

# A Review of Enterprise Resource planning systems in Knowledge Management

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## Abstract

*Particular concentration to decisive triumph factors in the completion of ERP systems is obvious from the immensity of literature on this subject. In order to apply these systems, which are aimed at improving the sharing of venture- broad information and comprehension, organizations must have the ability to efficiently split information to start with. Based on a review of the literature on knowledge management in enterprise system implementation, this paper identifies two major areas of concern regarding the management of knowledge in this specific type of project: managing the knowledge, and issues regarding the process-based nature of managerial knowledge viewed during the lens of managerial memory. The additional able an association is in handling these issues; the more likely it is that the completion will result in spirited benefit for the organization. In this paper spirited advantage arises from the organization's capabilities in internalizing and integrating the adopted processes with the existing knowledge paradigms and balancing the new system and the managerial culture towards getting the most out of the accomplishment attempt.*

**Keywords:** Knowledge, Knowledge Management, Enterprise Resource Planning, Project Management

## I. INTRODUCTION

Enterprise resource planning (ERP) systems are popular among venture, with many organizations wanting to realize an ERP system, up till now the rate of breakdown is rather high. Enterprise resource planning software in attendance a structure for an association to assist them improves their business processes. It consists of a broad variety of software products supporting daily managerial business operations and decision making.

ERP systems mechanize process in supply chain management, account control, developed preparation, sales carry, client relationship organization, economic and cost accounting, human reserve and other business useful areas within an association.

Knowledge management (KM) is playing a significant role in civilization, and becoming forceful issue within enterprises. In this article, account on a methodical appraisal of experiential studies of knowledge management in activity resource planning projects. Our major objective is to provide a clear overview of experiential studies within the ERP research field, identifying the concepts that have been explored in ERP projects, the main findings, and the research methods that have been used within this area.

The aim distribution of the appraisal is four groups which expect will be interested in an impression of experiential investigate on KM in ERP projects: intellectual and activity researchers on KM in universal, who would be interested in making comparison ERP projects; practitioners within enterprises, who will be interested in learning about information organization proposal in ERP project implementation; knowledge organization researchers who are interested in designing studies to address important research gaps in this field; and researchers who are involved in recognize the pertinent studies, and the major findings and their inference within the field.

## II LITERATURE REVIEW

Our literature review focused on two major issues; (A) ERP and (B) ERP success factors.

### A. Enterprise Resource Planning (ERP)

Enterprise resource planning (ERP) is a software suite that integrate back-office operation such as developed, finance, accounting, sales, allocation and human resources in an venture and links these operations to the front-office and supply chains (Lall, 2006)(Woo, Hong Seng,2007, 431)( Usman & ahmad,2012,22).The ERP system has been shown to be able to give important improvement in competence, efficiency and service excellence, and to lead to a decrease in repair costs as well as to more effectual decision-making, step up in information flow, fast generation of monetary information, promotion of e-

commerce, and assistance in improvement of new managerial strategies are ordinary benefits of triumphant ERP accomplishment .ERP began in the 1960s as material requirements planning (MRP) and, later, urbanized into a more advanced system called MRP II. these days, the latest making of ERP systems is more advanced and more effective in dealing with numerous business units including sales and operations planning, inventory/materials association, manufacturing, purchasing, order processing, accounting and finance, human resources, client relationship organization, and more .

Given a broad variety of reimbursement in terms of functionality, many businesses believe the ERP system can deliver strategic competitive advantages. Therefore, it is not surprising that many organizations have already adopted ERP systems E.W.T. Ngai et al., 2008, 549)( T.H. Davenport, and J. D. Brooks,2004,11).ERP systems provide firms with two new and different types of functionality: a transaction processing function, allowing for the included organization of data throughout the entire company, and a workflow management function controlling the frequent process flows within the company. ERP facilitates the flow of information between all the processes in an organization (Garg, Poonam,2010,2).According (Davenport, 1998) An enterprise resource planning system is a packaged software system that enables a company to manage the efficient and effective use of resources (materials, human resources, finance, etc.) by providing a total, integrated solution for its information-processing needs. An ERP system ropes a process-oriented view of a venture and standardizes business processes across the enterprise. though ERP systems can bring competitive benefit to organizations, the high failure rate in implementing such systems is a major concern (Nah& et.al., 2003,6) A complete definition adopted from Klaus, Rosemann, and Gable (2000: 141), is used in this study, where ERP systems are perceived as “complete packaged software solutions seek to integrate the complete range of a business's processes and functions in order to there a holistic view of the business from a single information and IT structural design”.

They can connection dissimilar areas of an association, such as manufacturing, order management, financial systems, human resources, suppliers and customers, into a tightly integrated system with shared data and visibility (Rabaa'i, 2009,134). In spite of the important benefits that are associated with the completion of an ERP system, there are many drawbacks recognized in the completion process. The main aim of ERP system implementations in

universities has been to integrate different managerial functions into a more methodical and cost effectual approach to gain a planned advantage.

The adding of decision-making functions in the universities spans the addition of student association, human resource organization, facilities management, and monetary systems that have in the past been supported by separate legacy systems (Zornada and Velkavrh, 2005). The main compensation of ERP for HEIs are improved information access for planning and managing the institution, better services for the faculty, students and employees, lesser business risks, and augmented income and decreased expenses due to improved efficiency(Rabaa'i, 2009,135). Although of the many benefits of ERP for universities, but the ERP implementation process is still hard and complex.

### **B. ERP Success Factors**

Bullen and Rockart (1981) define ERP success factors (ESFs) in IS as the few key areas of activity in which positive results are completely necessary for an exacting manager to reach his goals. Successful managers must focus their scarcest resource, their time, “on those things that make dissimilarity between success and failure (Bradley, Joseph, 2008, 178). The ESFs of ERP are those conditions that must be met in order for the accomplishment process to occur successfully (S. Finney, and M. Corbett, 2007, 334).

ERP implementation success often results from a number of factors, such as user contribution and participation in systems expansion, evaluation of business needs, processes during the examination phase of the project and the stage of data addition intended into the system. ERP changes this procedure from scheming a custom system to accommodate the existing business processes of a firm to selecting a packaged application system that best meets the firm's needs. CSFs for ERP systems can be expected to differ from other IS projects because of these changed conditions (Bradley, Joseph, 2008, 178). In order to recognize the factors that influence the triumph or failure of ERP projects, several case studies, surveys, and writing reviews have already been conduct by a number of researchers (e.g., Plant, and Willcicks , 2007 ; Yingjie ,Jiang , 2005; Jafari,*et.al*,2006) .

## **III. BACKGROUND**

In this section, a brief introduction to ERP and our research focus together with our research question are presented. The remainder of the article presents the

overview of the current work on knowledge management in ERP projects.

### A. Knowledge Management

Knowledge is derived from data and information. Knowledge management is the organization of information and knowledge and their usage in decision-making business processes within the association. The main focus of information management is steering approach and, identifying and communicating the various types of knowledge that reside in processes, people, products and services in order to support addition to improve competence and efficiency. Based on the information organization literature review, the conclusion can be made that knowledge resides in managerial resources, employees and outside partnerships. Knowledge is categorized to pursue different research interests, namely, the tacit and unequivocal dimensions of personal information and processes required for managing to generate managerial information.

Three knowledge types are identified by Petrash's framework Based on the knowledge management literature, knowledge management processes are studied in accordance with characteristic and various types of information and managerial objectives. It has conventionally been assumed that there are three broad types of knowledge processing: generation, transfer, and utilization. For example, Probst et al. recognized six knowledge processes

requisite for managing managerial knowledge. Knowledge incorporation is viewed as an important process for innovation and building managerial ability. Coombs and Hull identified ten distinctive processes, namely, classification, transport, operation, creation, achievement, maintenance, codification, justification, developing, and incorporation of knowledge.

### B. ERP Project viewpoint

An ERP scheme allows an association to have a convergent and incorporated view of the managerial information by means of central databases and integrated business processes across the lines of dissimilar divisions and departments. It could be said that as a result of activity system implementation, the managerial information and knowledge converges across dissimilar divisions and departments on an organization-wide scope. IT experts require knowing more about the business processes and business process experts need to leverage their information about the IT systems in place in their organization. Ultimately, the partly cover between the information of dissimilar divisions increases and the knowledge on the organizational scale follows a converging pattern. However, this convergence on the managerial level tends to turn into disagreement as we move down to the behavior point

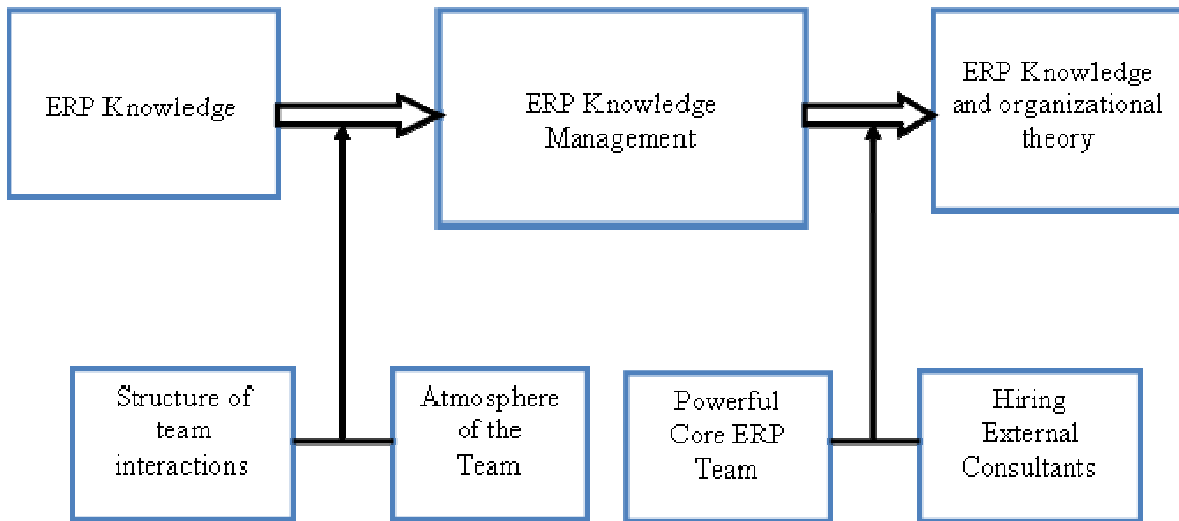
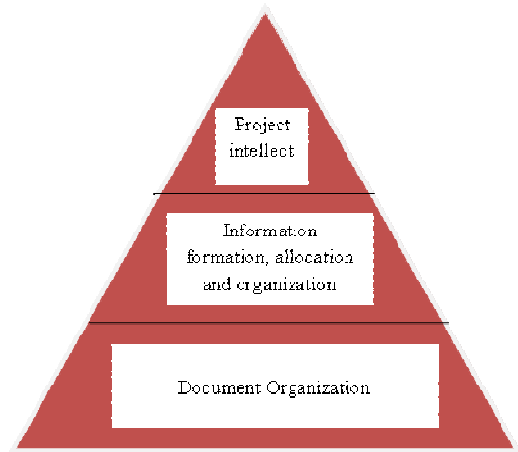


Fig.1 Knowledge management



**Fig.2 ERP Project viewpoint**

A broader acquaintance of the association is required for end users of enterprise systems compared to the conventional heritage systems that were adapted to each island of automation. As the view changes from the task focus to the process focus by implementing venture systems, employees need to know how their tasks fit into the overall process and how that process contributes to the achievement of managerial objectives. For example, an employee working in the purchaser billing section will need to know more about the IT systems as well as other business areas such as manufacture and accounting.

Equally, the IT expert needs to know more about dissimilar subject areas to adapt the new system to the areas' requirements and configure the activity system to operate optimally. Therefore, as the organizational view of information regarding the tasks and processes that are conducted in the association tends to converge by the use of the activity system, the personality knowledge must differ to accommodate the changes posed by enterprise system accomplishment.

One main insinuation of such a view of activity system projects is that information sharing needs to be major across managerial boundaries to allow for the maximum sharing of observations and experiences among employees from different divisions with dissimilar mindsets about how the business is done along the lines of process. Knowledge sharing in activity system projects exists along different lines of communication among directorial members, the ERP team, and peripheral consultants which echoes the need for enhanced knowledge sharing along dissimilar organizational magnitude and in dissimilar levels of engagement with the completion project. The next section reviews different lines of ERP specific acquaintance.

### **C. Knowledge Management in ERP Projects**

The instantaneous accomplishment of activity resource planning and knowledge management systems in organizations implies some sort of disagreement by its nature. Enterprise systems are meant to increase the organizational competence by enhancing the information processing capability of the enterprise. This competence enhancement is enabled by the systematization and centralization of information management and the acceptance of standard approaches to the codification and processing of information. On the other hand, knowledge organization initiatives aim at mobilizing the knowledge through prearranged knowledge repositories of open knowledge and community of practice as a means of sharing and creating tacit knowledge, having their overall focus on improving innovation capability by increasing flexibility.

As it is conventionally believed that it is not possible for an association to focus on both competence and suppleness, Newell et al. show, by analyzing a case that venture system and information management initiative are corresponding rather than contradictory. Assuming enterprise systems are integrated databases of managerial information and explicit information as opposed to knowledge management initiative being methods of managing tacit information; their findings propose that a balanced standpoint of ERP and KM systems can assist in exploit plain knowledge as well as explore and sharing tacit knowledge concurrently.

In other words, utilize the individual power of the activity system and KM in tandem enables the alignment of managerial capabilities in information processing, knowledge examination and utilization. Knowledge management techniques are used over the course of activity system completion and during different steps of implementation projects to facilitate this information sharing.

### **IV KNOWLEDGE MANAGEMENT SYSTEMS**

Knowledge management (KM) is the management of explicit and tacit knowledge with data and information of the object area to create value. Being in a knowledge-intense manufacturing, good KM systems are significant for the organization of processes.

#### **A. Linking public to Content**

This part of the KM consists of knowledge repositories that include processes for creation, distribution, and use of explicit knowledge. The

Reusable Components depository facilitates the use of previously developed components to reduce idleness.

### B. Linking Public To Public

This part helps in connecting people in need of information to people with information. Lists of experts in particular areas are maintained, and people seek information from these experts.

### C. ERP Projects

This section contains the quantitative (metrics) and qualitative data for all the projects. Regardless of the claims about ambiguities surrounding the definition of knowledge, as well as the significance and requirement of KM, software processes continue to evolve. This is because software developers possess highly valuable information relating to the product expansion, the software expansion process, project management and technology in universal. As a knowledge-intensive work, the software growth process involves both explicit and implicit knowledge. This knowledge is go-ahead and evolves with technology, managerial culture and the changing needs of organization's software expansion practices.

There are cases where this information is shaped at uneven intervals and the value of its use can only be display overtime. The use of the Internet

facilitates the storage space and utilization of activities, thus civilizing the quality of the software growth process. Experience also plays a major role in knowledge-related activities. Software development can be improved by recognize the related knowledge content and arrangement as well as the required suitable knowledge, and performing preparation activities.

### D. Knowledge Application

It is not strange for companies to not to know how to produce value from the use of the knowledge assets they have. It is worse when a company does not even know the kind of acquaintance it has. Knowledge Management offers a management system for the company to ensure that their information assets when created are properly documented, and that the information in different domain owners will be shared within the association.

When information assets are recognized and shared, information utilization will be facilitated. This is the stage in information organization where value creation is delivered. By harnessing knowledge from different information domains and competencies across the organization, direct impacts to the missions and goals of the corporation can be achieved.

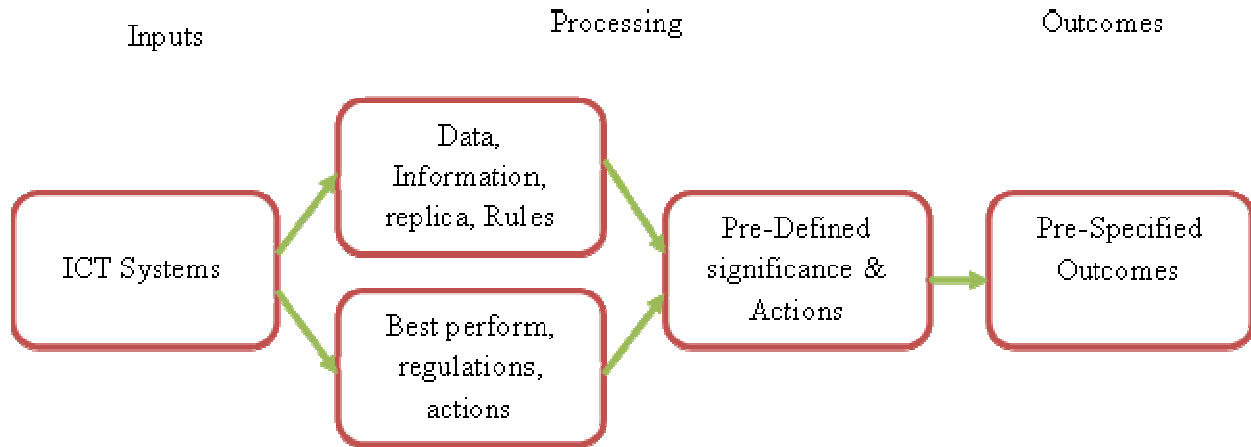


Fig.3 Knowledge management performance

## V. CONCLUSION

The process-based nature of managerial information is the second area of anxiety in activity scheme KM which was examine from the lens of organizational memory. Managerial processes embed considerable information of the organization's history

and can be regarded as the managerial memory. Viewing the ERP knowledge through the lens of directorial memory sheds light on some interesting issues of concern in ERP execution projects. Arranging powerful core enterprise system completion teams and effectual operation of external consulting were identified to be among the most favored methods of

dealing with the knowledge barriers associated with project system configuration caused by difficulties connected with directorial recollection.

The consistency which results from adopt the same best practice of activity scheme packages by many organizations might give rise to concerns about losing spirited advantage. In exacting, the two subjects reviewed here are very descriptive. In conclusion, managing ERP-related knowledge across its lifecycle is also an interesting area. For example, exploiting the donation from disciplines such as ontology engineering into this area would give benefits within the context of ontology-based applications for activity systems. This may enhance the complete presentation of ERP lifecycle information organization activities.

## REFERENCES

- [1] S.A. Ajila, & Z. Sun, "Knowledge management: impact of knowledge delivery factors on software product development efficiency", in: Proceedings of the IEEE International Conference on Information Reuse and Integration, Las Vegas, NV, United States, 2004, pp. 320–325.
- [2] A.J. Al-Shehab, R.T. Hughes, & G. Winstanley, "Facilitating organisational learning through causal mapping", in: Proceedings of the Seventh International Workshop on Learning Software Organizations, Springer Verlag, Kaiserslautern, Germany, 2005, pp. 145–154.
- [3] M. Alavi, & D.E. Leidner, Review: "knowledge management and knowledge management systems": conceptual foundations and research issues, *MISQuarterly* 25 (1) (2001) 107–136.
- [4] N. Angkasaputra, D. Pfahl, E. Ras, & S. Trapp, "The collaborative learning methodology CORONETrain: implementation and guidance", in: Proceedings of the Fourth International Workshop on Learning Software Organizations, Springer Verlag, Chicago, IL, USA, 2002, pp. 13–24.
- [5] J. Arent, & J. Nørbjerg, "Software process improvement as organizational knowledge creation: a multiple case analysis", in: Proceedings of the Hawaii International Conference on System Sciences, Maui, USA, 2000, p. 105.
- [6] J. Arent, J. Nørbjerg, & M.H. Pedersen, "Creating organizational knowledge in software process improvement", in: Proceedings of the 2nd Workshop on Learning Software Organizations, Oulu, Finland, 2000, pp. 81–92.
- [7] L. Argote, B. McEvily, & R. Reagans, "Managing knowledge in organizations: an integrative framework and review of emerging themes", *Management Science* 49 (4) (2003) 571–582.
- [8] C. Argyris, "Overcoming Organizational Defences: Facilitating Organizational Learning", Prentice Hall, Boston, 1990.
- [9] C. Argyris, & D.A. Schön, "Organizational learning II: theory, method and practice", Organization Development Series, Addison Wesley, Reading, MA, USA, 1996.
- [10] A. Aurum, R. Jeffrey, C. Wohlin, & M. Handzic, "Managing Software Engineering Knowledge", Springer Verlag, Berlin, 2003.
- [11] M.D.O. Barros, C.M.L. Werner, & G.H. Travassos, "Supporting risks in software project management", *Journal of Systems and Software* 70 (1–2) (2004) 21–35.
- [12] V.R. Basili, G. Caldiera, F. McGarry, R. Pajerski, & G. Page, "The software engineering laboratory – an operational software experience factory", in: Proceedings of the 14th International Conference on Software Engineering, 1992, pp. 370–381.
- [13] V.R. Basili, G. Caldiera, & H.D. Rombach, "The experience factory", in: J.J. Marciniak (Ed.), *Encyclopedia of Software Engineering*, 1, John Wiley, New York, 1994, pp. 469–476.
- [14] R. Baskerville, & J. Pries-Heje, "Knowledge capability and maturity in software management", (1999).
- [15] A. Birk, "A Knowledge Management Infrastructure for Systematic Improvement in Software Engineering", Dr. Ing thesis, University of Kaiserslautern, Department of Informatics, 2000.
- [16] F.O. Bjørnson, & T. Dingsøyr, "A study of a mentoring program for knowledge transfer in a small software consultancy company", in: *Lecture Notes in Computer Science* 3547, Springer Verlag, Heidelberg, 2005, pp. 245–256.
- [17] F.O. Bjørnson, "Knowledge Management in Software Process Improvement", PhD thesis, Norwegian University of Science and Technology, Department of Computer and Information Science, 2007.
- [18] F.O. Bjørnson, & T. Stålhane, "Harvesting knowledge through a method framework in an electronic process guide", in: Proceedings of the Seventh International Workshop on Learning Software Organizations, Springer Verlag, Kaiserslautern, Germany, 2005, pp. 86–90.
- [19] P. Brössler, "Knowledge management at a software engineering company – an experience report", in: Proceedings of the 1st Workshop on Learning Software Organizations, Kaiserslautern, Germany, 1999, pp. 77–86.
- [20] A.F. Buono, & F. Pouffelt, "Challenges and Issues in Knowledge Management", Information Age Publishing, Greenwich, CT, USA, 2005.
- [21] B. Chatters, "Implementing an experience factory: maintenance and evolution of the software and systems development process", in: Proceedings of IEEE.
- [22] M. Alavi, & D.E. Leidner, Review. "Knowledge management and knowledge management systems": conceptual foundations and research issues, *MISQuarterly* 25 (1) (2001) 107–136.
- [23] R. Baskerville, S. Pawlowski, & E. McLean, "Enterprise resource planning and organizational knowledge": patterns of convergence and divergence, in: Proceedings of the 21st ICIS conference, 2000.
- [24] M. Beer, & N. Nohria, "Cracking the code of change", *Harvard Business Review* 78 (3) (2000) 133–141.
- [25] M. Earl, "Knowledge management strategies: toward a taxonomy", *Journal of Management Information Systems* 18 (1) (2001) 215–233.
- [26] T.L. Griffith, J.E. Sawyer, & M.A. Neale, "Virtualness and knowledge in teams: managing the love triangle of organizations, individuals, and information technology", *Mis Quarterly* 27 (2) (2003) 265–287.
- [27] V. Grover, & T.H. Davenport, "General perspectives on knowledge management": fostering a research agenda, *Journal of Management Information Systems* 18 (1) (2001) 5–21.
- [28] C. Holland, & B. Light, "A stage maturity model for enterprise resource planning systems use", *The DATA BASE for Advances Information Systems* 32 (2) (2001).
- [29] J. Huang, S. Newell, & S. Pan, "Knowledge integration processes within the context of enterprise resources planning (ERP) systems implementation", in: Proceedings of the 9th ECIS Conference, 2001.
- [30] M. Jones, "Tacit knowledge sharing during ERP implementation": a multi-site case study, *Information Resource Management Journal* 18 (2) (2005) 1–23.