



The Active Impact of knowledge sharing in Information Technology within University Environments: An Exploratory Study of KAU

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ABSTRACT

The main goal of Knowledge Sharing (KS) is to distribute the right content to right people at right time. The system therefore must enable us quickly and effectively to find relevant information & expertise and that can aid into decision-making & problem solving. Hence, the tacit knowledge resides in the minds of individuals, in their skills, experiences, value judgments. In this article, we try to investigate the possible causes of resistance or support by knowledge workers (who works in Information Technology departments in King Abdulaziz University) to the sharing of knowledge within a project team and organization. The problem that we address it is that existing knowledge is not being effectively disseminated throughout the organization, resulting in lost productivity and opportunity as a result of failure to exploit available knowledge. The leaders of the academic institution (in our case the KAU and other similar universities in Saudi Arabia) can use the findings of this article to develop new processes and procedures for overcoming resistance to knowledge sharing, which might translate to increased innovation, productivity and competitive advantage.

Keywords: Knowledge, Knowledge workers, Knowledge Management (KM), Knowledge Management Framework, Knowledge Sharing (KS), Knowledge Lifecycle, Return of Investment (ROI)

1. INTRODUCTION

Knowledge is increasingly being recognized as the new strategic imperative of organizations. The most established paradigm is that knowledge is power. Therefore, one has to hoard it, keep it to oneself to maintain an advantage. The common attitude of most people is to hold on to one's knowledge since it is what makes him or her asset to the organization. Today, knowledge is still considered power – an enormous power in fact – but the understanding has changed considerably, particularly from the perspective of organizations. The new paradigm is that within the organization knowledge must be shared in order for it to grow

[1-3]. It has been shown that the organization that shares knowledge among its management and staff grows stronger and becomes more competitive. This is the core of knowledge management – the sharing of knowledge.

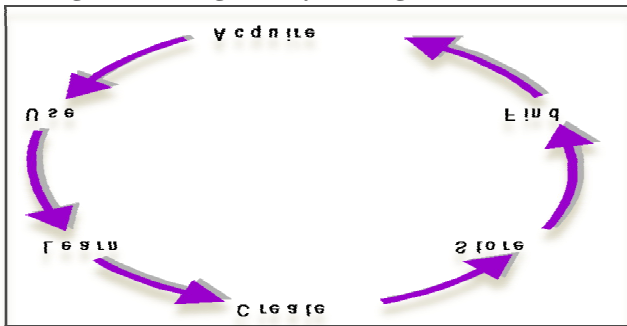
In order to comprehend knowledge management, it is necessary to first understand the concept of knowledge. What is knowledge? How is it different from information? And how is information different from mere data?. In business and academic institutions, the knowledge lifecycle is shown in Fig.1 with various phases given as follows:-

- It must be **created** either within or outside the organization. This is typically comprised of iterative tacit and explicit loops until the knowledge is ready for distribution to those outside the creating group.
- It can then be **stored** somewhere, either tacitly or explicitly so that it is accessible for others to find and use.
- Those who need the specific knowledge must then **find** out where it is, when they need it, by searching in the right places and / or asking the right people.
- Once the knowledge source is found, the user will then go through the act of actually **acquiring** it. This will involve gaining personal knowledge from other humans or documented sources.
- Once acquired, the knowledge can be put to **use** towards some productive purpose.
- Having been used, perhaps repeatedly, the user will **learn** what worked well and not so well as a result of applying the knowledge gained. This can then be taken as significant input into further iterations of the knowledge creation and distribution process.

A key contributor to the effective management of this cycle is the concept of learning. Without the learning component, the cycle is devoid of knowledge. It merely, becomes an information delivery strategy, which becomes disconnected from the leverage of more effective human experience [2]. The application of the delivered knowledge to operating the business (Find, Acquire and Use) will have some initial value

but the delivered knowledge will be immediately out of date unless continuously renewed with the latest lessons learned from the application of the delivered knowledge (Learn, Create and Store). Knowledge Management is the management of this cycle for optimal performance across all aspects of the Knowledge six packs.

Fig.1 Knowledge Lifecycle Diagram [2]



2. UTILITARIAN RELATIONSHIP BETWEEN KNOWLEDGE SHARING AND INFORMATION TECHNOLOGY

All knowledge management systems require a certain level of technology and infrastructure support to be effective. As business processes become increasingly complex, knowledge management can be fully implemented only when appropriate information and communication technologies are available. An adequate ICT infrastructure is needed in order to better create, organize, share and apply knowledge. In this sense, ICTs are relevant enablers. Knowledge management solutions that manage both explicit and tacit knowledge must be enabled by a basic communications infrastructure [4].

This basic infrastructure may include, among others, a portal, a virtual workplace or an e-mail environment. The need for such enablers is greater in organizations that are spread out in many different locations (e.g., a transnational corporation with offices or factories in many countries) since there will be need to communicate and collaborate in productive and meaningful ways across considerable physical distances.

In any knowledge management system, three principal technology infrastructures are needed. These are: firstly, the technology infrastructure needed to organize content; secondly, the technology infrastructure needed to search information, once organized; and thirdly, the technology infrastructure needed to locate appropriate expertise. Without a solid IT infrastructure, an organization cannot enable its employees to share information on a large scale [5-7].

Yet the trap that most organizations fall into is not a lack of IT, but rather too much focus on IT. A KM initiative is not a software application; having a platform to share information and to communicate is only part of a KM initiative. Following are some KM success factors related to IT that should be followed to success the academic institution which is KAU in this article.

- **Approach:** The people who are charged with implementing KM must take the time to understand their users' needs. Matching the KM system with the KM objectives is essential.
- **Content:** With a similar focus on users' needs, establishing great content involves having processes in place to acquire, manage, validate, and deliver relevant information, when and where it is needed.
- **Common platforms:** standard companywide architecture ensures the sustainability and scalability of KM efforts. By understanding the organization's infrastructure at a high level, the steering committee can guide the KM team in picking the appropriate technology.
- **Simple technology:** If it takes more than three clicks to find knowledge on your system, users will get frustrated. Of course, you have to temper that with the amount of information being delivered and the complexity of information demanded by the user.
- **Adequate training:** KM is enabled by adequate technology and people who know how to use it. Best-practice examples reveal that the central KM group should spend most of its time (after deployment) teaching, guiding, and coaching users how to use the system to interact, communicate, and share information and knowledge with one another.

The creation of the system of knowledge management in high school should be a task, and this system should be part of the quality management system. In order to ensure that the management system is improving all the time and performs effectively, the main module should become the monitoring of students' knowledge and skills [8-10]. Only real requirements of high school graduates on the market can prove the effectiveness of knowledge management system's functioning. Knowledge management in a high school can be described as the creation and control of valuable knowledge. Higher school being an important link, which creates and manages knowledge, must have the analogue of the world's existing knowledge management systems. In order to create such a system it is necessary:-

- **To point out** and fix valuable knowledge (the intellectual resources of high schools);
- **To create** a methodology and ideology of receiving, transforming, consolidating knowledge and the formation of control processes;

- **To activate**, create and optimize the processes of knowledge formation, transmission, periodical and final evaluation processes;
- **To perform** the spread of knowledge among the staff of a high school (constant improvement of qualification) and knowledge transmission to new employees;
- **To transmit** the news to students, keep a certain knowledge level of graduates;
- **To concentrate** knowledge while solving innovative tasks;
- **To constantly** perform knowledge monitoring, make decisions according to the monitoring results;
- **To raise** the level of a high school knowledge and generate new knowledge;
- **To generate** new technologies of new knowledge transmission;
- **To fix** new knowledge and turn to new knowledge management technologies.
- **For the creation** of knowledge management and development the holistic model of knowledge management can be applied

3. KNOWLEDGE SHARING BENEFITS WITH ITS ROI TO KAU

Knowledge can be shared by the organization with its employees (e.g., through memos and instructions) and sharing of knowledge can occur between employees of the organization (e.g., through group discussions and internal meetings) as well as with people outside of the organization (e.g., through attending seminars and workshops). For example, an employee may share the captured knowledge on cleaner production technologies with other employees or groups who are interested or concerned with the subject matter [11].

As the groups of employees discuss and debate the knowledge and give their own comments and inputs, new insights are formed that add relevance to and enrich the original knowledge that was shared. Furthermore, as the knowledge on cleaner production technologies is distributed by the organization to its staff, various sector committees and thematic networks can provide a forum where new ideas can be exchanged, debated and made more relevant [12].

Through this processor dissemination, debate and discussion, the organization's knowledge on cleaner production technologies is enriched. Additionally, when staff members attend outside seminars, workshops and meetings on cleaner production technologies, further knowledge sharing and enrichment take place.

The competitive advantage of many organizations is generally determined by the magnitude of knowledge sharing that takes place within the organization. But knowledge sharing does not automatically take place. It must be encouraged and nurtured. In general, it is necessary to facilitate communication and nurture the right culture within the organization in order for proper sharing of knowledge to take place. A worker with specialized knowledge in one area might ask, "If my knowledge is a valuable resource that makes me an essential asset of the company, why should I share it and create competition?" On the other hand, a worker confident of his or her expertise in a field might ask, "Why should I use the knowledge of others when it might put to risk the quality of the work that I am doing?" Accordingly, a knowledge manager must take into consideration the natural tendency of human beings to hoard their own knowledge and regard that of others with suspicion when designing a knowledge management system for any organization [13].

Knowledge sharing can be enhanced through the implementation of appropriate technologies, operations and systems that stimulate collaboration, facilitate the process of sharing, and reward those individuals that share the most knowledge as well as the individuals that actually utilize knowledge that have been shared. Organizations are generally able to make decisions with impact when knowledge is efficiently shared. They are able to make and execute decisions rapidly when individuals throughout the organization can gain access to important strategic ideas [14-16].

Knowledge managers, therefore, must ensure that employees have direct access to one another rather than requiring them to go through higher management whenever needed information or knowledge are required in the implementation of certain projects or the design of certain products. In this manner, the persons who have the right information or knowledge can readily share it with those who can use it to produce the greatest benefit for the organization.

Most people fear measurement because they see it as synonymous with ROI, and they are not sure how to link KM efforts to ROI. Although the ultimate goal of measuring the effectiveness of a KM initiative is to determine some type of ROI, there are many intervening variables that also affect the outcomes. Because many variables may affect an outcome, it is important to correlate KM activities with business outcomes, while not claiming a pure cause-and-effect relationship. Increased sales may be a result not only of the sales representatives having more information, but also of the market turning, a competitor closing down, or prices dropping 10 percent. Due to the inability to completely isolate knowledge-sharing results, tracking the correlations over time is

important. There is a final imperative concerning critical success factors, which transcends KM and applies to all interactions [15]: Listen! Listen to your users, customers, and managers-whichever audience for which you are designing. They will tell you how you can meet their needs and have a successful KM initiative.

Knowledge is a powerful resource that enables individuals and organizations to achieve several benefits such as improved learning and decision-making. Repository knowledge management system (KMS) assists organizations to efficiently capture their knowledge for later reuse. However, the breadth and depth of a knowledge management system depends on the magnitude of knowledge contributed to the system. The work done in [1] empirically investigated the motivators of individual knowledge sharing behavior and the individual benefits of such behavior.

Data was collected through a questionnaire from 104 employees in a major private petroleum organization in Oman and analyzed by the partial least square analysis methodology. The results suggested that an individual's knowledge sharing behavior to KMS was motivated by organizational-culture dimensions (such as management support and rewards policy) and the system technical characteristics (such as system quality). Information technology service quality and peers trustworthiness were not significant motivators on individual knowledge sharing behavior. Study [2] investigated the motivators and benefits of the individual's knowledge sharing to a repository KMS. It empirically examined the effects of the system quality, service quality, management support, rewards policy and peers trustworthiness on the knowledge sharing behavior to a repository KMS. We can summarize the benefits that we can achieve it as a result of using KS in universities by the following:

- Expertise can be shared
- Turnover and job changes don't cripple the system
- Reduces Cycle time
- Reduces Costs
- More Efficient use and reuse of Knowledge assets
- Enhances functional effectiveness
- Increases value of existing products and services

4. Barriers Facing the Application of Knowledge Sharing in an Organization

There are various barriers facing knowledge sharing to be applied in an organization given below as follows [3]:-

4.1 Belief in the Concept "Knowledge" is Power

Of course "Knowledge is Power" forever, but today's enterprise, which believes and encourages much teamwork, collective knowledge and relay research rather than individual, solo researches. It is only a handful of people who have knowledge for which they can hold their peers for rewards. It might be the owner manager of a company not wanting to have trade secrets, it may be a particular specialist who has been in the organization many years and built up his/her own way of achieving success.

4.2 Don't advise me Attitude

This is more common in people. People think that they know everything and feel pride in not having to seek advice from others and in wanting to discover new ways for themselves.

4.3 Non-Awareness of Importance of Knowledge

An individual may have knowledge used in one situation but be unaware that other people at other times and places might face similar situations and problems.

4.3. I can't trust you

Sometimes lack of faith in others also becomes a barrier to share the knowledge. Some people feel that if they share some of their knowledge others may use it out of context, may miss-apply or pass it off as their own without giving acknowledgement or recognition to them as the source.

4.3.2. I don't have time

This is the major reason given by most of the organizations, as time is barrier to knowledge sharing. There is lot of competition; there is pressure on productivity on deadlines, and it's a general rule to collar you for the next task. Under such circumstances how can you possibly find time to add your lessons learnt to the knowledge database or have a knowledge sharing session with your colleagues?

5. Concluded Remarks and Recommended Ways to Enhance Knowledge Sharing in the University

If it is true, we have suggested that a university is a knowledge institution, and then almost any of its policies could be considered as ways to improve its knowledge management. I will just hint at a few important possibilities [17-18]. I won't go into concrete details, but I will limit myself to a few very general ideas.

- **First**, universities should draft a mission statement, clearly defining their three basic and interrelated duties. This document should be thoroughly discussed by the various levels and entities within the university, but also by the university's various stakeholders.

- **Second**, awareness should be created concerning the responsibility and accountability of the university members towards the university's stakeholders.
- **Third**, it could be argued that most universities have a structure which is relatively hostile to interdisciplinary developments. This is strange, since most of society's major problems require an interdisciplinary approach (just think of ecology, for instance), and many of our current scientific breakthroughs seem to be taking place precisely on the borderlines between disciplines. Looking at it from that angle, our traditional division in faculties, departments etc., often with their very own policy-making authorities, might qualify for a thorough rethinking.
- **Fourth**, if a university is a knowledge institution, it should make sure that the rest of the world understands that information technology is not the same as knowledge management. Information technology is a highly important development, but buying more computers is no guarantee at all for better knowledge systems or better knowledge-based results.
- **Fifth**, knowledge is, by its very nature, immaterial and not limited by physical or political boundaries. Therefore, universities should increase their international openness. Luckily, the Bologna Agreements, which are being implemented at this very moment, open up exciting new perspectives.
- **Sixth**, if our students are the key players in today's and tomorrow's knowledge society, it is vital that we prepare them as much as possible for the material and immaterial requirements of this knowledge society.
- **Seventh**, if a university is a knowledge institution, it is of vital importance that we welcome thorough and open evaluation. If the results of this evaluation are negative, we should develop a climate which is open to accepting even the most unpleasant consequences, even if these consequences would interrupt the cherished tenured appointment.
- **Eighth**, universities should stop considering themselves as highly individual institutions. This attitude hinders institutional collaboration, which will become more and more essential in tomorrow's world. What is true on the institutional level is also true for each individual. Professors and students need to learn how to work together, in order to strengthen the total research quality and the overall level of academic performance. Universities still are not sufficiently aware of their place in society, which would automatically lead them to an increased and essential sense of responsibility and

accountability. This is especially true in our current internationalized world. Modern universities are an integral part of what is called the European higher education and research area. In a knowledge economy and a knowledge society, universities are the protagonists in providing the community, i.e. their stakeholders, with a competitive edge, both locally and globally.

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