

A review on recent advances on knowledge management implementations

Ali Makhsousi^{a*}, Jamshid Salehi Sadaghiani^b and Maghsoud Amiri^c

^aM.A. Student, Department of public administration, School of Management and Human Sciences, Tehran North Branch, Islamic Azad University (IAU), Tehran, Iran

^bProf. & Faculty Member, Department of Management, School of Management & Accounting, Allameh Tabatabaee University, Tehran, Iran

^cAssist. Prof. & Faculty Member, Department of Management, School of Management & Accounting, Allameh Tabatabaee University, Tehran, Iran

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ABSTRACT

Knowledge management plays an essential role on developing efficient systems in educational systems. However, there are different factors influencing the success of knowledge management. In this paper, we review recent advances on implementation of knowledge management (KM) in different areas and discuss why some of KM implementations fail and how they could turn to a successful one. The review focus more on recently published papers in different perspective from the implementation of KM in educational units to KM implementation on project management field.

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1. Introduction

Knowledge management (KM) plays an essential role in improving the efficiency of organizations (Abell & Oxbrow, 1999; Jönsson & Gustavsson, 2002; Asgari, 2005; Adenfelt & Lagerström, 2006). Nevertheless, KM implementation within any organization is not always an easy task because there are various factors influencing KM implementation (Nonaka et al., 1994; Boisot, 1995; Brand, 1998; Andersson & Westterlind, 1999; Swan et al., 1999; Balogun & Jenkins, 2003). Therefore, we need to study different factors influencing KM implementation in different fields. According to Allameh et al. (2011) knowledge is an essential component in competitive world. They investigated different kinds of relationship among various types of organizational culture and dimension of KM implementation. To analyze differences between various organizational cultures, they used Comeron and Quinn's technique where the relationships among four types of organizational culture including group, developmental, hierarchical and logical (market) culture and six dimensions of knowledge management have been investigated. They reported that there was a meaningful relationship (about 99%) between various kinds of organizational culture and six KM dimensions.

Corresponding author. Tel: +989121992538
E-mail: makhsousi1979@yahoo.com (A. Makhsousi)

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Eftekharzade and Mohammadi (2011) made an assessment on the status of higher education for KM implementation by investigating the situation in Islamic Azad University based on organizational culture, information technology, organizational structure and human resources to establish KM. Their findings indicated that, the university maintained good human resources, the status of organizational structure and culture were on average level but the university was suffering from bad information technology for KM implementation. Kamhawi (2010) in other studies detected three tiers architecture of knowledge flow and management activities including individuals, groups and organization.

Howell and Annansingh (2013) investigated whether there was any path-dependency in association with cultural expectations of knowledge generation and sharing in knowledge intensive firms. They concluded that certain universities display critical junctures and cultural transformation in terms of knowledge generation, dissemination and sharing. Jiacheng et al. (2010) explored individual cognitive mechanisms of knowledge-sharing (KS) motivation to provide effective measures of individual inclinations towards KS. They reported that intrinsic motivation operated through affective commitment: internalization, identification and conformity; rewards had little direct impacts on final intentions.

Aurum et al. (2008) used both quantitative and qualitative techniques to study current practice of KM in Software Engineering (SE) processes in two Australian firms on the basis that they both claimed to implement KM practices in their software development work. It also explained the KM activities and KM process applied in SE practice, and examined the enablers of KM process for SE in terms of leadership, technology, culture, process and measurement. Songsangyos (2012) performed the implementation of KM in higher education systems in Chiang Mai. The study concentrated on comparative of KM in higher education and reported that, the knowledge utilization in governmental institute considered to be at a moderate level while in private institute was at a high level. They also recommended that the faculty members needed to focus on vision, mission and strategies of institutional KM if they wish to achieve benefits from the institution.

KS and KM have been widely implemented in various educational systems, for instance, Chaudhry (2005) investigated KS practices in Asian institutions based on a multi-cultural perspective from Singapore. Grover and Davenport (2001) studied general perspectives on KM. Hoffman et al. (2005) investigated social capital, knowledge management, and sustained superior performance. Howell and Annansingh (2013) investigated knowledge generation and sharing in UK universities. Malhotra (2005) performed an investigation on KM technologies in organizational business processes by looking into getting real time enterprises to deliver real business performance.

Azad et al. (2012) performed an empirical investigation by looking into six KM factors including concept of knowledge, management, knowledge tools, knowledge measurement, change management, knowledge content. They determined the relationship between entrepreneurship and knowledge management components using structural equation modeling and reported that knowledge content was number one priority followed by knowledge tools and concept of knowledge.

Akbari et al. (2012) explained that implementation of strategic KM needs specific organization structure due to unique and particular characteristics of knowledge. Akbari et al. (2012), in other survey, tried to find out whether there was any meaningful relationship between organizational structure, in terms of recognition, focus and complexity, and strategic knowledge management, in terms of codification strategy and personalization strategy, in a private University. Asgarian (2012) studied relationship between KM capacity and innovation performance where KM capacity included knowledge application, knowledge sharing and knowledge acquisition. They reported that there was not any positive relationship between knowledge acquisition and administrative innovation.

Ali et al. (2012) studied the relationship between KM practices and the organizational performance of Pakistan's telecommunication and reported that KM practices had positive and significant influence

on organizational performance, which indicated that organizations that prefer KM practices could get beneficial outcomes than their competitors. Liao et al. (2011) investigated whether KM could be a mediator between organizational structure and organization environment. Zheng et al. (2010) studied the effect of culture, organizational effectiveness, structure, strategy on KM and reported that KM was a mediator between organization culture factors on organizational effectiveness. Lin et al. (2012) explored various barriers to knowledge flow at different KM maturity stages. Pemsal and Wiewiora (2013) investigated project management office as a knowledge broker for project-based organizations.

Huang (2012) investigated the moderating effect of organizational culture by looking into key user knowledge, attitude and IT performance. Their results indicated that in an organization with stronger IT application culture, key user knowledge would have more impact on departmental IT performance, and attitude will have less impact on departmental IT performance. Ravishankar and Pan (2013) examined the impact of modularity and KM on dynamic capabilities by looking into a call center. Forcada et al. (2013) presented a survey of perceptions of KM implementation in the Spanish construction sector and compared the results obtained from design and construction firms. The survey found that the Spanish construction industry was aware of the benefits of KM but that systematic KM was not generally used. The findings clearly stated that changes in organizational culture were essential to successful KM. The survey also disclosed some distinctions between the KM perception of design firms and that of construction firms.

Lindner and Wald (2011) detected KM critical success factors in temporary organizations based on a cross-industry sample with 414 organizations. They applied the partial least square (PLS) method to examine the impact of cultural, organizational, structural, and process-related factors on KM effectiveness. Their results contributed to a more differentiated understanding of KM in project environments. Chang and Wang (2009) implemented the fuzzy multi-criteria decision making technique (FMCDM) for measuring the possibility of successful KM implementation. They developed a predicting framework based on FMCDM technique to assist firms to build awareness of the critical influential issues on the success of KM implementation, measured the success possibility of KM projects, as well as identified the necessary actions prior to embarking on conducting KM. They also demonstrated the implementation of their method using a real case involving a Taiwanese semiconductor engineering corporation.

Zhao (2010) studied school KM framework and strategies by looking into the new perspective on teacher professional development. They reported that the KM strategies to improve teacher professional development, including school organizational and knowledge leaders, constructing learning school and organization learning culture, establishing teacher KM system of teacher professional development, encouraging team learning, teaching cooperation and knowledge sharing, establishing performance assessment mechanism of knowledge applications and development.

Alhawari et al. (2012) presented a knowledge-based risk management framework for information technology project. They explored the field of risk management associated with KM and attempted to present a conceptual framework, called Knowledge-Based Risk Management (KBRM), which employed KM processes to improve its effectiveness and to increase the likelihood of success in innovative Information Technology (IT) projects.

Jones (2006) explored knowledge sharing in ERP implementation through an organizational culture framework. They developed a cultural configuration, which indicated that the dimensions of culture that best facilitate knowledge sharing in ERP implementation. In addition, their results also indicated different methods that firms may overcome cultural barriers to knowledge sharing. Yang (2007) performed an empirical investigation on knowledge sharing by investigating appropriate leadership

roles and collaborative culture. Yang investigated how organizational culture affect knowledge sharing and reported that there was a strong and positive relationship between a collaborative culture and the effectiveness of knowledge sharing.

2. Conclusion

We have reviewed recent advances on KM implementation in various fields from educational systems to more sophisticated systems of project management, knowledge sharin etc. The main point most of these review is that a successful KM implementation requires a good infrastructure where all system' components work, properly. KM implementation could have some other benefits such as successful knowledge sharing. It seems that KM will be more explored into most industries within the next few years.

References

- Abell, A., & Oxbrow, N. (1999). People who make knowledge management work: CKO, CKT, or KT?. *Knowledge management handbook*, 4-1.
- Adenfelt, M., & Lagerström, K. (2006). Enabling knowledge creation and sharing in transnational projects. *International Journal of Project Management*, 24(3), 191-198.
- Andersson, T., & Westterlind, T. (1999). Sharing knowledge over company borders managing knowledge in key customer relations at ABB Sweden. *Master's Thesis, Linkopings University, Linkopings*.
- Akbari, P., Eslampanah, M., Baharestan, O., & Mohammadi, S. (2012). The study of relationship between organizational structure and strategic knowledge management in Islamic Azad University, Kermanshah Branch. *Management Science Letters*, 2(6), 1921–1930.
- Allameh, M., Zamani, M., Davoodi, S.M.R. (2011). The relationship between organizational culture and knowledge management: (A case study: Isfahan University). *Procedia Computer Science*, 3, 1224-1236.
- Alhawari, S., Karadsheh, L., Nehari Talet, A., & Mansour, E. (2012). Knowledge-Based Risk Management framework for Information Technology project. *International Journal of Information Management*, 32(1), 50-65.
- Ali, S.M., Qadus, A. Waseem, A., & Zaman, K. (2012). Linking knowledge management practices and the organizational performance of Pakistan's telecommunication. *Management Science Letters*, 2(8), 2929-2938.
- Asgari, N. (2005). *The analysis of organizational factors with management of knowledge*. M.A. Thesis Tehran university.
- Asgarian, N. (2012). Knowledge management capacity and innovation performance. *Management Science Letters*, 2(8), 2739-2746.
- Aurum, A., Daneshgar, F., & Ward, J. (2008). Investigating Knowledge Management practices in software development organisations – An Australian experience. *Information and Software Technology*, 50(6), 511-533
- Azad, N., & Mehrabi Majolan, E. (2012). A study on effects of knowledge management on organizational entrepreneurship: A case study of educational system. *Management Science Letters*, 2(8), 2711–2716.
- Balogun, J., & Jenkins, M. (2003). Re-conceiving change management:: A knowledge-based perspective. *European Management Journal*, 21(2), 247-257
- Boisot, M. (1995). *Information space: A framework for learning in organizations, institutions and culture*. Cengage Learning Business Pr.
- Brand, A. (1998). Knowledge management and innovation at 3M. *Journal of Knowledge Management*, 2(1), 17-22.
- Chaudhry, A. S. (2005). Knowledge sharing practices in Asian institutions: a multi-cultural perspective from Singapore. In *World Library and Information Congress 71st IFLA General Conference and Council, Oslo, Norway*.

- Chang, T.H., & Wang, T.C. (2009). Using the fuzzy multi-criteria decision making approach for measuring the possibility of successful knowledge management. *Information Sciences*, 179(4), 355-370.
- Eftekharzade, S.F., & mohammadi, B. (2011). The presentation of a suitable model for creating knowledge management in educational institutes (Higher Education). *Procedia - Social and Behavioral Sciences*, 29, 1001-1011.
- Forcada, N., Fuertes, A., Gangoellis, M., Casals, M., & Macarulla, M. (2013). Knowledge management perceptions in construction and design companies. *Automation in Construction*, 29, 83-91
- Grover, V., & Davenport, T. H. (2001). General perspectives on knowledge management: Fostering a research agenda. *Journal of management information systems*, 18(1), 5-22.
- Hoffman, J. J., Hoelscher, M. L., & Sherif, K. (2005). Social capital, knowledge management, and sustained superior performance. *Journal of Knowledge Management*, 9(3), 93-100.
- Howell, K.E., Annansingh, F. (2013). Knowledge generation and sharing in UK universities: A tale of two cultures? *International Journal of Information Management*, 33(1), 32-39.
- Hung, Y. C., Huang, S. M., & Lin, Q. P. (2005). Critical factors in adopting a knowledge management system for the pharmaceutical industry. *Industrial Management & Data Systems*, 105(2), 164-183.
- Huang, M. (2012). Key user knowledge, attitude and IT performance: The moderating effect of organizational culture. *Procedia Engineering*, 29, 1824-1829.
- Jiacheng, W., Lu, L., & Francesco, C.A. (2010). A cognitive model of intra-organizational knowledge-sharing motivations in the view of cross-culture. *International Journal of Information Management*, 30(3), 220-230.
- Jones, M.C., Cline, M., & Ryan, S. (2006). Exploring knowledge sharing in ERP implementation: an organizational culture framework. *Decision Support Systems*, 41(2), 411-434.
- Jönsson, A., & Gustavsson, R. (2002). Management styles and knowledge cultures, past, present and future, related to multiple-use and urban woodlands. *Urban Forestry & Urban Greening*, 1(1), 39-47.
- Kamhawi, E.M. (2010). The three tiers architecture of knowledge flow and management activities. *Information and Organization*, 20(3-4), 169-186
- Liao, C., Chuang, S. H., & To, P.L. (2011). How knowledge management mediates the relationship between environment and organizational structure. *Journal of Business Research*, 64, 728-736.
- Lin, C., Wu, J.C., & Yen, D.C. (2012). Exploring barriers to knowledge flow at different knowledge management maturity stages. *Information & Management*, 49(1), 10-23.
- Lindner, F., Wald, A. (2011). Success factors of knowledge management in temporary organizations. *International Journal of Project Management*, 29(7), 877-888
- Malhotra, Y. (2005). Integrating knowledge management technologies in organizational business processes: getting real time enterprises to deliver real business performance. *Journal of knowledge management*, 9(1), 7-28.
- Nonaka, I., Byosiere, P., Borucki, C. C., & Konno, N. (1994). Organizational knowledge creation theory: a first comprehensive test. *International Business Review*, 3(4), 337-351.
- Pemsel, S., & Wiewiora, A. (2013). Project management office a knowledge broker in project-based organisations. *International Journal of Project Management*, 31(1), 31-42.
- Ravishankar, M.N., & Pan, S.L. (2013). Examining the influence of modularity and knowledge management (KM) on dynamic capabilities: Insights from a call center. *International Journal of Information Management*, 33(1), 147-159
- Songsangyos, P. (2012). The Knowledge Management in Higher Education in Chiang Mai: A Comparative Review. *Procedia - Social and Behavioral Sciences*, 69(24), 399-403.
- Swan, J., Newell, S., Scarbrough, H., & Hislop, D. (1999). Knowledge management and innovation: networks and networking. *Journal of Knowledge management*, 3(4), 262-275.

- Yang, J.T. (2007). Knowledge sharing: Investigating appropriate leadership roles and collaborative culture. *Tourism Management*, 28(2), 530-543
- Zhao, J. (2010). School knowledge management framework and strategies: The new perspective on teacher professional development. *Computers in Human Behavior*, 26(2), 168-175
- Zheng, W., Yang, B., & McLean, G.N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research*, 63(7), 763–771.