# Innovative Guidelines to Enrich Knowledge Management and Improve Organization Performance

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# **ABSTRACT**

Knowledge and knowledge management are key factors for success in any organization. Knowledge exists into two forms which are explicit and tacit. Managing knowledge is not an easy task since knowledge is available in different forms and has different types. This paper introduces types of knowledge and shows how appropriate knowledge management is precarious for success. Additionally, it demonstrates numerous innovative guidelines to enrich knowledge management and to improve organization performance. These guidelines are built based on extensive reading of related studies and previous researches for us related to this issue.

# **Keywords**

Knowledge, knowledge management, tacit knowledge, explicit knowledge, organization performance.

# 1. INTRODUCTION

No doubt that knowledge is the main aspect of success in digital era. Nonaka [1] divides knowledge into two main parts. Explicit knowledge and tacit knowledge: Explicit knowledge is the knowledge which can be expressed in words, numbers, or any form of scientific data. Tacit knowledge can be defined as knowledge which resides in people's heads and can't be easily codified; it is intangible and not easy to articulate [2, 3]. Knowledge management (KM) involves a set of strategies, practices, and approaches used in any organization to identify, create, represent and enable adoption of insights and experiences [4]. The knowledge management can be considered as a key option to enrich human wealth. Also knowledge is the most valuable assets for any organization and KM has become one of the most important fields in the area of information system (IS) [5]. Managing knowledge can be divided into two parts: managing tacit knowledge such as knowledge embedded into human minds, proficiencies, skills, and insight and managing explicit knowledge [6]. Knowledge discovery or extraction can be defined as the creation of knowledge from structured and unstructured sources [7]. Knowledge discovery aims to collect this appreciated intellectual capital from documents, texts, relational databases, images and experts' minds. Actually there are some available tools and techniques like data mining are useful for knowledge discovery [8].

Actually many organizations don't know exactly how to expand human capital so they try to solve the problem. As a result organizations want to achieve this by managing knowledge. KM has begun to be introduced within policy, process, and procedures [9]. Managing intellectual capital

involves managing human and structural capital. Mau [10] says that KM can provide us with resources and means to make information more powerful and expertise more influential. Halawi [11] says that KM has to increase organizations' intellectual assets. Several researchers talked about KM and its relation with intellectual capital. Knowledge management and human capital have serious effects on organizations and their success. Converting tacit knowledge into forms of explicit knowledge required good understanding of organization's elements [11, 12, 13]. Knowledge management selection needs a knowledge management team to decide whether the knowledge required is important or not [14]. This paper aims at improving organization performance through clarifying the main guidelines of KM.

This paper is organized as follows. In the next section, we talk about knowledge management and organization performance and we emphasize on related literature review. Section three proposed our guidelines to enrich knowledge management in specific details. And the last section of this paper presents our conclusion

# 2. KNOWLEDGE MANAGEMENT AND ORGANIZATION PERFORMANCE

Explicit knowledge and sometimes referred to as know-what has several forms such as manuals, documents, procedures, videos and audios [15]. Explicit knowledge has several definitions; such as articulated knowledge, knowledge which can be expressed in words, numbers, and codes [1]. For example, whenever a person reads a book, a newspaper and a manual he is expressing an explicit knowledge.

Goh [16] talks about knowledge management and he says that KM is an organized method of improving data, information and other forms of assets inside an organization to expand an organization's capability and competence. Markus [17] shows that explicit knowledge can be captured, articulated and codified. Sunassee [18] says that explicit knowledge is easy to express, easy to capture and can be distributed into different formats. Another researcher says that explicit knowledge is anything that can be documented, collected, and codified [19]. Soltero [20] demonstrates that explicit knowledge is any knowledge which can be transferred by using proper, organized and official means. Furthermore Belbaly [21] shows that explicit knowledge can be articulated, collected, organized, and categorized into certain media. Adel Mohammad [22] exhibits forms of explicit knowledge and tacit knowledge (Fig. 1 and Fig. 2). These forms identify most types of explicit and tacit knowledge.

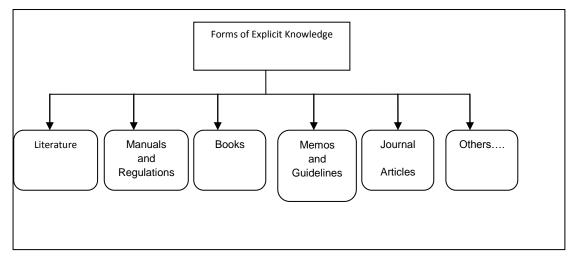


Figure 1. Forms of Explicit Knowledge.

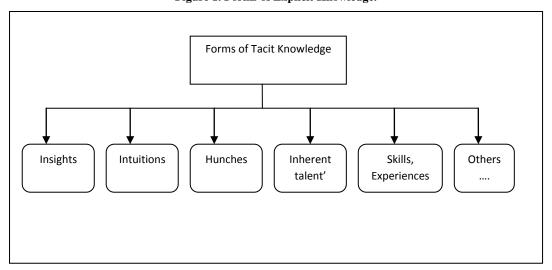


Figure 2. Forms of Tacit Knowledge.

Explicit knowledge has several characteristics such as explicit knowledge can be tested, improved, reviewed and discussed. Explicit knowledge can be used to identify which type of knowledge is valuable and capable of contribution in decision making and which are not. One of the most major benefits of explicit knowledge is its capability of making organization knowledge is visible. No doubt that making knowledge as explicit knowledge allows the organization to discover shortages in knowledge assets [22].

Knowledge acquisition is an important action in any organizations that seek for still and survive. Knowledge acquisition deals with the process of finding proper and useful knowledge to acquiring it from its sources [23]. Abdullah [24] in his research says that knowledge acquisition involves several sequential steps which should be taken into consideration to make sure that knowledge will be collected and acquired from the right people, time and place.

Knowledge acquisition could be considered as the main factor in building knowledge base system (KBS). Additionally, there are several knowledge acquisition techniques which make it difficult to evaluate them to select the proper one. Beside that there is no suitable method of retrieving knowledge is proper for all types of knowledge since each type of

knowledge has different method of retrieving and one of them is best suited [13, 25, 16]. Elizabeth A. Smith [26] says that knowledge plays a key role in the information revolution. Also we say that organizations must begin to create workercentered environment to encourage sharing and using all forms of knowledge. Berger [3] demonstrates that tacit knowledge management can help increase acceptance and encouragement for any organization wish to develop a methodology for tacit knowledge sharing. Tacit knowledge is that knowledge related to skills, know-how, know why, and high level of expertise [27, 28]. Several researchers talk about tacit knowledge and say that whether tacit knowledge is an individual issue or something which can be shared by individuals and groups. [29, 30].

# 3. PROPOSED GUIDELINES TO ENRICH KNOWLEDGE MANAGEMENT

To enrich knowledge management and improve organization performance, several guidelines are demonstrated. Explicit knowledge is the knowledge which can be articulated [1, 2, 3]. Tacit and explicit knowledge will be the base for building these guidelines (Fig. 3).

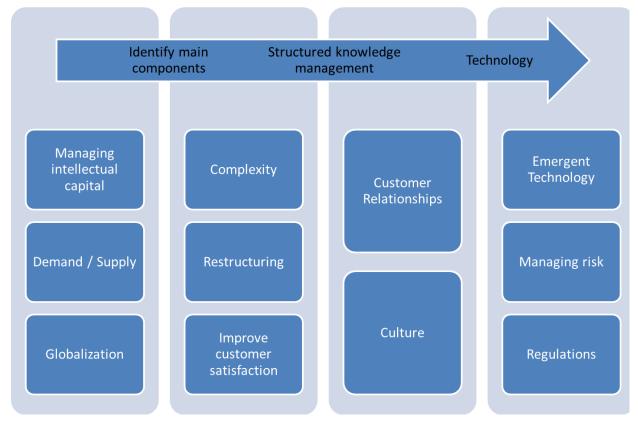


Figure 3. Guidelines to enhance knowledge management and improve organization performance.

# • Intellectual Capital

Intellectual capital is the value of the company which includes employees' knowledge and information resources. No doubt that intellectual capital is a very important aspect inside any organization and it considered or classified as the true capital cost. Managing intellectual capital can help organizations improve their performance. Besides that Managing intellectual capital include collecting documented and undocumented knowledge, generating organized policies and strategies for short, medium, long periods. Finally managing intellectual capital involves managing tangible (machines, lands...etc.) and intangible (human, information resources ...etc.) assets. All organizations have to manage intellectual capital properly to enhance organization performance. Managing intellectual capital can be done by identifying organization intellectual capital. Then organizations have to evaluate it. After that organizations have to develop a suitable management information system. Finally writing suitable reports to managers and perform a continuous process of feedback and developing. Managing intellectual capital required a high skill employee staff and high level educated managers.

#### Demand/supply

Demand and supply is critical and vital for any organization to success and survive. Managers have to read and understand the outside markets to create their short and long term strategies. Demand and supply is a variable factor which may be affected by several economic and political factors. Related to this factor organizations have nothing to do except keep an eye on markets to create short and long term policies and they should take into concern the outside markets and new emergent competitors.

#### Globalizations

Globalizations have become a hot challenge. WTO (World Trade Organization) and NAFTA (North American Free Trade Agreement) are two examples of bilateral trade agreements. Actually globalization affects many organizations all over the world. Large and mid-size organizations have to understand all market environments and situations. No doubt that globalization can affect all markets in non-industry countries and third world countries. Organizations in third world countries have to create their long term strategies carefully. One of the most valuable solutions to face globalization is the combination of medium and small organizations into one large organization.

## Complexity

Organizations are social entities which contain a group of resources, categorized as human and structural capital, coordinated and managed by several level of managers, covers several processes and activities to perform certain goals. Complexity here is the presence of several independent entities, agents and objects. Also organizations face several sets of difficulties such as diversity inside and outside organizations. Beside that nowadays most organizations face the problem of ambiguity. Several studies, survey results, statistics, facts, and measurements become less reliable due to uncertainty, we think that the type and size of an organization can affect overall methodologies and policies used to develop organizations' vision and tactics.

# • Restructuring

Restructuring means reorganizing operational, legal, and functional structure of companies. Restructuring aims at making the organization works successfully, professionally, and to increase profits. Beside that restructuring aims at improving, enhancing and expanding organizations' position. Organizations have to hire novel decision makers to help organizations restructure. Restructuring can't be ignored

while preparing long term strategic plans. We think that large size organizations have to consider seriously restructuring in future by keep an eye on local and global market, analysis of current and future directions of markets and customers.

#### • Improving customer satisfaction

Customer satisfaction is one of the main goals for all organizations. No doubt that customer satisfaction has a great effect on organization performance. Customer satisfaction is one of the most indicators to decide whether the organization is on the right path or not. In this point we says that organizations have to know their customers, knowing your customers' needs can help improve your service. There are several IT systems which can help analyze and understand your customers. Selecting the best suitable available software is not an easy task and it is the responsibility of top level and medium level managers. Also applying suitable knowledge management system here could be helpful based on organizations' type and size.

#### • Customer Relationships

Customer relationship management (CRM) is one of the most emergent systems in the last decade. Applying suitable customer relationship management system could be vital. We think that applying suitable CRM is based on organization nature and size. Beside that applying CRM could be helpful for organizations with different locations in different countries.

#### Culture

Culture means collective thinking of minds which create a difference between members [31]. Employee commitment and their culture are varies between countries. In this world we have different cultures and beliefs which can affect employees' performance. Employee performance will definitely affect organizations' performance. We think that organizations with different locations overall the world have to use flexible practices and methods to deal with their employees.

# • Emergent Technology

Technology is a general term relates to all forms of new tools used in the world of information technology. Dealing with technologies is a key factor for success for all organizations. Applying suitable technology is significant for all organizations to still and survive. Emergent technology is one of the main causes for success or failure. No doubt that some tools have been died before even birth. Emergence of new technologies and tools could be considered as a disaster for organizations which pay millions of dollars to have existing once . We think here that organizations have to apply suitable procedures and tactics for dealing with existing tools and technology. Having proper and specialist managers for reading and understanding markets is essential to minimize the effects of new emergent technology.

## Managing risk

Managing risk is mainly done by mature organizations. It can result in better financial profits. While organizations invest billions of dollars on information technology, the world of information technology is full of risks. Managing risks properly and correctly is crucial for any organization to success and survive. We think that organizations have to formalize appropriate and suitable risk management methodologies.

# • Regulations

Regulations are one of the main factors which mainly affect any organization performance. Several countries around the world adapt several regulations and policies which can facilitate investment more than other countries. All large organizations try to invest inside countries with low cost labors. We think that third world countries and low cost labor countries has a great chance to attract large companies to invest inside them. Creating proper and simple regulations policies could be very helpful. Beside that we think that large organizations have to read markets inside all over the world properly and then selecting the best suitable country or countries to invest inside.

## 4. CONCLUSION

This paper talks briefly in the introduction part about knowledge, knowledge management, tacit knowledge, explicit knowledge. It demonstrates forms of explicit knowledge which are literature, manuals and regulations, books, memos and guidelines. Beside that it demonstrates the forms of tacit knowledge which are insights, intuitions, hunches, inherent talent and skill experiences.

Organization performance is one of the most critical factors for success inside any organization. This paper proposed guidelines to enrich knowledge management and to improve organizations' performance. The suggested guidelines indicate several key factors for success, including, intellectual capital, demand/supply, globalization, complexity, restructuring, improving customer satisfaction, customer relationship, culture, emergent technology, managing risk and regulations. The proposed guidelines shall have a great effect on organizations' performance if they are used properly. Alongside that, we deliberate that large organizations have to deal extremely with some issues such as globalization, emergent technology, regulations and managing risk to success and persist. We demonstrate that organizations have to use expert managers in reading and understanding local and global environment to success.

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# 6. REFERENCES

- [1] Nonaka, I., and Konno, N. (1998) The Concept of "Ba": Building a foundation For Knowledge Creation, California Management Review, 40(3), pp. 40-54.
- [2] Bechina, A. A. (2006) Knowledge Sharing Practices: Analysis of a Global ScandinavianConsulting Company, Electronic Journal of Knowledge Management, 4(2), pp. 109-116.
- [3] Berger Ulrich, Lebedynska Yuliya, Minhas Sarfraz Haque, Incorporating intelligence and development of knowledge acquisition system in an automated manufacturing environment, International Journal Of Systems Applications, Engineering & Development Jssue 2, Volume 2, 2008.
- [4] http://en.wikipedia.org/wiki/Knowledge\_management
- [5] Papoutsakis, H., and Vallès, R. S. (2006) "Linking Knowledge Management and Information Technology to Business Performance: A Literature Review and a Proposed Model", Journal of Knowledge Management Practice, Vol. 7 No.1.
- [6] Cheah Yu-N, Syed Sibte Raza Abidi, A Scenarios Mediated Approach for Tacit Knowledge Acquisition and Crystallisation: Towards Higher Return-On-

- Knowledge and Experience, Proc. of the Third Int. Conf. on Practical Aspects of Knowledge Management (PAKM2000) Basel, Switzerland, 30-31 Oct. 2000. http://sunsite.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-34/
- [7] http://en.wikipedia.org/wiki/Knowledge\_extraction
- [8] Sun, Z., and Gang, G. (2006) HSM: A Hierarchical Spiral Model for Knowledge Management, The 2nd International Conference on Information Management and Business, Sydney Australia.
- [9] 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), pp. 7-28.
- [10] Mau, M. (2005) Action Research: connecting knowledge in the Australian Public Sectororganization, actKM Online Journal of Knowledge Management, 2(1), pp. 58-69.
- [11] Halawi, L., Aronson J., and McCarthy, R. (2005) Resource-Based View of Knowledge Management for Competitive Advantage, Electronic Journal of Knowledge Management, 3(2), pp. 75-86.
- [12] McKeen, J. D., Zack, M. H., and Singh, S. (2006) Knowledge Management and Organizational Performance: An Exploratory Survey, Proceedings of the 39th Hawaii International Conference on System Sciences, IEEE.
- [13] Tri M. Cao Paul Compton, A Simulation Framework for Knowledge Acquisition Evaluation, 28th Australasian Computer Science Conference, The University of Newcastle, Newcastle, Australia. Conferences in Research and Practice in information Technology, Vol. 38. V. Estivill-Castro, 2005.
- [14] Deng, Q., and Yu, D (2006) An Approach To Integrating Knowledge Management Into The Product Development Process, Journal of Knowledge Management Practice, 7(2).
- [15] http://en.wikipedia.org/wiki/Explicit\_knowledge
- [16] Goh, A. L S. (2005) Adoption of Customer Relationship Management (CRM) Solutions as an Effective Knowledge Management (KM) Tool: A Systems Value Diagnostic, Journal of Knowledge Management Practice, 6 http://www.tlainc.com/jkmpv6.htm, ISSN 1705-9232.
- [17] Markus, M. L. (2001) Toward a Theory of Knowledge Reuse: Types of Knowledge Reuse Situations and Factors in Reuse Success, Journal of Management Information Systems, 18(1), pp. 57–93.
- [18] Sunassee and Sewry Management Implementation, Proceedings of the 2002 annual research conference of the South African institute of computer scientists and

- information technologists SAICSIT on Enablement through technology, pp. 235-245.
- [19] Coakes, E. (2004) Knowledge Management a primer, Communications of the Association for Information Systems, 14, pp. 406-489.
- [20] Soltero, A. B., Valenzuela, M. B., Schmitz, G. S., Rubio, F.M., and Mendez, T. P. (2006)Knowledge Audit Methodology with emphasis on Core Processes, European Alicante, Spain.
- [21] Belbaly, N., Benbya, H., and Meissonier, R. (2007) An empirical investigation of the customer Knowledge creation impact on NPD Performance, Proceedings of the 40th Hawaii International Conference on System Sciences, IEEE.
- [22] Adel.H.Mohammad, Maher Abu Hamdeh, Alia Taha Sabri, Developing a Theoretical Framework for Knowledge Acquisition, European Journal of Scientific Research, Vol.42 No.3 (2010), pp.439-449
- [23] Stollberg, M., Zhdanova, A. V., and Fensel, D. (2004) H-TechSight- A Next Generation Knowledge Management Platform, Journal of Information and Knowledge management, 3(1), pp. 47-66.
- [24] Abdullah, R., Selamat, M. H., Sahibudin, S., and Alias, R. A. (2005) A Framework For Knowledge Management System Implementation In Collaborative Environment For Higher Learning Institution, Journal of Knowledge Management Practice, 6, http://www.tlainc.com/jkmpv6.htm, ISSN 1705-9232.
- [25] Bouthillier, F., and Shearer, K. (2002) Understanding knowledge management and information management: the need for an empirical perspective, Information Research Journal, 8(1), pp.1-39.
- [26] Elizabeth A. Smith, Journal of Knowledge Management, Volume 5 . Number 4 . 2001 . pp. 311±321, # MCB University Press . ISSN 1367-3270
- [27] McInerney, C. Knowledge Management and the Dynamic Nature of Knowledge. Journal of the American Society for Information Science and Technology 53, no. 12 (2002): 1009-1018.
- [28] Cooke, F. L. Maintaining Change: The Maintenance Function and the Change Process. New Technology, Work and Employment 18, no. 1 (March 2003): 35-49.
- [29] Farrell, L. .Negotiating Knowledge in the Knowledge Economy: Workplace Educators and the Politics of Codification.. Studies in Continuing Education 23, no. 2 (November 2001): 201-214.
- [30] Hager, P. Know-How and Workplace Practical Judgment. Journal of Philosophy of Education 34, no. 2 (May 2000): 281-296.
- [31] Schein, E. H. (1990). Organizational culture. American Psychologist, 43 (2), 109-119.