



Towards Knowledge Management System Success: Analysis of Critical Success Factors

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Abstract - Successful implementation of Knowledge Management System (KMS) has been observed in many organization, where they use the system with real interest and enthusiasm. Despite of the fact, some organizations has failed to implement the KM initiatives to achieve its adequate advantages due to the lack of pertinent information and shortage of measurement that is used in KMS. The obstacles that hurdle the KMS implementation are some critical factors that must be taken into high precedence during KMS implementation. The critical factors that hindrance the KMS implementation can lead the organization to a poor KMS or fail its implementation. The main focus of this paper is to explore and investigate the critical success factors of KMS and analyze these factors for the success of its implementation. In this paper, we discuss the most prominent critical success factors of knowledge management system in the literature and compare these factors from different sources and their importance for the organization success.

Keywords : *knowledge management, critical success factors, organization, implementation.*

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Abstract - Successful implementation of Knowledge Management System (KMS) has been observed in many organization, where they use the system with real interest and enthusiasm. Despite of the fact, some organizations has failed to implement the KM initiatives to achieve its adequate advantages due to the lack of pertinent information and shortage of measurement that is used in KMS. The obstacles that hurdle the KMS implementation are some critical factors that must be taken into high precedence during KMS implementation. The critical factors that hindrance the KMS implementation can lead the organization to a poor KMS or fail its implementation. The main focus of this paper is to explore and investigate the critical success factors of KMS and analyze these factors for the success of its implementation. In this paper, we discuss the most prominent critical success factors of knowledge management system in the literature and compare these factors from different sources and their importance for the organization success.

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1. INTRODUCTION

(Gottschalk 2007) defined knowledge as information combined with experience, context, interpretation, reflection, intuition and creativity. Information and Knowledge are exchangeable terms when it is processed in individual minds becomes knowledge or becomes information when communicate to others (Aktharsha & Hasanali, 2002). The knowledge management redefined in the mid 1990s which means the valuable information in action, where the value is resolute by the organization and their beneficiary (Hasanali, 2002). On the other hand Knowledge management systems (KMS) refer to information systems which help in managing the organizational knowledge to enhancing and supporting IT applications in the accessibility of organizational processes of knowledge (Alavi & Leidner, 2001). (Maier 2007) defined a "knowledge management system (KMS) as an ICT system in the sense of an application system or an ICT platform that combines and integrates functions for the contextualized handling of both, explicit and tacit knowledge, throughout the organization or that part of the organization that is targeted by a KM initiative". According to (Alavi and Leidner 1999) "IT-based systems developed to support and enhance the organizational processes of knowledge creation,

storage/retrieval, transfer, and application". Others identify that KMS facilitating knowledge management to ensure the smooth flow of knowledge between the concern individuals with updated information throughout the entire organization (Alshahrani).

(Alavi & Leidner 2001) has found 11 critical success factors of KMS in a survey of 12 countries in a no-random sample of 109 participants. (Ginsburg and Kambil 1999) developed annotate which provided a flexible knowledge management support system (KMSS) to support federated document search and retrieval. They identified critical issues that must be considered in designing KMS and they classified these issues as technical and organizational.

The paper will discuss the analysis of critical success factors of KMS implementation in the literature in the following sections.

a) Background Study

The concept of Critical Success Factors was first defined as the limited number of identified operational goals shaped by the industry, the firm, the manager, and the broader environment that, if satisfactory, will ensure successful competitive advantage for the organization (Al-Mabrouk, 2007). (Hasanali, 2002), defines some critical success factors of KMS like leadership, culture, IT, structure, and measurement and categorized that some are under his control and some are out of control.

Many large companies and non-profit organizations have resources dedicated to internal KM efforts, often as a part of their 'business strategy', 'information technology', or 'human resource management' departments (Rachael et-al 2006. Several consulting companies also exist that provide strategy and advice regarding KM to these organizations. For this purpose Knowledge Management efforts typically focus on organizational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organization (Rodney and Sandra, 2000). KM efforts overlap with organizational learning, and may be distinguished from that by a greater focus on the management of knowledge as a strategic asset and a focus on encouraging the sharing of knowledge (Thompson and Geoff, 2004). The value of Knowledge Management relates directly to the effectiveness with which the managed knowledge enables the members of

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the organization to deal with today's situations and effectively envision and create their future (Gene. B). Davenport et-al conducted a research and studied 31 different knowledge management projects in 23 companies with the goal to understand that how knowledge is really being managed in companies today. (Ginsburg and Kambil 1999) developed Annotate which provided a flexible knowledge management support system to support federated document search and retrieval. They identified critical issues that must be considered in designing KMS and they classified these issues as technical and organizational. The main objectives of KM are to make the organization act as intelligently as possible to be secured in term of viability and overall process, and to realize the best value of its knowledge assets (Abdullah et-al, 2007). Knowing the essential success factors is useful as it provides researchers and practitioners with the basic requirements for building a successful KMS. Also, it can be argued that determining KMS success factors will also help us determine KM initiative success factors as it difficult to separate the system from the process requiring the system (Jennex & Olfman, 2005).

b) Methodology

The advancement in the business organizations is due to the fact of knowledge creation and sharing among the people of related to the business of organizations. Therefore, knowledge is a never ending source of assets for competitive organizations discovered by the modern management. To make it as successful as it has promised, a solid methodologies and framework of KM is needed to discover (Vasquez et-al, 2000).

Our methodology in this paper is based on the literature to explore and investigate the critical success factors of KMS in medium and large organizations. The study comprise of research articles that is sourced from science direct, emerald publishers, IEEE explorer, and other refereed journal's achieve and online forums and blogs related to the topic of this paper.

c) Critical Success Factors

Most of the authors in the literature stated that knowledge is power and it is evident that the deployment of such power can change the entire organizations business process and manage their culture for the best competition in the market. Similarly if the same implementation of knowledge is applied in higher education can change the vision and objectives of the institution. Now it is worth to say that how to measure the implemented knowledge in organization and how can benefit from it. The success of KMS system could be measure after its implementation in many reasons. Three reasons which are important to measure the success of KMS described by (Jennex & Olfman 2005) are company assessment, focus of

management to stimulate on the important issues, justification of KM investment activities.

KM implementation measurement is not an easy task to figure out but it needs some success factors to find out that the organization had implemented the KM successfully. As we discussed that KMS is crucial to measure and figure out its success. The effectiveness of KMS or success to understand how these systems are suppose to be built and implemented is hard a job (Jennex & Olfman, 2005). Therefore, the idea of measurement of KMS is to measure from the critical success factors that affect the KMS.

To explore the critical success factors of KM, the organization must be studied in deep that either they sustained the deployment of KM initiatives or need more efforts to complete it. From the literature the critical success factors are in high numbers but we will discuss those which are more important in KM and the remaining will be referenced in a table as shown in table 1. The most prominent KM critical success factors are Leadership, Organizational culture, IT infrastructure and Training as shown in Fig 1, which will discuss in the following sections of this paper.

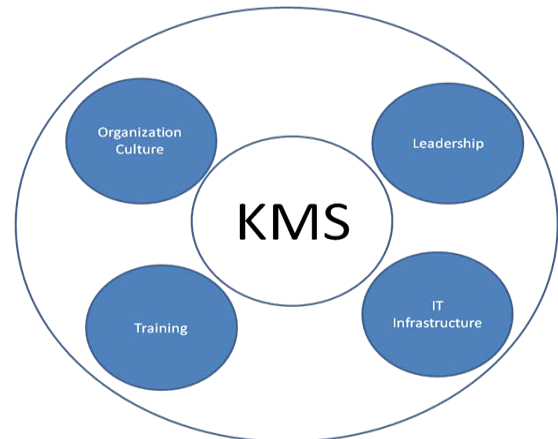


Figure 1 : Most common critical success factors of KMS

II. DISCUSSION ON CRITICAL SUCCESS FACTORS

a) Leadership

The key role in the success of KM implementation is leadership which can be defines in simple way that knowledge sharing through top management to the lower management is successful to create new ideas from the shared knowledge by the people of the entire organization (Wong 2005). The leadership necessarily provides the circumstances and environment for the individuals of organization to participating their own expertise and resources of knowledge to the organization's knowledge area and also provide easy access to the required resources of knowledge (Holsapple & Joshi 2000). The leaders have important role in demonstrating the desired behavior of

KM for the organization (Wong 2005). Therefore, the growth of knowledge in organization is due to knowledge resources appreciations, knowledge activities and other influences of knowledge (Holsapple & Joshi 2000). There is no worth influence on an organization than the leadership observe the employees behavior and promote it among the employees in the entire organization (Hasanali, 2002).

b) Organization Culture

The second and the most prominent critical factor in the success of KMS is culture of the organization. Supportive culture of knowledge management plays an important role in the creation, manipulation and sharing of knowledge in organization (Wong, 2005). Organization culture foal doesn't mean to work more and stress the employees but to work effectively (Hasanali, 2002). Culture issues regarding KM arises due to lack of time, no reward system, lack of common perspectives, and no communication system (Hasanali 2002). The influence of a suitable culture helps in achieving the success of KM of each category of employee with customer interaction and will results sharing of knowledge in competitive bases. Therefore, culture implications in KM directions are needed to have effective interactions for the successful KM directions (Mathi 2004).

It is evident that employees of an organization will be more cooperative in the knowledge creation and sharing if they are encourage with incentives. The reward system must be operational in the entire organization to help the employees encourage to towards the knowledge creation and sharing with others (Hasanali 2002). It is a major barrier that has been observed in KM programs that top management of an organization didn't provide sufficient incentives to their employees to enhance the KM with real interest and passion, which can lead the organizational culture more cooperative and knowledge sharing environment (Saddique 2012).

c) IT Infrastructure

It infrastructure is another important critical success factor in KMS success. The employees in organization to share their knowledge on a large scale must have an effective and solid IT infrastructure. It is

not important to focus on IT by an organization in KM initiative but communication and information sharing flat form of IT is needed for KMS initiatives (Hasanali 2002). Effective IT infrastructure, it can improve the browsing, retrieval, sharing and storing of information and can have an effective communication and collaboration between the employees in the organization (Wong 2005). For this reason, to support KM an enough collection of IT is available that can be applied to the organization's technological flat form (Wong 2005). It is not necessary to invest high amount of budget KMS implementation because the companies can easily collect their current IT capabilities to support KMS. And thus it is worth to say that firms must be focused on what type of business they want to do and what knowledge they need to apply (Chong 2006).

d) Training

Education to the employees and organizational members to aware them with the KMS benefits for an organization is another critical issue. To manage this issue the employees must have an effective training and aware them how to share the knowledge and what the individual can improve the organization with their tacit knowledge (Wong 2005). For this reason, many programs related to KM are available to train the employees about how to share their knowledge and save to the repository. Although this is a critical job for an employee to edit and retrieve the information from the repository, therefore effective training must be done to enable them for accessing/retrieving knowledge and store their tacit knowledge to the organization repository [Chong 2006]. The initiation of training program offered by many organizations has been observed explicitly in sharing and transforming of knowledge across the functional units (Saddique 2012).

Similarly there are many factors in the literature that are important to be consider as critically success for KMS implementation. Researchers in this field have a great job in finding the critical success factors from their own perspectives and discussed their usage and importance in their work. It is intricate to discuss each and every factor in detail but also should not be ignored to mention it here. The critical success factors and their sources are shown in Table 1.

Table 1 : Summary of KMS Critical Success Factors from the literature

No.	Critical Success Factor	References	Statistics
1	IT Infrastructure for knowledge sharing	(Hassanali 2002), (Chong 2006), (Davenport et al. 1997), (Alavi & Leidner 1999), (Ginsberg & Kambil 1999), (Maier 2007), (Wong 2005).	7
2	Motivation of users in Knowledge sharing	(Alavi & Leidner 1999), (Maier 2007), (Davenport et al 1997), (Wong 2005), (Malhotra & Galletta 2003), (Ginsberg & Kambil 1999).	6
3	Measurement for using KMS	(Chong 2006), (Hasanali 2002), (Alavi & Leidner 1999), (Davenport et al 1997), (Maier 2007), (Wong 2005).	6

4	Goal and Objectives	(Chong 2006), (Maier 2007), (Ackerman 1996), (Wong 2005), (Davenport et al 1997).	5
5	User-friendly Organizational Infrastructure	(Chong 2006), (Alavi & Leidner 1999), (Wong 2005), (Davenport et al 1997), (Maier 2007).	5
6	Knowledge Structure	(Hasanali 2002), (Davenport et al 1997), (Ginsberg & Kambil 1999), (Chong 2006), (Maier 2007).	5
7	Users catalog	(Maier 2007), (Ginsberg & Kambil 1999), (Wong 2005), (Hasanali 2002).	4
8	Knowledge Transfer resources	(Chong 2006), (Maier 2007), (Hasanali 2002), (Wong 2005).	4
9	Human Resource Management	(Malhotra & Galletta 2003), (Ginsberg & Kambil 1999), (Wong 2005).	3
10	Tacit Knowledge Control	Hasanali 2002), (Davenport et al 1997), (Chong 2006), (Koskinen 2001).	3

Based on the literature review and collection of the critical success factors from all possible sources, these success factors are ranked in their order of sources. The order of the critical success factors are in descending order based on the number of sources as shown in Table 1. The first six factors in descending order are the key factors which are more critical to be considering with high precedence during KMS implementation. Although all the factors are very important but the previous work shows that some factors are most important, where most of the authors are agreed on its critical nature.

III. CONCLUSION

The conclusion of this paper, the study was based on the literature survey where we have gathered and discussed some critical success factors from different articles. These factors are not only critically success for those organization where the KMS already implemented but also can get benefited the other organizations to adopt the KMS initiatives for the competitiveness in the market by implementation of KMS processes successfully in their organizations. The culture of the organizations is an important factor of KMS. The knowledge creation and sharing among the community of the organization is due to the collaborative culture. IT can help to share and store the knowledge of the valuable employees of the organization. The leadership has a significant role in the KMS to provide a friendly environment and to encourage the individual of organization to share their expertise (Tacit knowledge). The reward system cannot be ignored to be the critical success factor of KMS.

It is concluded from the above discussed factors that these factors must be taken into consideration for every KMS implementation in organizations. Furthermore, all authors in the literature are agreed on these factors and believe that these factors must be taken seriously while implementing KMS initiatives in the organizations.

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