Social networking impact on the ERP implementation in textile industries

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Abstract— This paper aims to analysis Social networking impact on the ERP implementation in industries also comparing the social networking with critical success factors explain what are the, problems faced during ERP implementation. Social networking helps in training, proper communication, motivation and team work among the core team members at the time of ERP implementation. ERP system with cloud computing will change the world scenario by reducing cost, implementation time and reduction IT infrastructure.

IndexTerms—ERP system, Social networking, Critical success factor, cloud computing.

I. INTRODUCTION

An ERP has been defined as "integrated information system software comprised of several modules that share a central database designed to automate business process across the enterprise".

ERP systems are characterized by high level of costs and complexity. The high investment that is required and decision to purchase and implement an ERP are the most important decisions which management has to make [1].

Today ERP has become a basic business information-processing requirement for many organizations. ERP system is economically beneficial for company's operational management. ERP users are better in performance rather than non user [2, 3]. Presently in cut throat business competition, real time information is very important for any organization.

Main benefits of ERP system are improved decision making, financial management, customer service and retention, inventory and asset management, ease of expansion/ growth and increased flexibility, reduction in cycle time, reduction in staff, enhanced logistics, more accurate transactions and better revenue [5].

Many organizations have realized that in today's rapidly changing environment, it is not possible to create and maintain a custom designed software package that will cater to their entire requirement and also be fully up-to date. Realizing the requirement of user organizations several of top ERP software companies have developed ERP software which will offer industry specific vertical.

ERP system include Material Management, Production planning and Control, Sales and Distribution, Finance and Accounting, Personnel Management, Business forecasting, Planning and Control, SCM, and CRM etc.

The process of selecting a vendor and implementing the ERP is difficult and complex process. Textile industries replaced their legacy system which was FoxPro base system, replaced with SAP and TIN. Here ERP implementation used ASAP methodology which has mainly five phases project Preparation, Business Blueprint, Realization, Final Preparation, Go Live & Support and continuous improvement. ERP implementation has taken eight months to 24 months. AS IS and TO BE analysis prepared by one consultant and implementation of ERP performed by another consultant. Firstly analysis for Factors for ERP implementation has been performed. Than impact of ERP implementation on textile industries have been presented.

II. LITERATURE REVIEW

A brief development of ERP has as shown in Fig. 1.1.

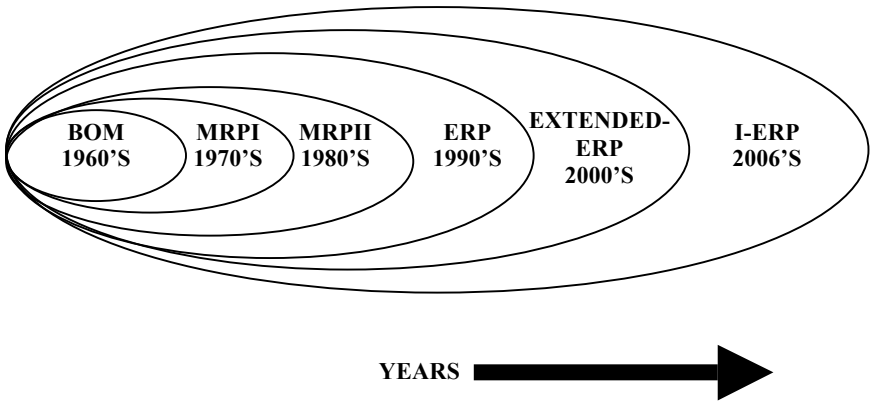

Figure 1.1 the Evolution BOM to Internet based ERP [10, 13].

Initially, bill of material (BOM) have been used from 1960 for streamlining industrial working and cost saving. Master schedule created for finished items into time phase net requirements for components, sub-assemblies and raw material planning and procurement by Material Requirement Planning (MRP) in1970. Manufacturing Resource Planning (MRP-II-1980) is extension of MRP. It includes shop floor and distribution management activities. ERP is extension of MRP-II. It includes finance, human resources, engineering, sales and project management etc. ERP name was given by Gartner group in 1990 which has enterprise wide scope. ERP replaced the legacy systems within organization by one, standardized software [12, 13]. ERP-Extended (2000) is extension of ERP. It includes E-Business solution, advanced planning and scheduling, customer relationship management, supply chain management. Collaborative ERP system(C-ERP) in which ERP crosses company boundary includes raw material suppliers, reseller, agents etc [14, 15]. Web based ERP systems (I-ERP) are internet based system (2006) now in demands [16-18]. Cloud Computing based ERP system are in developing phase, few of them in market and providing services two small and medium scale industries [8].

DeLone and McLean (1992) has given framework for assessing IT systems impact and success at the micro level which included variable such as size, structure. It helped to understand the IS (Information System). Information Quality (IQ), System Quality (SQ), Individual Impact (II) and Organizational Impact (OI) having significant role for ERP success in organization. Gable et al (2003) presented the most comprehensive ERP systems impact and success measurement model that was good contribution to knowledge in this area of ERP research.

Critical Factor for ERP Implementation Success is discussed with their concerns researchers. Slevin and Pinto (1987), Sumner (1999), Holland et al. (1999), Bingi et al. (1999), Davenport (2000), Liang et al. (2007), Garg (2010) concluded that top management Support very important in ERP Implementation success. It provides the necessary resources, leadership, authority or the power for project success. [39].

User Training and Education required 15 to 20% total project investment for successful ERP implementation so Training is important factor given by Sumner et al. (1997), Bingi et al. (1999), Siriginidi (2000), Aladwani (2001), Esteves et al. (2003), Mandal and Gunasekaran (2003), Heikki et al. (2005), Jha et al. (2008). To make the user comfortable with the system & increase expertise & knowledge level of the employees. Concept features & hands on training are important to make user more comfortable with system [25].

Holland et al. (1999), Sumner (1999), Wee (2000), Rosario (2000), Soh et al. (2000), Shanks et al. (2000), Somers and Nelson (2001), Zhang et al. (2003) Akkermans and Helden (2002), Nah et al. (2007) has emphasis on Project management as It involves the use of skills & knowledge in coordinating the scheduling & monitoring of defined activities to ensure that stated objectives of implementation projects are achieved. Project implementation plan defines project activities, commits to those activities & promotes organizational support by organizing the implementation process.

Enterprise wide communication is important factor as per Holland et al. (1999), Sumner (1999), Rosario (2000), Wee (2000), Kumar et al. (2002), Mandal and Gunasekaran (2003), Grant (2003), Yusuf et al. (2004), Ngai et al. (2008). It is essential for creating an understanding, an approval for implementation & sharing information between the project team & communicating to the whole organization the results & the goals in each implementation stage.

Change management is also critical factor given by Bingi et al. (1999), Holland et al. (1999), Sumner (1999), Somers and Nelson (2001), Robert & Willcocks (2007). ERP systems introduce large-scale change that can cause resistance, confusion, redundancies, and errors. It is estimated that 50% of ERP implementations not successful to get expected benefits because industries "significantly underestimate the efforts required in change management". Resistant to change is one of the main problems faced by the majority industries [45].

User Involvement has leading role for successful implementation of ERP system given by Esteves and Pastor (2001, 2003), Zhang et al. (2003), Roseman et al. (2001), Hong and Kim (2002), Al-Mashari et al. (2003). User participation is very important in the implementation of the ERP at the stage of defining company's ERP system needs, ERP implementation & after going live.

Business Process Reengineering is important factor given by Hammer and Champy (1993), Holland et al. (1999), Somers and Nelson (2001), Al-Mashari et al. (2006), Robert & Willcocks (2007), Singh & Wesson (2009). For minimum degree of customization, organizations should be willing to modify their businesses to fit the ERP package. To achieve the greatest benefits provided by ERP system, it is imperative that the business processes are aligned with the ERP system [17][24].

Clear goals and objectives should be clearly defined & specific and operational, and to indicate the general directions of the project. It is vital to mark the goals of the project before even looking for top management support. The "triple constraint" of project management specifies three often competing and interrelated goals that need to be met: scope, time, and cost goals. Many ERP implementations face scope creep as a result of missing a clear plan.

Technological infrastructures adequate hardware & networking are crucial for an ERP success has given by Holland et al. (1999), Kumar et al. (2002), Al-Mashari (2002), Yasser (2000), Jafari et al. (2006), Yusuf et al. (2006).

Social Networking impact on ERP implementation has not seen in past research papers but their impacts are more positive than negative. Facebook, Whatsup, Hike, Twitter are working as adviser as or more than communication media. Many ERP users demanded inbuilt ERP system with social networking sites.

III. RESEARCH MODEL AND METHODOLOGY

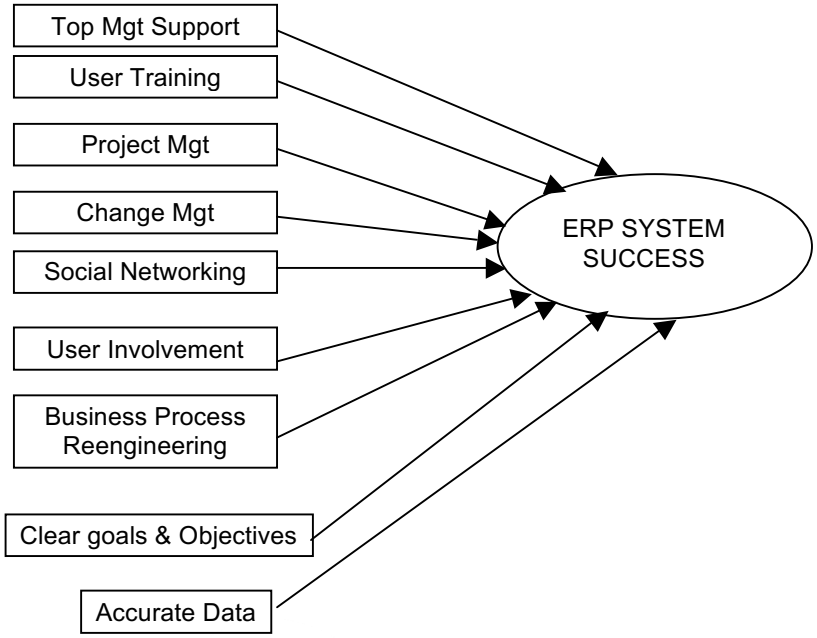

Figure 1.2 Research model (Factor Effecting ERP Implementation)

Survey is one of the most prevalent research methodologies used in information system (IS) research (Vogel & Wetherbe, 1984; Pinsonneault & Kremer, 1993). The benefit of using surveys is that the researcher can easily cover large populations quickly at a relatively low cost especially with the availability of modern communication technologies. Survey, which is the most common research method used to measure dependent and independent variables of an environment without any controls on the environment.

By conducting a survey, this study acknowledges that gathering evidence that can support the validity of the hypothesis in other organizational settings can provide useful insights or suggest changes in behavior beneficial to an organization and its stakeholders. Additionally, methods associated with positivism lend credibility to an assertion that insights obtained in one context might be usefully generalized or transferred, thus increasing the relevancy of those research findings to the practitioner community.

The analysis procedures are based on the data collected from industries survey. Industry Experts, which are also ERP users by profession, were asked to recognize which characteristics of ERP systems are significant to them and their organization. The characteristics that were recognized as significant were then used to rate how the ERP users felt about their industries ERP package.

Likerta five point scales have been used for rating different CSF in the survey.

IV. DATA ANALYSIS AND RESULTS

Using relative importance factor for CSF have been calculated and sorted in the analysis software which have following order of importance Management support, Project management, Change management, Team work, Social networking, BPR, Training and infrastructure etc.

Table 1.1 Relative importance factor for social networking and CSF's

	Management support	User training	Team Work	Change Management	Project management	Technological infrastructure	Business Process Reengineering	Clear goals & objectives	Gap Analysis	Social Networking
Relative Importance Factor	0.723	0.431	0.6	0.662	0.677	0.554	0.4154	0.539	0.431	0.615
Order	1	8	5	3	2	6	9	7	10	4

Further analysis have been performed using SPSS software and association of Social Networking * Management Support value for Eta was .595, Social Networking * User training was .701, Social Networking * Team Work was .677, Social Networking * Change Management was .530, Social Networking * Technological infrastructure was .530, Social Networking * Business Process Reengineering was .786, Social Networking * Clear goals and objectives was .614, Social Networking * Gap Analysis was .600 considerable.

V. CONCLUSION

Impact of social networking have been seen considerable for proper communication, motivation, training and team work among the staffs of industries in the whole cycle of ERP as come out with analysis of survey. Impacts of social networking for industries are considerable. It works like game changers technology for industries and any organization in coming future. CSF factors are very important for successful implementation of ERP in the industries. They are like Masala's of fried vegetables of kitchen which require proper blending and right heating temperature and proper baking for good results.

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