Also, the most important and citation studies of change management strategies on ERP implementation, as follows: change management model (Zafar et al., 2006); approaches for managing change associated with ERP (Aladwani, 2001); actors of ERP project (Kerimoglu and Basoglu, 2006); the elements of change management strategies (Trieu and Kuzic, 2010), and change management model (Calvert, 2006).

References

[1]   Aladwani, A. 2001. "Change Management Strategies for Successful ERP Implementation", Business Process Management Journal, 7 (3), pp. 266-275.

[2]   Alballaa, H. and Al-Mudimigh, A. 2011. "Change Management Strategies for Effective Enterprise Resource Planning Systems: A Case Study of a Saudi Company", International Journal of Computer Applications, 17 (2), pp. 14-19.

[3]   Aldammas, A. and Abdullah, A. 2011. "Critical Success and Failure Factors of ERP Implementations: Two Cases from Kingdom of Saudi Arabia", Journal of Theoretical and Applied Information Technology, 28 (2), pp.73-82.

[4]   Al-Mashari, M. 2003. "A Process Change-Oriented Model for ERP Application", International Journal of Human-Computer Interaction, 16(1), pp. 39-55.

[5]   Al-Mashari, M. and Zairi, M. 2000. "Supply Chain Re-Engineering Using Enterprise Resource Planning (ERP) Systems: An Analysis of a SAP R/3 Implementation Case", International Journal of Physical Distribution and Logistics Management, 30 (3-4), pp. 296-313.

[6]   Al-Mashari, M., Al-Mudimigh, A. and Zairi, M. 2003. "Enterprise Resource Planning: A Taxonomy of Critical Factors", European Journal of Operational Research, 146, pp. 352-364.

[7]   Al-Mashari, M., Ghani, S. and Rashid, W. 2006. "A Study of the Critical Success Factors of ERP Implementation in Developing Countries", International Journal of Internet and Enterprise Management, 4(1), pp. 68-95.

[8]   Al-Mashari, M., Al-Mudimigh, A. 2003. "ERP Implementation: Lessons from a Case Study", Information Technology and People, 16, pp. 21-33.

[9]   Al-Mudimigh, A., Zairi, M., Al-Mashari, M. 2001. "ERP Software Implementation: An Integrative Framework", European Journal of Information Systems, 10, pp. 216-226.

[10]   Al-Shamlan, H. and Al-Mudimigh, A. 2011. "The Change Management Strategies and Processes for Successful ERP Implementation: A Case Study of MADAR", International Journal of Computer Science Issues, 8 (2), pp. 399-407.

[11]   Amoako-Gyampah, K. 2004. "ERP Implementation Factors: A Comparison of Managerial and End-User Perspectives", Business Process Management Journal, 10 (2), pp.171-183.

[12]   Amoako-Gyampah, K. 2005. "Perceived Usefulness, User Involvement and Behavioural Intention: An Empirical Study of Enterprise Systems Implementation", Computer in Human Behavior, 41, pp. 731-745.

[13]   Benders, J., Batenburg, R. and Van der Blonk, H. 2006. "Sticking to Standards; Technical and other Isomorphic Pressures in Deploying ERP Systems", Information & Management, 43 (2), pp.194-203.

[14]   Boersma, K. and Kingma, S. 2005. "From Means to Ends: The Transformation of ERP in a Manufacturing Company", Journal of Strategic Information Systems, 14 (2), pp.197-219.

[15]   Calvert, C. 2006. "A Change-Management Model for the Implementation and Upgrade of ERP Systems", Proceedings of the ACIS.

[16]   Dong, L. 2001. "Modelling Top Management Influence on ES Implementation", Business Process Management Journal, 7 (3), pp. 243-250.

[17]   Deloitte. 2005. "ERP Change Management Survey", The Gullup Leadership Institute.

[18]   Ettlie, J., Perotti, V., Josep, D., and Cotteleer, M. 2005. "Strategic Predictors of Successful Enterprise System Deployment", International Journal of Operations & Production Management, 25 (10), pp. 953-972.

[19]   Finney, S., and Corbett, M. 2007. "ERP Implementation: A Compilation and Analysis of Critical Success Factors", Business Process Management Journal, 13 (3), pp. 329-347.

[20]   Foster, S., Hawking, P., Zhu, C. 2007. "The Human Side of ERP Implementation: Can Change Management Really Make a Difference?", Research and Practical Issues of Enterprise Information Systems II, New York, USA, pp. 239-249.

[21]   Gulledge, T., and Sommer, R. 2002. "Business Process Management: Public Sector Implications", Business Process Management Journal, 8 (4), pp. 364-376.

[22]   Hawking, P., Foster, S., and Stein, A. 2004. "ERP II & Change Management: The Real Struggle for ERP Systems Practices", Managing Business with SAP: Planning, Implementation and Evaluation, Hershey PA, IDEA Group.

[23]   Hiatt, J. 2003. "Change Management: The People Side of Change", Learning Centre Publications, Loveland, CO.

[24]   Hong, K., and Kim, Y. 2002. "The Critical Success Factors for ERP Implementation: An Organizational Fit Perspective", Information & Management, 40 (1), pp. 25-40.

[25]   Huang, Z., and Palvia, P. 2001. "ERP Implementation Issues in Advanced and Developing Countries", Business Process Management Journal, 7 (3), pp. 276-284.

[26]   Jaideep. M., Dinesh. M., Manu, M., and Gunasekaran, A. 2002. "Successful Implementation of ERP Projects: Evidence from Two Case Studies", International Journal of Production Economics, 75 (12), pp. 83-96.

[27]   Jarrar, Y., Al-Mudimigh, A., and Zairi, M. 2000. "ERP Implementation Critical Success Factors: The Role and Impact of Business Process Management", Proceedings of the 2000 IEEE International Conference on Management of Innovation and Technology, 12-15 November, Singapore.

[28]   James, X. 2004. "The ERP Challenge in China: A Resource Based Prospective", Information Systems Journal, 14 (2), pp. 153-167.

[29]   Kee-Young, K., and Jae-Nam, L. 2008. "The Role of Readiness for Change in ERP Implementation: Theoretical Bases and Empirical Validation", Information & Management, 45, pp. 474-481.

[30]   Kemp, M., Low, G. 2008. "ERP Innovation Implementation Model Incorporating Change Management", Business Process Management Journal, 14 (2), pp. 228-242.

[31]   Kerimoglu, O., and Basoglu, N. 2006. "Optimizing the Change Management of Enterprise Resource Planning Systems Implementations", Proceedings of the Technology Management for the Global Future Conference.

[32]   Kumar, V., Maheshwari, B., and Kumar, U. 2002. "ERP Systems Implementation: Best Practices in Canadian Government Organizations", Government Information Quarterly, 19, pp. 147-72.

[33]   Lashunda, M. 2010. "Impact of Change Management Consideration in the Implementation of ERP System", UNDB.

[34]   Leon, A. 2008. "Enterprise Resource Planning", 2nd Edition, McGraw-Hill, New Delhi, India.

[35]   Loarne, S. 2005. "Working with ERP Systems – Is Big Brother Back?", Computers in Industry, 56 (6), pp. 523-528.

[36]   Mabert, V., Soni, A., and Venkataramanan, M. 2003. "Enterprise Resource Planning: Managing the Implementation Process", European Journal of Operational Research, 146.

[37]   Mandal, P., and Gunasekaran, A. 2003. "Issues in Implementing ERP: A Case Study", European Journal of Operational Research, 146, pp. 274-283.

[38]   Mcadam, R., and Galloway, A. 2005. "Enterprise Resource Planning and Organisational Innovation: A Management Perspective", Industrial Management & Data Systems, 105 (3), pp. 280-290.

[39]   Moohebat, M., Asemi, A., and Jazi, M. 2010. "A Comparative Study of Critical Success Factors (CSFs) in Implementation of ERP in Developed and Developing Countries", International Journal of Advancements in Computing Technology, 2, pp. 99-110.

[40]   Moon, Y.B. 2007. "Enterprise Resource Planning (ERP): A Review of the Literature", International Journal of Management and Enterprise Development, 4 (3), pp. 235-264.

[41]   Motwani, J., Subramanian, R., and Gopalakrishna, P. 2005. "Critical Factors for Successful ERP Implementation: Exploratory Findings from Four Case Studies", Computers in Industry, 56 (6), pp. 529-544.

[42]   Nah, F., Lau, J., and Kuang, J. 2001. "Critical Factors for Successful Implementation of Enterprise Systems", Business Process Management Journal, 7 (3), pp. 285-296.

[43]   Nah, F., Zuckweiler, K., and Lau, J. 2003. "ERP Implementation: Chief Information Officers' Perceptions of Critical Success Factors", International Journal of Human-Computer Interaction, 16 (1), pp. 5-22.

[44]   Nelson, K., and Aaron, S. 2005. "The Change Management Pocket Guide", Cincinnati, OH: Change Guides LLC.

[45]   Ngai. E., Law, C., and Wat, F. 2008. "Examining the Critical Success Factors in the Adoption of Enterprise Resource Planning", Computers in Industry Journal, 59, pp. 548-564.

[46]   Ron, S., and Orit, R. 2008. "Multivariate Methods in Enterprise System Implementation, Risk Management and Change Management", International Journal of Risk Assessment and Management, 9 (3), pp. 258-276.

[47]   Rosario, J.G. 2000. "On the Leading Edge: Critical Success Factors in ERP Implementation Projects", Business World (Philippines).

[48]   Russo, K., Kremer, A., and Brandt, I. 1999. "Enterprise-Wide Software: Factors Affecting Implementation and Impacts on the IS Function", Communication World, 25 (2), pp. 30-42.

[49]   Sarker, S., and Lee, A. 2003. "Using a Case Study to Test the Role of Three Key Social Enablers in ERP Implementation", Information & Management, 40 (8), pp. 813-829.

[50]   Sarker, S., and Sarker, S. 2000. "Implementation Failure of an Integrated Software Package: A Case Study from the Far East", Annals of Cases in IT Applications and Management, 2, pp. 169-186.

[51]   Shah, S., Bokhari, R., Hassan, S., Shah, M., and Ali, M. 2011. "Socio-Technical Factors Affecting ERP Implementation Success in Pakistan: An Empirical Study", Australian Journal of Basic and Applied Sciences, 5 (3), pp. 742-749.

[52]   Shanks, G., and Parr, A. 2000. "A Model of ERP Project Implementation", Journal of Information Technology, 15, pp. 289-303.

[53]   Sia, S., Tang, M., Soh, C., and Boh, W. 2002. "Enterprise Resource Planning (ERP) Systems as a Technology of Power: Empowerment or Panoptic Control?", The Data Base for Advances in Information Systems, 33 (1), pp. 23-37.

[54]   Skok, W., and Legge, M. 2002. "Evaluating Enterprise Resource Planning (ERP) Systems Using an Interpretive Approach", Knowledge and Process Management, 9 (2), pp. 72-82.

[55]   Soh, C., and Sia, S. 2004. "An Institutional Perspective on Sources of ERP Package – Organisation Misalignments", Journal of Strategic Information Systems, 13 (4), pp. 375-397.

[56]   Soh, C., Kien, S., and Tay-Yap, J. 2000. "Cultural Fits and Misfits: Is ERP a Universal Solution?", Communications of the ACM, 43 (4), pp. 47-51.

[57]   Somers, T., and Nelson, K. 2001. "The Impact of Critical Success Factors across the Stages of Enterprise Resource Planning Implementations", Proceeding of the 34th Hawaii International Conference on System Sciences, Hawaii, pp. 1-10.

[58] Somers, T., and Nelson, K. 2004. "A Taxonomy of Players and Activities across the ERP Project Life Cycle", Information & Management, 41 (3), pp. 257-278.

[59] Stebel, P. 1992. "Breakpoints: How Managers Exploit Radical Change", Harvard Business School Press, Boston.

[60] Stratman, J., and Roth, A. 2002. "Enterprise Resource Planning (ERP) Competence Constructs: Two-Stage Multi-Item Scale Development and Validation", Decision Sciences Journal, 33 (4), pp. 601-626.

[61] Sumner, M. 2000. "Risk Factors in Enterprise-Wide/ERP Projects", Journal of Information Technology, 15 (4), pp. 317-327.

[62] Svensson, S., and Aurum, A. 2006. "Strategy and Preparation are Critical Success", Communications of the ACM, 42 (3), pp. 144-152.

[63] Trieu, H., and Kuzic, J. 2010. "Change Management Strategies for the Successful Implementation of Enterprise Resource Planning Systems", Proceedings of the Second International Conference on Knowledge and Systems Engineering, pp.178-182.

[64] Trimmer, K., Pumphrey, L., and Wiggins, C. 2002. "ERP Implementation in Rural Health Care", Journal of Management in Medicine, 16 (2), pp. 113-132.

[65] Umble, E., Haft, R., and Umble, M. 2003. "Enterprise Resource Planning: Implementation Procedures and Critical Success Factors", European Journal of Operational Research, 146 (2), pp. 241-257.

[66] Wee, S. 2000. Juggling toward ERP Success: Keep Key Success Factors High. ERP News, February, [Online] Available from: http://www.erpnews.com/erpnews/erp904/02get.html [Accessed March, 2012].

[67] Worren, N., Ruddle, K., and Moore, K. 1999. "From Organizational Development to Change Management: The Emergence of a Unique Profession", The Journal of Applied Behavioral Science, 35 (3), pp. 273-286.

[68] Zafar, A., Zbib I., Arokiasamy S., Ramayah T., and Chiun, L. 2006. "Resistance to Change and ERP Implementation Success: The Moderating Role of Change Management Initiatives", Asian Academy of Management Journal, 11 (2), pp. 1-17.

[69] Zhang, Z., Lee, M., Huang, P., Zhang, L., and Huang, X. 2005. "A Framework of ERP Systems Implementation Success in China: An Empirical Study", International Journal of Production Economics, pp.56-80.

[70] Zhang, L., Lee, M., Zhang, Z. and Banerjee, P. 2002. "Critical Success Factors of Enterprise Resource Planning Systems Implementation Success in China", IEEE Proceedings of the 36th Hawaii International Conference on System Sciences.