Knowledge Management and Measuring its impact on Organisational Performance

Mostafa MOBALLEGHI[1], Golnessa GALYANI MOGHADDAM[2]

[1.]   Islamic Azad University – Karaj Branch Dept. of Industrial Management, Islamic Azad University (IAU) - Karaj Branch, P.O. Box 31485-313, Karaj, Iran, E-mail: m_moballeghi@yahoo.com

[2.]   Shahed University Dept. of Library and Information Science, Shahed University, Opposite Holy Shrine of Imam Khomeini, Persian Gulf Highway, Tehran, IRAN, Postal code: 3319118651, E-mail: g_galyani@yahoo.com

Abstract:With the growing popularity of knowledge management, the need for frameworks for evaluating the impacts of knowledge management on organizational performance has been recognized by practitioners. Despite the wide implementations of knowledge management, there is yet no standardized framework for measuring the performance within organizations. The purpose of this paper is to provide an overview of the approaches to evaluate the contributions of knowledge management implementations to organizational performance. It presents methods such as Return on Investment(RoI), Balanced Scorecard approach, qualitative case studies, and success case method to aid practitioners to identify and develop the evaluation frameworks.

Keywords: Knowledge Management,   Organizational Performance, Return on Investment (RoI), evaluation frameworks.

1   Introduction

Global competition and new challenges facing business and industry are creating substantial pressures on all organizations. To establish long-term competitive advantage from an information and knowledge management point of view, it is no longer sufficient solely to have efficient access to internal and external information resources. Today it is a business requirement to efficiently exploit what the business actually knows – not only what it owns. This approach, known as knowledge management, originated in management science and has been applied successfully in commercial organizations. It is now taking the development establishment, particularly the large multilateral and bilateral agencies, by storm. In its most simple sense, it refers to the effective use of an organization's knowledge and its ability to learn from past experiences. A knowledge-based economy is emerging, and knowledge management (KM) is being rapidly disseminated in academic circles, as well as in the business world. While an increasing number of companies have launched knowledge management initiatives, a large proportion of these initiatives retain a technical perspective. The problem with this type of focus is the exclusion and neglect of potential benefits that may be derived from knowledge management. The following types of question are proliferating: is it really worthwhile to invest in KM? Has our implementation of KM been a success? Is our KM system productive and effective? Recent surveys indicate that issues such as 'measuring the value of KM' and 'evaluating KM performance' are of great importance to managers. Given the increasing role of KM in upgrading business competition, the interest of managers, in measuring and evaluating both KM performance and its benefits, is not surprising. This brings up an important research issue: how do most firms that have initiated KM develop appropriate metrics to gauge the effectiveness of their initiative? In other words, there is a need for metrics to justify KM initiatives. The basic underlying assumption is that knowledge may be viewed from a unified perspective; it

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[1] Corresponding author. Tel.: + 98-9125117328; fax: +98-21-51212426.

E-mail address: m_moballeghi@yahoo.com

circulates in the organization creating knowledge assets and influences the performance of the organization. It has multifaceted characteristics, such as: state of mind, object, having access to information, or the potential for influencing future action.

2 Concepts of Knowledge Management

Knowledge Management (KM) has been defined in different ways and from different perspectives. It has been described as "a systematic process for capturing and communicating knowledge people can use." Others have said it is "understanding what your knowledge assets are and how to profit from them." Or the flip side of that: "to obsolete what you know before others obsolete it." Perhaps the simplest definition of knowledge management is "sharing what we know with others." In all of these definitions, the emphasis is on human know how and how it brings value to an organization; however, utilizing individual expertise to get maximum return for an organization is not as easy as it may sound. Knowledge management is the name given to the set of systematic and disciplined actions that an organization can take to obtain the greatest value from the knowledge available to it. "Knowledge" in this context includes both the experience and understanding of the people in the organization and the information artifacts, such as documents and reports, available within the organization and in the world outside. Effective knowledge management typically requires an appropriate combination of organizational, social, and managerial initiatives along with, in many cases, deployment of appropriate technology.

3 Frameworks for Evaluating Knowledge Management Performance

To manage knowledge successfully, it must be measured. It is not always clear how this can be done. Measuring how much a KM implementation contributes to business benefits can be a challenge because it deals with something intangible. KM practitioners are often requested to provide empirical evidence that KM initiatives contribute to corporate objectives, however, a proper measurement may not exist and, indeed, knowledge may be immeasurable. It is not simple to evaluate the impacts of KM strategies on an organization's performance because KM may not be the only factor influencing the organization's performance. It may be affected by other factors such as competitive environment and industry conditions. To address this issue, Ahn and Chang assessed the contribution of knowledge to business performance, rather than trying to measure the value of knowledge directly [Ahn and Chang 2004]. They provided a way to assess the contribution of knowledge to business performance, by employing products and processes as intermediaries. Product knowledge is directly related to a company's specific product. Process knowledge is associated with the activities performed at each stage in a value chain, from inbound logistics to customer care. In the same way, Holt et al. used four metrics to access organizational knowledge, including individual, context, content and process knowledge measures [Holt et. al 2004]. These approaches enable us to relate knowledge to business performance more explicitly, and provide valuable insight into how knowledge may be strategically managed. However, KM initiatives should be able to demonstrate their value and benefits in order to gain continuous support from a variety of stakeholders. Thus, to demonstrate that KM initiatives have created value and benefits, the contributions of the initiatives must be measurable.

Though it can be measured indirectly, using 'intermediate' measures, such as the number of new ideas, the number of new products, job satisfaction levels, and the contribution of knowledge management activities to organizational performance, these are difficult to translate into tangible benefits.

Researchers such as [Teruya 2004] categorise KM performance measurements into different general types such as: internal measurement, external measurement, Organization-orientated analysis, Project-orientated analysis, and Success Case Method.

3.1 Internal performance analysis

Internal performance measurement methods focus on process efficiency and goal achievement efficiency. These methods evaluate KM performance through the gap between target and current value. Well-known methods include ROI, NPV, balanced scorecard (BSC), performance-based evaluation, activity-based evaluation and other models.

In the projects of developing knowledge management systems, it is often required to calculate return on investment (ROI) of the projects based on objective data and measurable results. Calculating the return on investment helps justify the resources invested in KM initiatives and assess financial performance of the initiatives. In terms of cost and benefit, the ROI calculation may be done simply by dividing the value of benefits by the cost spent on the project [Haugh 2002].

Both the costs involved in the development of a knowledge management system and additional costs such as employee time spent in the operations of the system should be considered.

3.2   External performance analysis

External performance measurement methods always compare a firm with benchmark companies, primary competitors or the industry average. For example, benchmarking is the process of determining who is the very best, who sets the standard, and what that standard is. When we apply the benchmarking concept to business, the following types of questions are asked: 'Which company has the best manufacturing operation?' and 'How do we quantify that standard?' With benchmarking or best practice methodologies, firms can understand their KM performance by comparison with competitors. Thus, firms can retain a competition advantage and expand the gap between themselves and competitors.

Traditionally, benchmarking has been described as a practice that promotes imitation. However, according to a more recent approach, benchmarking has looked outside a firm's boundaries, to enable comparison with others, in terms of both practice and performance, in order to acquire both explicit and tacit knowledge [Chai et. al. 2003]. Such newly acquired knowledge, once integrated with a firm's prior internal knowledge, may create new knowledge that can give rise to improvements and innovations. Benchmarking is also seen as a tool for identifying, understanding and adopting best practices, in order to increase the operational performance of intellectual capital (IC) [Carrillo 2004]. Furthermore, all the organizational factors examined in both sectors proved to be statistically significant, when comparing world-class and potentially winning companies with their competitors; this adds weight to the argument that the existence of organizational learning, within a company, is an essential ingredient in the quest for superior performance.

It is noted that the 'Best Practice' approach is an essential component of KM. It provides an opportunity to retain and use knowledge, even when an expert has left the organization. Asoh et al. investigated how governments could deliver more innovative services to a demanding public [Asoh et. al. 2002]. They felt that governments must be involved in the deployment of new services, such as e-Government and e-Commerce. Active management of knowledge assets is mandatory for success. A suggested implementation approach highlights leadership, culture, technology and best practice measurements as critical success factors.

3.3   Project-orientated analysis

Since projects characteristically involve the development of new products and new processes, obvious opportunities may present themselves for novel ideas to emerge and for cross-functional learning to occur, thereby enhancing the organization's innovative capacity and potential. On the other hand, recent studies of knowledge management and organizational learning, in project environments, have emphasized instead the difficulties of learning from projects – not only within individual projects, but also across and between projects [DeFillippi 2001]. Some articles have set out to examine the significance of social factors in enhancing knowledge management capabilities in the construction industry. [Bresnen, et al. 2003] revealed that processes of the capture, transfer and learning of knowledge, in project settings, rely very heavily upon social patterns, practices and processes, in ways which emphasize the value and importance of adopting a community-based approach to managing knowledge. Bresnen et al.'s paper made a contribution to the development of knowledge management theory, within project environments. In recent years, after the term was proposed, numerous individuals and organizations have been trying to put more 'science' behind the 'art' of 'knowledge management'. In the strategy approach, [Kamara et al. 2002] described a framework for selecting a KM strategy that is appropriate to the organizational and cultural context in KM projects.

3.4   Organization-orientated analysis

With the increasing importance of effective knowledge management in organizations, it has become increasingly important for organizations to be able to measure their 'state of the art' on this subject.

Organization-orientated analysis is focused on the entire organization, on the multi-dimensional and multi-layering aspects of the firm. In the horizontal perspectives, KM performance evaluation is focused on leadership, and cultural and technological as well as process dimensions. In the vertical perspectives, KM performance evaluation is focused on strategy, management, and implementation layers.

Academics and practitioners have made efforts to develop the frameworks for evaluating the performance of KM practices. [Bose 2004] emphasized the importance of standardized KM metrics to quantify knowledge and convince stakeholders of the value of KM initiatives. With the need for standardized KM metrics, he also asserts that unique standards for measuring intellectual capital and KM initiatives need to be created by each company. [Del-Rey-Chamorro et al. 2003] present a framework to evaluate the contributions of KM implementations to corporate objectives using a set of key performance indicators.

4   Success Case Method

Success case method (SCM) also provides an effective framework to measure the impacts of KM implementations on organizational performance. The SCM was originally developed in the human resource development field to evaluate the return on training investments. It was developed by [Brinkerhoff 2003] to address the lesser effectiveness of the traditional evaluation approach in reporting success cases in the program evaluation field. Motivated by the need to evaluate training's effect in a broader context of performance management than traditional evaluation models did, the success case method seeks to identify the success in the training-to performance process as well as the weakness in the process. It is also intended to help understand "what worked, what did not, what worthwhile results have been achieved, and most important, what can be done to get better results from future efforts" (Brinkerhoff 2005]. The SCM is based on the notion that we can learn how to improve the performance of a program best from those who have been the most and least successful. By applying qualitative methods, the SCM can pinpoint the extremes that quantitative methods cannot.

5   Discussion and Conclusion

The results of researches show that the reasons for the creation of knowledge management initiatives, are to facilitate better decision making, increase profits and reduce costs. However, KM suffers from the same challenges as many other management issues: it assumes that knowledge is a 'thing', which is amenable to being 'managed' by a 'manager'. It must first be determined which KM process is key to achieving a competitive advantage, and second, which measurement method is the most appropriate to appraise KM performance.

KM performance measurement methods comprise broad categories of research issues. Method development has been diverse, due to researchers' backgrounds, expertise and problem domains. On the other hand, some means of analysis have common measurement concepts and methodologies. For example, the BSC measurement method is used in internal performance and organization-orientated analysis. This indicates that the development trend in evaluation methods is also diverse, due to the author's research interests and ability in the methodology and problem domains. This directs the development of KM performance measurement towards an expertise orientation. Furthermore, some evaluation methodologies overlap, to a high degree. For example, financial statement analysis, ROI, ROK, payback period and option evaluation methods are all quantitative methods, with different concepts and methodologies, which evaluate KM within a common problem domain. This indicates that these evaluation methods are the major trend for KM development, and that many methodologies are focused on these problems. This can direct the development of KM evaluation towards a problem domain orientation. The main finding of the paper shows that, KM performance evaluation is becoming more important. This shows that research topics have changed from KM creation, transformation and implementation to the evaluation of KM performance. With the wide implementations of KM in organizations, the need for frameworks for evaluating the contributions of KM to an organization's performance has been recognized by executives and KM practitioners. However, there is yet no standardized framework for evaluating KM performance within organizations. Thus, identifying and implementing the evaluation frameworks for KM strategies has become a challenge for practitioners who

seek to justify their efforts. In order to aid practitioners to accurately understand and evaluate the contributions of KM implementations, this paper has provided an overview of various evaluation approaches.

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