

## CHALLENGES AND INFLUENTIAL FACTORS IN ERP ADOPTION AND IMPLEMENTATION

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### Abstract

*The adoption and implementation of Enterprise Resource Planning (ERP) systems is a challenging and expensive task that not only requires rigorous efforts but also demands to have a detailed analysis of such factors that are critical to the adoption or implementation of ERP systems. Many efforts have been made to identify such influential factors for ERP; however, they are not filtered comprehensively in terms of the different perspectives. This paper focuses on the ERP critical success factors from five different perspectives such as: stakeholders; process; technology; organisation; and project. Results from the literature review are presented and 19 such factors are identified that are imperative for a successful ERP implementation, which are listed in order of their importance. Considering these factors can realize several benefits such as reducing costs and saving time or extra effort.*

*Keywords: ERP, Critical Success Factors, Perspectives, Adoption, Implementation*

## 1 INTRODUCTION

An ERP system enables an organisation to integrate all its primary business processes in order to enhance efficiency and maintain a competitive position (Gupta and Kohli, 2006) without successful implementation of the ERP system, the projected benefits of improved productivity and competitive advantage would not be forthcoming (Moon, 2007). This creates trade off for decision makers to find causes and to manage the consequences. Literature suggests that adoption and implementation depends upon various factors during the course of initiation to benefits realization. These factors are influential and hence their understanding is critical to success. ERP has been implemented all over the world by many companies but their high failure rates suggest that understanding and implementing ERP is a challenging task (Al-Mashari et al, 2006).

ERP is an application or tool to create, to manage and to maintain the information backbone for top management decision making (Shehab et al., 2004). ERP still has its theoretical roots in strategic management where its perspectives suggest the differentiation strategy of improvement through quality and innovation (Kroenke, 2008). This can be converted into the valuable and non-imitable resources for the organisation. Hence, ERP as an enterprise wide business process planning has many applications and usages such as information management technique, change agent and technology strategy tool. The existing literature offers more definitions and applications of ERP than the actual phases or components of this process perspective itself. This has led to ERP's worldwide acceptance

as an enterprise-wide system designed to integrate and to optimise the business processes to achieve advantage over the competitors in the industry (Moon, 2007).

Based on the application perspective, its roots are originally in the Manufacturing Resource Planning (MRP) process for inventories or material management since 1970s. This system has basic material flow logistics modules within it such as: master schedule, billing, inventory records and future requirements module. The next breakthrough innovation added to MRP was priority planning which allowed development of further tools such as sales, demand, production and capacity planning and scheduling. These changes successfully produced closed loop MRP. Addition of financial interface and simulation became version MRP-II and later on technological developments attracted industry's attention which led to ERP (Wallace and Kremzar, 2001).

The following comprehensive definition explaining the concept of ERP by Razmi et al (2009) provides the latest view from literature that how ERP is perceived and applied.

*“ERP systems are integrated and corporate-wide systems that automate core activities such as manufacturing, human resources, finance and supply chain management. In such systems the fragmented information is integrated to support the decision making process.”*

From the above definition, one can see the shift of ERP, from historical position of tool to a software to manage data that has been evolved into an integrated system, a technology, an organisation wide business process application or a generic term like a paradigm which can bring significant changes and improvement at all levels in the organisation (Gupta and Kohli, 2006). These systems provide an enticing solution to practicing industry executives to remove incompatible systems and inconsistent policies. Also, using these systems can bring enormous benefits such as easier information access in a fixed time interval, reduction in inventory levels and cycle times, shortening business process lengths and time, improvement in quality, supply chain management, high efficiency and low costs leading ultimately to competitiveness of the organisation (Razmi et al, 2009).

ERP has both types of benefits to offer to the companies: tangibles, which can directly affect the bottom line of the business; and intangibles which are less quantifiable and less measurable as an actual value. For example, cost reduction can be counted as tangible benefit whereas improved customer services by more smiling and happy faces in a retail store is intangible (Remenyi et al, 2000). Murphy and Jones (2002) infers from Remenyi et al (2000) that tangible and quantifiable benefits can have high and low degrees of being directly countable and effective. Irani and Love (2001) add that corporate level and strategic benefits might be generally intangible and non-quantitative where as tactical and operational benefits are in general, tangible and quantitative in nature. Intangible benefits can be either ongoing or be realised at a future state in time (Nguyen, 2009).

Based on tangibility and measurability of the ERP benefits, they can be categorised into 5 dimensions such as strategic, managerial, operational, IT infrastructure and organisational. For example, these benefits include cost reduction, cycle time reduction, building cost leadership, empowering employees (Shang and Seddon, 2000). Major benefits such as reducing the cost of manufacturing operations and staff overheads which can be finally converted into margin earning and suitable investment resources are the usual targets in adopting ERP. This could enhance over all business operating even if it is not the intended outcome (Nguyen, 2009). Based on the amount to be spent, these ERP systems are not just like any other monthly IT expenses but they are capital in nature and hence, need analysis and adoption appraisal of ERP become necessary before investing in the ERP (Ballantine and Stray 1998). In spite of lot of efforts put into planning, selection and spending of financial resources, many projects do not reach to successful conclusion. Hence, the historical results of poor success rate makes managers vary of the new system implementation (Acar et al, 2005; Shin, 2006).

The purpose of this paper is to review the academic literature in the field of Information Systems management to find out factors influencing ERP adoption and implementation based on different perspectives. ERP has become a sought-after tool for multi-purpose improvement of organisational functions, its processes and final performance (Ross and Vitale, 2000). Reasons to adopt ERP can be tangible benefits that the firms want to derive, or intangible perspective to strengthen the company's business structure (Nguyen, 2009). Internal conditions of the company and its resources play equal role as compared to the competitive forces of the business environment (Boonstra, 2006). ERP implementation is an organisation wide issue and can be viewed as an innovation project, strategic change, an organisational system, software, business process improvement technique, or an IT integration of the firm (Macpherson et al, 2003). This leads one to define the different perspectives of using ERP, such as: stakeholders; process; technology; organisation; and project. Therefore, this paper takes a fresh approach by considering these different perspectives while identifying the critical success factors for ERP adoption and implementation. Theoretical contribution of the paper is comprised of defining five major perspectives and prioritization of influential factors in adoption and implementation of ERP. This addition to the body of knowledge provides foundation to the author's main research study about critical success factors of ERP life cycle phases and stages during adoption and implementation.

The structure of this paper is as follows: Section 1 is Introduction and presents the theory of ERP including its importance and the need for ERP; Section 2 details the problems with ERP adoption and implementation; Section 3 identifies the most imperative ERP critical success factors identified in the literature and prioritized in relation to five different perspectives. This creates clearer understanding of factors influential for successful ERP implementation. Finally, conclusions are drawn in Section 4.

## **2 ERP ADOPTION AND IMPLEMENTATION PROCESS – THE CHALLENGE**

The ERP revolution has left managers with a trade off for selecting the system for their organisation wherein firms' main aim is to generate the business value from their investments (Ross and Vitale, 2000). This would become possible when the need of ERP would arise internally within the organisation or the external forces would create a situation where customer focus or competition forces would require the company to adopt a system which can integrate the elements of its business.

However, reasons for new ERP system can be different based on the contextual factors for every organisation. Also, post-selection factors which can affect implementation can be varied as per the internal conditions or external forces. There may be various reasons for such rejection or unsuccessful conclusion to ERP adoption as discussed below:

- Management may not be clear about the needs and requirement of IT system such as ERP that why and how they are adopting it or whether such a capital investment is needed or not (Oakey and Cooper, 1991; Levy et al, 2001).
- A mismatch is created because most of the times managers do not understand the integration between their core business, IT processes, and firm's positioning (Bull, 2003); they may not know about the role that IT can play to their organisations (Macpherson et al, 2003).
- Management of the firm may not know that these new IT systems can bring multiple synergies or benefits to their company (Southern and Tilley, 2000; Nguyen, 2007).
- Firms may not have resources like access, skills, capabilities or dynamic capabilities to generate any tangible output from these systems (Bhagwat and Sharma, 2007).

- Globally operating organisations many times use single ERP solution for all its subsidiaries. This can lead to problems in local subsidiaries such as over budget and time resources spending, lack of technical expertise and compromises in business process (Sethi et al, 2008).
- Many firms are not able to leverage already implemented ERP systems for exploiting new business opportunities arising with latest market developments. This creates falsehood of ERP being not successful especially to the top management (Karimi et al, 2009).
- Primary focus on adoption and implementation often neglects post-implementation maintenance and support from an early stage after roll out in the life cycle (Law et al, 2010).

The above cited reasons form the decision for adoption (i.e. acceptance) or rejection of ERP. The adoption and pre-implementation are not only based on these reasons but there are other direct and indirectly linked factors that also affect the adoption and pre-implementation stage(s). As discussed earlier, this may include intangible factors such as management behaviour, internal - external resources and use of professional consultants. Other reasons may stem from the organisation's environment pressure such as technology push, market pull or external and internal forces (Nguyen, 2009). This may have its roots in developing innovations to differentiate strategically or to compete based on quality and cost criterion (Nguyen, 2009). This leads to the basic reasons that any company would adopt ERP as they can make the firm stay competitive, innovative and capable to survive (Macpherson et al, 2003). Hence, discussion of adoption leaves this attribute itself as a trade-off to managers, which can either be considered as an opportunity to further build the resources and capabilities or can be treated as a threat of capital expenditure (Barney, 1991).

The implementation of ERP is usually based on the style of adoption decided and perception by an organisation. This paper reviews the literature extending back to the last decade and identifies that the main challenge is fitting of the ERP within an organisation. There are major differences between the ERP modules and components and organisational functions. The main responsibility of ERP team is to correlate and to provide a workable mechanism between these two groups of business needs. It is easily understandable that right fit would make the implementation faster and easy with higher chances of success rate. This view is echoed by many researchers and a fact for large organisations rolling out ERP for all subsidiaries (Boonstra, 2006; Sethi et al, 2008). The implementation becomes extremely difficult at this stage where all organisational functions are integrated into one central data system as per design requirements of ERP (Allen, 2001). Also, the issues of conflicts between the end-users can be anticipated during execution about the ownership and access to data (Kennerley and Neely, 2001) because centralisation of information and changes in the management ownership due to ERP implementation bring changes in the business processes of the firm (Beekhuyzen et al, 2002; Pollock and Conford, 2004). This proves that implementation process is one of the most crucial stages in adopting and deriving benefits of ERP. Its implementation involves changes in many components of an organisation such as business processes, planning, stakeholders (such as users, customers, top management) while posing risks in terms of managing the human capital, firm's other resources (such as finance, technology, brand image and operations) (Olsen, 2000). This adds the unpredictability of the organisational circumstances into an existing uncertain condition of external business environment making it complex to management for handling key factors like relationships with suppliers, users, consumers and investors (McConachie, 2001). Post-implementation, ERP requires regular maintenance and support so that ERP can be aligned with new business opportunities stemming from external environment conditions (Karimi et al, 2009; Law et al, 2010). Thus, enterprise wide co-ordination before and after ERP implementation is very useful. Selection approach of ERP implementation in any organisation can be influenced by size of the firm, employee inertia, resources availability and need analysis (Duplaga and Astani, 2003). Based on these reasons of adoption, targeted results and other organisational issues, one can categorise different deployment strategies for

each phase of implementation and factors influencing the implementation. Hence, there is need to identify such factors that influence the adoption and implementation of ERP.

### **3 FACTORS INFLUENCING ERP ADOPTION AND IMPLEMENTATION**

Critical Success Factors (CSFs) can be defined as factors which can impact the success of ERP implementation either positively or negatively. Hence, another perspective of finding CSFs can be to identify factors which can create obstacles in the path of successful implementation process. This shall be overcome by using different impediments removal techniques. This perspective is proposed by Kim et al (2005) and they found five major impediments such as: functional units' conflict, inadequate HR commitment, lack of change management expertise, non-aligned BPR for ERP and employee inertia for new system usage. Similar viewpoint is shared by Hong and Kim (2002) where ERP implementation success is analysed based on the 'organisational fit' perspective which takes into account causes failure rate as well as strategy and IT integration through organisational fit and implementation contingencies factors. These further include dimensions such as data – process – user fit, adaption level, cost, time and performance of ERP.

ERP has evolved into a system which can provide sustainable competitive advantage through its ability to improve the process and to reduce the time consumption for functions in the organisation (Al-Mashari et al, 2003). Such applications of IT and IS enabled improvements in the system lead to the increased traceability, integration between various modules, better storage and retrieving of information. Usual causes for this are complexities associated with ERP implementation and costs. This has led companies with strong human and financial capital to enjoy advantages of this technological advancement over their competing rivals who did not adopt the system for various reasons (Soh et al, 2000). Cost-benefits analyses are conducted by all companies as a project appraisal and return on investment measurement but real drawbacks impeding the successful outcome are embedded within the implementation stages where congruence between company's culture, strategic goals and execution of new ERP system is lost (Davenport, 1998).

However, the success and failure of the ERP implementation can be attributed to flaws in the planning, design, execution, communication and post-implementation expectations. These stages of ERP implementation involve different functional activities such as operational, managerial, tactical and hierarchical in any organisation (Shang and Seddon, 2000). ERP benefits can be realized by exploiting links between ERP implementation and business performance measures. Al-Mashari et al (2003) suggested some factors as critical for the ERP success; these factors are shown in Table 1.

Holland and Light (1999) mentioned that the management focus of the ERP utility provides two major categories of factors affecting ERP into strategic and tactical influence. Strategic factors are generated from corporate strategy alignment with ERP where as tactical factors are generated from technical configuration point of view; these factors are shown in Table 1 along with many others.

Somers and Nelson (2004) developed the taxonomy of based on the key players and their activities as origin of CSFs for ERP project life cycle. Based on the analyses of 116 organisations' ERP experience they state the importance of the key players such as: top management, project leaders, steering committee, consultants, vendors, employee project team; and their major activities such as: training, package selection, customization, change management, communication, co-operation increases to a great extent. In their research model, Somers and Nelson (2004) suggest that in the earlier stages of own project top management, vendor and steering committee are observed as critical factors with their importance as high as 70% to 83% whereas in the later three stages, factors such as co-operation, communication, users and consultants, have turned out to be important.

Another research study of SMEs in UK by Loh and Koh (2004) has adopted process theory approach to find critical elements and their constituents. According to their claim, success factors are separated as critical elements from critical people and critical uncertainties. This considers ERP as an integrated architecture with five major elements: production; administration and control; human resources; inventory and warehouse management; and database management. Most important factors are: project champion, project management, business plan and vision, top management. Also, other significant factors are: support, effective communication and team work, BPR, minimized customization, change management, culture, software development, testing, trouble shooting, monitor, and to evaluate the performance.

The process theory approach has become very significant for ERP implementation as it is able to provide organized view of events leading from start to finish. In addition to this advantage, it offers the detailed analysis of each phase focusing on various components of ERP. Literature also provide major and critical success factors such as: business plan and vision, change management, communication, team composition, skills and compensation, project management, top management support and championship, system analysis - selection and technical implementation (Markus and Tanis 2000; Nah et al, 2001).

The project management view generated based on the size, resources and effects of the ERP can even be termed or be comparable as enterprise wide portals implementation. Remus (2007) compared ERP and portals implementation only to find that they differ in scale, scope, complexity, resources, and costs but have similar success factors. CSFs such as design, selection, top management support, change management, user training and acceptance, vendor support, communication are common between both types of projects (Remus, 2007). Similar CSFs are found in the large scale mail survey research by Muscatello and Chen (2008). These are strategic initiatives, executive commitment, human resources, project management, information technology, business process, training, project support, communication, software selection and support.

Francoise (2009) uses an innovative approach of filtering CSFs based on their relevance to difficulties and actions in a project implementation approach. Applying this actions-critical success factors (ACSF) method, major CSFs extracted by Francoise (2009) comprises of: project team work and composition, organisational culture, change management, top management support, business plan and long term vision, business process re-engineering and customization, effective communication and project management, testing, monitoring of system and organisational structure.

Dezdar and Sulaiman (2009) adopt content analysis approach of extensive literature and develop the taxonomy of ERP implementation CSFs. The CSFs are thus grouped into three major environments of ERP system, organisation and implementation success. These environments are sub-divided into ERP technology, external expertise, project success, business success, ERP user and project. The list of CSFs suggested by Dezdar and Sulaiman (2009) is included in table 1 comprising all other identified CSFs.

As ERP is used from different perspectives, it involves targeted improvements in the business process, decision process, management focus, IT and IS structures, products or positioning of the companies. From the stakeholders' perspective, people involved from different departments of business transaction in the ERP adoption and implementation allow easy resource allocation and team formation for the whole project (Boonstra 2006). From process perspective, when ERP is to be implemented throughout the organisation and a major reason to adoption is restructuring of the business and its competitive position, it is beneficial to adopt and to plan ERP implementation with a business process view (Gardiner et al, 2002). From a technical perspective, ERP can either be installed as standard set or modified according to end user requirements. From organisation perspective, need analysis of ERP is the first requirement which fits the ERP benefits into the gaps of organisational requirements. This view provides the remedial measures of organisational building (Gardiner et al,

2002). From project perspective, needs large amount of financial resources so its adoption is based on the project analysis using capital project appraisal methods where risk and returns are weighed against each other to evaluate the ERP system for the organisation (Shang and Seddon 2002). Based on the above discussion, the CSFs for ERP are summarised in Table 1. These CSFs of ERP are filtered from the literature by focusing at five different perspectives: stakeholders, process, technology, organisation, and project. These factors are listed in the order of their importance in Table 1.

Table 1 presents 19 CSFs extracted from the literature and their dominant perspectives that are identified as imperative for successful ERP adoption and implementation. For example, Top Management factor is related to the Stakeholders, therefore, it should be implemented by focusing on the Stakeholders perspective of ERP. These factors have been arranged in order of their importance (where H-High; M-Medium; L-Low) in relation to each of the perspectives.

ERP Perspectives	Critical Success Factors (CSFs)	Importance	Literature References
Stakeholders	Top management commitment	H	(Holland and Light 1999; Al-Mashari et al 2003; Muscatello and Chen 2008; Dawson and Owens 2008; Olson and Zhao 2007; Woo 2007; Law and Ngai 2007; Remus 2007; Nah et al 2007; Garcia-Sanchez 2007; Kansal 2007; King and Burgess 2006; Nah and Lau 2001; Jarrar et al 1999; Trimmer and Wiggins 2002; Akkermans and Helden 2002; Umble et al 2003; Nah et al 2003; Somers and Nelson 2004; Al-Mudimigh et al 2001; Ehie and Madsen 2005; Parr and Shanks 2000; Nah and Delgado 2006; Loh and Koh 2004; Francoise 2009)
	Project champion	H	(Holland and Light 1999; Muscatello and chen 2008; Dawson and Owens 2008; Olson and Zhao 2007; Garcia-Sanchez 2007; King and Burgess 2006; Nah and Lau 2001; Akkermans and Helden 2002; Nah et al 2003; Somers and Nelson 2004; Ehie and Madsen 2005; Parr and Shanks 2000; Nah and Delgado 2006; Loh and Koh 2004; Dezdard and Sulaiman 2009; Francoise 2009)
	Execution team	H	(Dawson and Owens 2008; Woo 2007; Nah et al 2007; Kansal 2007; King and Burgess 2006; Nah and Lau 2001; Trimmer and Wiggins 2002; Akkermans and Helden 2002; Umble et al 2003;

			Nah et al 2003; Somers and Nelson 2004; Parr and Shanks 2000; Nah and Delgado 2006; Loh and Koh 2004; Francoise 2009)
	External advisory support	M	(Holland and Light 1999; Olson and Zhao 2007; Garcia-Sanchez 2007; Kansal 2007; Trimmer and Wiggins 2002; Somers and Nelson 2004; Al-Mudimigh et al 2001; Ehie and Madsen 2005)
	vendor partnership	L	(Remus 2007; Ifinedo and Nahar 2007; Kansal 2007; King and Burgess 2006; Trimmer and Wiggins 2002; Akkermans and Helden2002; Somers and Nelson 2004)
	Total end-user involvement	L	(Holland and Light 1999; Olson and Zhao 2007; Remus 2007; Garcia-Sanchez 2007; Kansal 2007; Francoise 2009)
Process	Business process design	H	(Holland and Light 1999; Al-Mashari et al 2003; Muscatello and Chen 2008; Woo 2007; Law and Ngai 2007; Remus 2007; Garcia-Sanchez 2007; Kansal 2007; King and Burgess 2006; Nah and Lau 2001; Jarrar et al 1999; Trimmer and Wiggins 2002; Nah et al 2003; Somers and Nelson 2004; Ehie and Madsen 2005; Loh and Koh 2004; Al-Mudimigh et al 2001)
	Customization approach	M	(Olson and Zhao 2007; Remus 2007; Kansal 2007; Nah and Lau 2001; Somers and Nelson 2004; Loh and Koh 2004; Dawson and Owens 2008; Parr and Shanks 2000; Al-Mudimigh et al 2001; Francoise 2009)
	Performance measurement and control	L	(Holland and Light 1999; Al-Mashari et al 2003; Dowlatshahi 2005; Nah and Lau 2001; Umble et al 2003; Nah et al 2003; Loh and Koh 2004; Al-Mudimigh et al 2001; Francoise 2009)
Technology	Package requirements and selection	M	(Al-Mashari et al 2003; Muscatello and Chen 2008; Remus 2007; Garcia-Sanchez 2007; King and Burgess 2006; Akkermans and Helden 2002; Somers and Nelson 2004; Al-Mudimigh et al 2001; Nah and Delgado 2006)
	System testing	L	(Al-Mashari et al 2003; Ifinedo and Nahar 2007; Nah and Lau 2001; Nah et al 2003; Loh and Koh



			2004; Francoise 2009)
Organisation	Change management	H	(Dawson and Owens 2007; Woo 2007; Garcia-Sanchez 2007; Kansal 2007; Nah and Lau 2001; Jarrar et al 1999; Umble et al 2003; Nah et al 2003; Somers and Nelson 2004; Al-Mudimigh et al 2001; Parr and Shanks 2000; Nah and Delgado 2006; Loh and Koh 2004; King and Burgess 2006; Akkermans and Helden 2002; Francoise 2009)
	Effective communication	H	(Holland and Light 1999; Al-Mashari et al 2003; Muscatello and Chen 2008; Dawson and Owens 2008; Olson and Zhao 2007; Woo 2007; Remus 2007; Nah et al 2003; Garcia-Sanchez 2007; Kansal 2007; King and Burgess 2006; Nah and Lau 2001; Akkermans and Helden 2002; Nah et al 2003; Somers and Nelson 2004; Nah and Delgado 2006; Loh and Koh 2004; Francoise 2009)
	Business vision goals and objectives	H	(Holland and Light 1999; Al-Mashari et al 2003; Dawson and Owens 2008; Garcia-Sanchez 2007; Kansal 2007; King and Burgess 2006; Nah and Lau 2001; Akkermans and Helden 2002; Umble et al 2003; Nah et al 2003; Somers and Nelson 2004; Al-Mudimigh et al 2001; Parr and Shanks 2000; Nah and Delgado 2006; Loh and Koh 2004; Dezdard and Sulaiman 2009; Francoise 2009)
	Training and education	M	(Al-Mashari et al 2003; Muscatello and Chen 2008; Olson and Zhao 2007; Woo 2007; Garcia-Sanchez 2007; Kansal 2007; Dowlatshahi 2005; Trimmer and Wiggins 2002; Umble et al 2003; Somers and Nelson 2004; Al-Mudimigh et al 2001)
	Organisational structure and culture	L	(Al-Mashari et al 2003; Olson and Zhao 2007; Remus 2007; Nah et al 2007; Trimmer and Wiggins 2002; Francoise 2009)
Project	Project management	H	(Holland and Light 1999; Al-Mashari et al 2003; Muscatello and Chen 2008; Dawson and Owens 2008; Olson and Zhao 2007; Woo 2007; Remus 2007; Nah et al 2007; Garcia-Sanchez 2007; Kansal 2007; King and Burgess 2006; Nah and Lau 2001; Akkermans and Helden 2002; Umble et al

			2003; Nah et al 2003; Somers and Nelson 2004; Al-Mudimigh et al 2001; Ehie and Madsen 2005; Nah and Delgado 2006; Loh and Koh 2004; Francoise 2009)
	Budget – Cost parameters	L	(Dezdar and Sulaiman 2009; Parr and Shanks 2000; King and Burgess 2006; Dowlatshahi 2005; Trimmer and Wiggins 2002; Ehie and Madsen 2005)
	Time	L	(Dezdar and Sulaiman 2009; Dowlatshahi 2005;, Trimmer and Wiggins 2002)

*Table 1: ERP Critical Success Factors CSFs*

#### 4 CONCLUSION

There are many critical issues within the context of ERP adoption and implementation. Certain factors are imperative to a successful ERP system whereas few others are ignored or are not known in the literature. Hence, this paper attempts first step towards identifying these factors. On the other hand, these factors are found influential in the literature to a level where they can have positive or negative impacts on adoption and implementation of ERP. The criterion considered to select these factors are their necessity in adopting and implementing ERP apart from different business perspectives linked to them as an overarching organisational domain of selecting each of them. The author proposes a novel approach of filtering these factors based on five different perspectives: business process, technology, organisation, project and stakeholders' management. Major factors found are: business process design, package requirement and selection, change and project management. The most important factor included from every perspective in the literature is top management commitment. However, IT architecture, IT staff factors have not been identified in the literature but are of significance for the adoption and implementation of ERP.

Theoretical implications of this paper include: literature assessment with altogether different viewpoint and synthesizing the influential factors for ERP adoption and implementation. Such an implication provides the further scope of applying results from this review to successful ERP implementation. It is expected from the practicing managers that concept and factors would help them to better decision making in ERP implementation from initiation to benefits realization. There are also some intangible benefits that an organisation may enjoy by implementing an ERP system including, better customer satisfaction, improved vendor performance, increased flexibility, reduced quality costs, improved resource utility, improved information accuracy and improved decision-making capability.

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