Analysis of Factors that May Affect the Uses of Knowledge Management in Sudanese Medium-Sized Companies

Nour-Eldin Mohammed Elshaiekh
Khalid Ahmed Ibrahim
Fahima Omar Mchulla
ANALYSIS OF FACTORS THAT MAY AFFECT THE USES OF KNOWLEDGE MANAGEMENT IN SUDANESE COMPANIES


*Faculty of Information Technology, Knowledge Engineering Department, Future University, PO Box 10553, Tel: +249915143666,Khartoum, Sudan.
noreldine@hotmail.com, nour@fusudan.net, ofahima@yahoo.com

**College of Engineering, Karary University, PO Box 12304, Tel: +24991230637, Khartoum, Sudan,
khalidaik@hotmail.com

Abstract:

Knowledge management is a major bottleneck in the information system for any organization. Knowledge management can provide efficient support in an organization’s restricted domain; however, the principal barrier to the success of such a system comes from the users’ perspectives of the system. This paper reveals the factors that affect the use and effectiveness of knowledge management in Sudanese companies. Through the systems analysis and design methodology employed in this study, factors affecting both the success and failure of knowledge management were identified by users from different levels of the organization. The study concludes that the success factors include good infrastructure, knowledge sharing, and familiarity with information and communication technology, staff experience, behaviour of decision makers, and qualifications and training. Failure factors include poor infrastructure, high cost, lack of security, globalization, growth of information and communication technology, and job overlap.

Keywords: Knowledge Management, System Analysis, Design Methodology, Sudanese Company.

1. INTRODUCTION

The world today has a knowledge surplus. However, people are not sufficiently expert in effectively utilizing the large quantity of information available to them. Knowledge management (KM) aims to professionally categorize, control and leverage information within companies. Knowledge management control needs a knowledge able society in order to succeed, influence strategic information and improve organization performance.

Further, KM is a new business strategy, but its techniques can be traced to the work of documental lists in the early part of this century which worked beside other systems in order to add some potential strategies to each other. Knowledge management is essentially an industry trying to distinguish itself with specialized groupware and business intelligent products that offer a wide range of solutions (Alavi, 1999).

2. DEFINITIONS

2.1. Knowledge Management

“KM caters for the critical issues of organizational adaption, survival and competence, in the face of increasingly discontinuous environmental changes. Essentially, it embodies organizational processes that seek the synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings” (Malhotra, 1998). Knowledge management is the essence of data; information, knowledge and analysed knowledge (see Figure 1).

Figure 1: Knowledge Management Process.

2.2. SUDANESE COMPANIES

The number of companies in Sudan is growing. This may be attributed to the increasing robustness of the country’s economy; the future position for the economy is strong because of an ambitious investment strategy originating from the Sudan Government. Generally, the

See Last Page of the Chapter / Article
use of a decision support system (DSS) and KM in Sudanese companies is very limited and a new concept. Hence, the development of knowledge-based systems is still very low, especially among current Sudanese companies. This could be the result of some factors influencing the use of KM or could it be because of the relative novelty of the strategy in Sudan. Figure 2 shows a proposed ideal KM system for Sudanese companies.

3. FACTORS THAT MAY AFFECT THE USES OF KM IN SUDANESE COMPANIES

3.1. SUCCESS FACTORS

The survey stated many success factors which may improve and have a positive effect on the KM in companies: infrastructure, knowledge sharing, familiarity with information and communication technology (ICT), staff experience, behaviour of decision makers, and qualifications and training.

3.1.1. INFRASTRUCTURE

Merriam-Webster defines infrastructure as the underlying foundation or basic framework of a system or organization. Infrastructure is a relatively new term, although it is becoming increasingly used. However, there is little awareness of its actual meaning. Infrastructure generally refers to facilities that are offered for public use as opposed to facilities of a private nature. In this paper, the term ‘infrastructure’ will use the following series of guidelines in determining what is institutional, personal, or material infrastructure:

- Computer Hardware, Digital Devices, Software or Related Support Services;
- Devices connecting to the commonwealth network (with an IP address);
- All equipment;
- Items/services which add value by assuming control;
- Communications, technical services, client services or operational items, human.
- Buildings.

3.1.2. KNOWLEDGE SHARING

According to Hendriks (1999) Systems that enable members of an organization to acquire explicit, tacit, and implicit knowledge from each other for a brief distinction. These knowledge systems can be categorized as:

- Explicit knowledge is articulated with policies, manuals, and formulae;
- Tacit knowledge cannot be articulated with ability to recognize a person’s face;
- Implicit knowledge can be articulated but does not analyse the tasks involved in a process.

Knowledge sharing is a matter of leveraging intellectual assets in a tight economy, transparency and accountability; succession planning enhances client responsiveness and increases social capital.

3.1.3. FAMILIARITY WITH ICT

In order to use KM in a company, it is necessary to have accurate strategies that cover but are not limited to helping develop and refine new technologies, and regularly evaluate proof-of-performance implementations, working at the detailed technology level; for video pre-processing, compression, and post-processing.

According to Knight (1997), an information system is defined as interactive software, where the interaction between users and software is done through a user interface. That 75% of software’s success depends on a user interface. The introduction of personal computers and Microsoft Windows™ led a revolution in computer usage. Most people can easily deal with computer programs such as games, DVDs and so on. Moreover, the Internet and Internet applications have affected people’s lives over the last decade. People have become extremely dependent on the Internet and it has become as a ‘must-have’ tool. An excellent information system is usually developed based on standard business processes so that end users can deal with it without exerting a lot of effort. The main two factors required for a successful user interface are: ease of usage and ease of teach (Alan, 2003).

3.1.4. STAFF EXPERIENCE

Experience refers to the nature of the events someone or something has undergone. Experience is what is happening to us all the time, as long as we exist. Experience as used here refers to the subjective nature of one's current existence. Humans have a myriad of expressions, behaviours, languages, emotions, etc. These characterize and convey our moment-to-moment experiences. These two phases of the word ‘experience’ (present and past) emerge from a critical connection and philosophical issue (Hull, 2000).

3.1.5. BEHAVIOUR OF DECISION MAKERS

A promising approach for learning a decision maker's utility function is to take outset in the decision maker's observed behavioural patterns and then find a utility function which (together with a domain model) can explain this behaviour. To explain this, it is assumed that a decision maker's preferences are reflected in their behaviour. Standard learning algorithms also assume that the decision maker is behaviourally consistent, i.e., given...
Globalization, growth of ICT, and job overlap.

A decision maker’s behaviour directly influences the KM process because every individual behaves differently. Therefore, it must be developed if the bases and criteria for the greatest possible involvement of people are to avoid failures as a result of various individuals’ behaviours (Simon, 1987).

3.1.6. QUALIFICATIONS AND TRAINING

Qualifications and training are considered of to be key to the success of a DSS that is based on knowledge in order to keep abreast of developments, as they help to allocate tasks in organizations, thereby reducing conflicts between the functions and operations assigned responsibilities to different departments and individuals within an organization. As a result, a demand of raising efficiency in manpower targets the planned knowledge and its meaning, and why they need appropriate techniques that can be used to support the implementations of the resolution (Van, 1999).

3.2. FAILURE FACTORS

There are some factors that may hinder or may cause the KM system process in companies to fail. These factors are poor infrastructure, high cost, lack of security, globalization, growth of ICT, and job overlap.

3.2.1. POOR INFRASTRUCTURE

Poor infrastructure has been identified as one element that particularly hinders the KM systems of organizations from developing their decisions. Here the term ‘infrastructure’ includes all hardware and related software components. Infrastructure also includes management and support services associated with an entity attached to data, a telephony network, down to an individual’s desktop.

In respect of this matter Rakesh Mohan (1996) mentions that ‘infrastructure’ is a relatively new term, although it is becoming increasingly used. However, there is little awareness of its actual meaning. Infrastructure generally refers to ‘facilities’ that are offered for public use as against facilities of a private nature, and it also refers to physical infrastructure also known as economic infrastructure. There is, in addition, an equally important social infrastructure, referring to organizations, healthcare facilities, etc.

3.2.2. HIGH COST

The capital and cost (here, equipment, accessories and others prices which increase from time to time) is one of the biggest barriers to the success of the march of KM in companies. Money is the backbone of all activities within organizations. However, it’s considered as a problem linked to other obstacles in the marched organizations. (Liebowitz 2000) mentions that if one considers the cost problem in one’s organizational planning including more details and prevents me from being more precise in this place, yet. However, always focus on the cost of problem as well in order to prioritize correctly. Some changes are unnecessary and expensive; others are critical and must not be delayed, so you can opposition any other problem faced when executing the steps.

3.2.3. LACK OF SECURITY

Today, ICT is considered a compulsory tool in all organizations, especially in the use of KM systems. In fact, a side-effect of this improvement is more security issues. For example, ‘hacking’, i.e., the unauthorized access to or use of data, systems, server or networks, including any attempt to explore, scan or test the weakness of a system, server or network or to breach security or authentication procedures without authorization of the holder thereof.

Decision makers of an organization should not run computer programs that are associated with ‘hacking’ without prior authorization. Obtaining and using such programs is not typical of normal usage and may therefore otherwise be regarded as misuse. Use of organization-owned computer equipment, including the network, for illegal activities including copying copyright material without permission. Most ethical issues that security professionals confront have not been codified into ‘do not’ law, nor is there a standard, but now there are international organizations to address all security issues, for example, the Federation against Software Theft (FAST) (Chong, 2005).

3.2.4. GLOBALIZATION

Pascal Lamy (2006) defines globalization as a historical stage of accelerated expansion of market capitalism, like the one experienced in the 19th century with the industrial revolution. It is a fundamental transformation in societies because of the recent technological revolution which has led to a recombination of the economic and social forces on a new territorial dimension.

To find the right balance between the benefits and costs associated with globalization; citizens of all nations need to understand how globalization works and the policy choices facing them and their societies. Globalization tries to provide an accurate analysis of the issues and controversies regarding it, especially in relation to companies and other organizations, without slogans or ideological biases.

Issues for globalization related to KM are:
- It increases poverty worldwide in the direction of ICT growth;
- It does not allow access to technology in developing countries;
- It decreases sharing of knowledge within the organization in developing countries.

### 3.2.5. GROWTH OF ICT

The use of ICT is the main issue for the KM system. Yet, the policy and regulatory challenge is to improve the performance of the organization by spurring further competition in ICT growth while maintaining market incentives for new investment and innovation. One of the reasons why some countries lag behind others is extended behind ICT contribution to growth, that is, ICT investment growth is as much sustained in some countries as in the others.

To make effective use of ICT investment, the report observes that companies need to be able to innovate and adjust their organizational structures and workforces to new working methods with ICT networks now spreading throughout much of the business sector. It recommends that managers focus on ensuring that the right regulatory environment is in place to reap maximum advantage from them, and this issue led to others, a new burden to companies (Chong, 2005).

### 3.2.6. JOB OVERLAP

‘Overlap’ is the simultaneous talk by two or more conversational participants, irrespective of its status in the participants’ minds as an interruption. Further insight into an organization’s lobbying activity at both levels may be gained by extending the analysis to what it defines as ‘overlap issues’. The problem of different management systems within the one organization leads to job overlap problems in the use of a KM system as technical illiteracy which leads to the same problems.

Contradictory decisions at various levels and jurisdictions and conflicting authorities about the competence to take a decision on a specific problem are also related to job overlap issues within organizations. With overlap, it is difficult to distinguish which portfolios are not sufficiently diversified and which ones are exposed to higher risk or potentially greater losses. This in fact allows individual companies and their clients to make conflict decisions (Chong, 2005).

### 4. DATA ANALYSIS

An appropriate usable sample size of responses from 151 staff was collected. The purposive sampling method was used to select the field and the convenient sampling method (availability) was used to distribute the questionnaire. Table 1 shows the respondents feedback results regarding the success and failure factors that may affect the use of KM in Sudanese companies.

<table>
<thead>
<tr>
<th>Success/Failure Factors</th>
<th>Agree (%)</th>
<th>Disagree (%)</th>
<th>Not Sure (%)</th>
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</thead>
<tbody>
<tr>
<td>Good Infrastructure</td>
<td>91%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Knowledge Sharing</td>
<td>34%</td>
<td>24%</td>
<td>42%</td>
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<tr>
<td>Familiarity with ICT</td>
<td>86%</td>
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<tr>
<td>Staff Experience</td>
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<td>3%</td>
<td>15%</td>
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<tr>
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<tr>
<td>Qualifications and Training</td>
<td>60%</td>
<td>22%</td>
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<td>Poor Infrastructure</td>
<td>89%</td>
<td>7%</td>
<td>4%</td>
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<tr>
<td>Cost Problem</td>
<td>95%</td>
<td>0%</td>
<td>5%</td>
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<tr>
<td>Security Issues</td>
<td>51%</td>
<td>31%</td>
<td>18%</td>
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<td>10%</td>
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### 5. CONCLUSION

Based on the truth that, globe is breathing the taxonomy of KM systems, and as a result of a quantitative survey of 151 staff of companies within the region of Sudan, it might be concluded that there are many different factors of a KM system within companies that may affect the process of KM. It is recommended to link them together so that those factors are working to correct the failure factors and added to the success factors to increase the effectiveness of decisions.

All staff agree with the success factors (Infrastructure, Familiarity with ICT, Staff Experience, Behaviour of Decision Makers, and Qualifications and Training), but most staff (42%) were not sure about the Knowledge Sharing factor due to lack of awareness of the meaning and function of knowledge sharing. Also, most staff agree with the failure factors (Poor infrastructure, Cost Problem, Security Issues, Growth of ICT, and Growth of ICT), but most of them (73%) were not sure about the importance of Globalization Issues due to their lack of awareness of it.

The survey shows the interrelated factors of KM on organizations for several activities.

### REFERENCES:


Organizational Performance. Multimedia University, Cyberjaya.


Table 1: Respondents

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