KNOWLEDGE MANAGEMENT AND ACADEMIC LIBRARY PERFORMANCE: A FRAMEWORK

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The role of knowledge as a valuable resource to the organization has been recognized by academicians and practitioners. For that reasons knowledge management (KM) has been introduced to help organization managing the knowledge systematically and effectively. KM has been widely practiced by many organizations including academic library in order to improve the organization's performance. In this 21st century, KM has become an essential mechanism for library organizations to provide a dynamic and effective service to library users. This paper reviews the concepts of KM and library performance and proposes a framework for further research. The paper tries to establish a relationship between KM and library performance that will be beneficial for the academic library.

KEYWORDS: Knowledge, Knowledge Management, Academic Library, Performance

1. INTRODUCTION

Knowledge management (KM) has been introduced since late 1990s and was used first in the business sector, then in higher education and library management (DiMattia, 1997). Universally, most researchers agreed that KM can be seen as a way to improve performance, value, productivity, and competitiveness, a way to capture best practices, a way to increase speed and meet customer needs, and a way to become a more innovative organization (Fulford and Love, 2004; Mentzasm, 2004; Yang, 2004 and Koh and Gunasekaran, 2006).

KM has a long root in library practice, in the sense of managing codified or recorded knowledge. According to Hawkins (2000), in the academic world, KM is an old concept and a function historically performed by librarians. The management of information has long been regarded as the domain of librarians and libraries. They trained to be experts in information searching, selecting, acquiring, organizing, preserving, repackaging, disseminating, and serving. Therefore, in this 21st century, KM has become an essential

mechanism for library organizations in helping to provide a dynamic and effective service to library users (White, 2004).

KM adoption in an academic library is suited for current library practice that focuses on providing user-oriented services. Its implementation also can improve library services as well as for creating and maintaining a learning culture. The success of academic libraries also depends on the ability to utilise its information and knowledge better serve to the needs of the diverse academic community. According to Mavodza and Ngulube (2011), the reason why KM theory is becoming increasingly significant in libraries is that rapid technological changes alter the way in which library services are provided. Therefore, academic library need to find ways to demonstrate their efficient and effective response to user demands due to rapid changes in the development of new services and increased user expectations.

2. KNOWLEDGE

Knowledge has been defined in different perspectives by various authors, academicians and practitioners. The most referred definition of knowledge was describe by Nonaka and Takeuchi (1995) which specify knowledge as a dynamic human process of justifying personal belief towards the truth within organization. This definition is the continuation of Plato's work, who defines knowledge as "a justify truth believe". As the interested areas of study many researchers have been defined knowledge in their own ways. For instances, knowledge has been defined as an expertise or skill acquired through education and experience, theoretical or practical understanding of a subject, residue of thinking which comes from experience and which belongs to and circulates through communities (Leonard and Sensiper, 1998; McDermott, 1999); understanding, awareness, or familiarity acquired through study, investigation, observation, or experience over the course of time (Bollinger and Smith, 2001); information combined with experience, context, interpretation and reflection (Davenport et al., 1998); a state of mind, an object, a process, a condition of having access to information and a capability (Wasko and Faraj, 2000; Shin, et al., 2001).

Knowledge can be categorized into personal, shared and public; practical and theoretical; hard and soft; internal and external; foreground and background (Pathirage et al., 2007). However, the most acceptable of types of knowledge are tacit knowledge and explicit knowledge (Duffy, 1999; Nonaka, (1998); Tiwana, (2000); Zack (1999); Polanyi (1983); Nonaka (1994); Nonaka and Takeuchi (1995). Explicit knowledge exists in the form of words, sentences, documents, organized data, computer programs, databases and in other explicit forms. It is easy to articulate, capture and distribute in different formats, since it is formal and systematic. In contrast, tacit knowledge represents knowledge based on the experience of individuals, expressed in human actions in the form of evaluation, attitudes, points of view, commitments and motivation (Nonaka et al., 2000). Since tacit knowledge is linked to the individual, it is very difficult, or even impossible, to articulate. Polanyi (1983) stated tacit knowledge, that "we can know more than we can tell". Most knowledge is initially tacit in nature; it is laboriously developed over a long period of time through trial and error, and it is underutilized because "the organization does not know what it knows" (O'Dell and Grayson, 1998, p. 154). Some knowledge is embedded in business processes, activities, and relationships that have been created over time through the implementation of a continuing series of improvements.

Despite, there is various perspective of knowledge, however most researches realize that knowledge has become more relevant to sustaining business performance than traditional resource such as capital, labor or land (Drucker, 1992) and considered as a very important factor for organizations to gain competitive advantage (Amit and Schoemaker, 1993; Kogut and Zander, 1992; Krogh and Roos, 1996; Peteraf, 1993) in today's globalization era.

3. KNOWLEDGE MANAGEMENT

Review of the prior research on KM indicates the existence of multiple definitions of KM. The wide range of definitions also reflects the fact that those people working in the field of KM come from a wide range of disciplines, such as psychology, management science, sociology, strategy, production engineering etc. (Nonaka and Takeuchi, 1995). There are several definitions found in the literature such as:

(1) KM is the collective knowledge residing in the minds of its employees, customers, suppliers etc., which is the most vital resource of an organizations growth, even more than the traditional factors of production i.e. land, labor and capital (Drucker, 1995).

(2) KM is the process of critically managing knowledge to meet existing needs, to identify and exploit existing and acquired knowledge assets and to develop new opportunities (Quintas et al., 1997).

(3) KM is a process of collection, distribution and efficient use of the knowledge resource (Davenport et al., 1998).

(4) KM is a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance (O'Dell et al., 1998).

(5) KM is a systemic and organizationally specified process for acquiring, organizing, and communicating both tacit and explicit knowledge of employees so that other employees may make use of it to be more effective and productive in their work (Alavi and Leidner, 1999).

(6) KM is the formalization of and access to experience, knowledge and expertise that create new capabilities, enable superior performance, encourage innovation and enhance customer value (Beckman, 1999).

(7) KM is any process or practice of creating, acquiring, capturing, sharing and using knowledge, wherever it resides to enhance learning and performance in organizations (White, 2004).

(8) KM is a set of procedures, infrastructures, and technical and managerial tools, designed to create, share and leverage information and knowledge within and around organizations (Bounfour, 2003).

Although there are many definitions exist, however most of the researchers agreed that KM implementation will enhance organizations' performance. For the purpose of this paper, KM is defined as the process or activity of managing library knowledge assets which involve activities such as creating, acquiring, capturing, sharing and applying knowledge, wherever it resides to enhance library performance. The KM process will be adopted from White (2004).

4. LIBRARY PERFORMANCE

Nowadays, KM has been illustrated as a significant discipline in leading to positive performance in the organization and it can be measured objectively or subjectively (Raja Suzana, 2004). Performance must be integrated with systematic learning to sustain competitive advantage and KM can be a vehicle for achieving this desired result (Gorelick and Monsou, 2005).

In an academic library context, availability is considered as one important indicator to measure or determine effectiveness or overall performance. The user doesn't care that a library owns a million books if he cannot get the one he wants (Saracevic, 1984). The method used to this availability is known as branching method which was initially used by Kantor (1976) and has been utilized for a number of studies in developed and developing country libraries.

According to Young (2008), library performance indicators focus on the evaluation of library performance by measuring effectiveness and organizational performance, by assessing needs, testing, identifying gaps and high-risk areas, improving accountability, and by establishing benchmarks and baselines. Performance indicators focus on management using unbiased information to improve decision making, to reduce risks, and to solve problems. The emphasis of performance measurement includes drawing comparisons that are useful to coordinate, prevent duplication, to perform stakeholder consultations, and to focus on outputs and outcomes. Therefore, performance measurement enables managers to do comparisons, to plan a strategy, to formulate budgets, to plan and evaluate program results, and to set goals required to achieve success.

Boekhorts (1995) also explained the criteria for library performance indicator such as appropriate, reliable or accurate, reproducible, helpful and practical. For example, circulation statistics were collected monthly by the department of circulation in the library. Through this method, library management was able to know the progress of performance of library operation and achievement by comparing circulation data by

monthly, quarterly and yearly. This information is very valuable for future improvement in the organization. In the other hand, the comparing results of performance measurement with goals and objectives will lead to re-formulation and specification of goals and objectives.

Rzasa and Baker (1972) suggested an overall measure of academic library performance based on the number of users, materials used, reference questions, users studying their own materials, and total potential users in the library's population. The weights of each of these factors would be assigned by library management, and the overall results summed to a single figure of library performance. Finally, there are currently no agreed-upon performance indicators in academic libraries (Oldroyd, 2004). For the purpose of this paper, academic library performance indicators are based on frequency of library use, materials used and user satisfaction to the library facilities and services.

5. KM AND LIBRARY PERFORMANCE

KM goals are leverage and improve the organization's knowledge assets to effectuate better knowledge practices, improved organizational behaviors, better decisions and improved organizational performance. Some studies revealed a significant relationship between KM practices and improvement in performance measures such as efficiency, customer satisfaction, decision-making, quality and financial benefits (Al-Athari & Zairi, 2001; Yahya & Goh, 2002; Moffett et al., 2003; Boumarafi and Jabnoun 2008).

Although the library world often claims ownership of KM, in practice, the adoption of KM in libraries is not as pervasive as in the business sector. However, KM in the non-profit organization can improve communication among staff and between top management and can promote a culture of sharing (Teng and Al-Hawamdeh, 2002). The approaches to KM as have been described by different authors include those of team-based approach to develop and introduce a new tool for capturing, managing and using informal and tacit knowledge of reference librarians in New Brunswick Libraries at Rutgers University (Jantz, 2001); an enterprise-wide, broad and evolutionary approach to KM system involving a knowledge bank, more specifically, a dynamic institutional

repository for digital intellectual assets at Ohio State University Library (Branin, 2003); a database approach to make informal knowledge of reference librarians formalized at San Diego State University (Stover, 2004); organizational know-how/library know-how consisting of practical knowledge of the library, its resources and users based on Oxford University Library Services (White, 2004); and a pragmatic approach to implement KM in academic libraries utilizing the existing staffing, technology, and management structure following either bottom-up or top-down strategy (Wen, 2005).

Mphidi and Snyman (2004) have focused on the utilization of intranet as a KM tool in academic libraries, especially in South Africa; while Selhorst (2007) recommends the replacement of the intranet with an internal wiki followed by a knowledge audit for making use of hidden staff talent at the Public Library of Vissingen, Holland. Shanhong (2000) describes that KM in libraries should be focused on effective research and development of knowledge, creation of knowledge bases, exchange and sharing of knowledge between library staffs including its users, training of library staff, speeding up explicit processing of the implicit knowledge and realizing of its sharing.

6. CONCEPTUAL FRAMEWORK

Based on prior literatures, this paper has been developed a conceptual framework as in Figure 1. The main interest of this study is a dependent variable namely library performance. Library performance is measured by the frequency of library use, materials used and user satisfaction to the library facilities and services. Another variable is independent variable. The independent variable that influences the dependent variable is Knowledge Management. This paper defines KM as a process of creating, acquiring, capturing, sharing and applying knowledge, wherever it resides to enhance library performance. The relationships between dependent variable and independent variable can be seen as below:
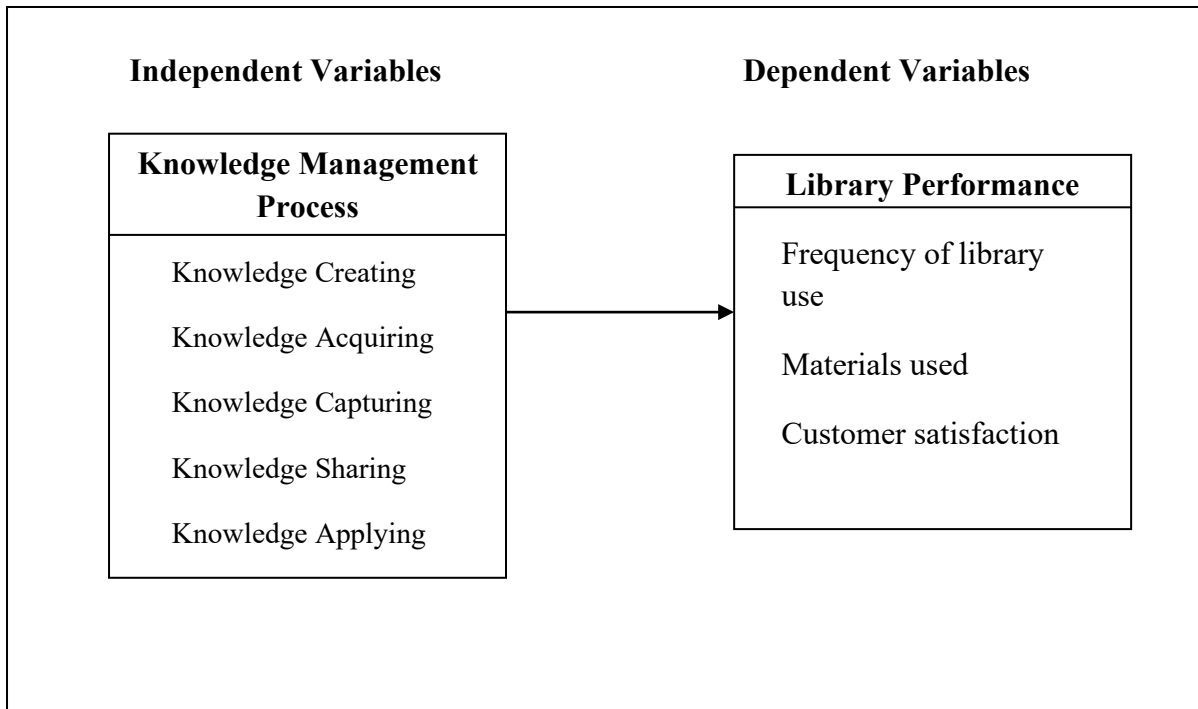
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┌──────────────────────────────────────────────────────────────────┐
│                                                                    │
│   Independent Variables              Dependent Variables           │
│                                                                    │
│   ┌────────────────────────┐        ┌──────────────────────────┐  │
│   │  Knowledge Management  │        │   Library Performance    │  │
│   │        Process         │        ├──────────────────────────┤  │
│   ├────────────────────────┤        │ Frequency of library     │  │
│   │   Knowledge Creating   │        │ use                      │  │
│   │                        │──────▶  │                          │  │
│   │   Knowledge Acquiring  │        │ Materials used           │  │
│   │                        │        │                          │  │
│   │   Knowledge Capturing  │        │ Customer satisfaction    │  │
│   │                        │        │                          │  │
│   │   Knowledge Sharing    │        │                          │  │
│   │                        │        └──────────────────────────┘  │
│   │   Knowledge Applying   │                                      │
│   └────────────────────────┘                                      │
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Figure 1. Conceptual framework

7. CONCLUSION

In this knowledge economy era, knowledge has become a central force behind the success of organizations. Within the business world, academicians and practitioners have recognized that this intangible resource is more valuable than tangible resources to improve the organization's performance. However, without a systematic process in managing knowledge, it will results in wastage of resource to the organizations. So, KM was introduced to help organizations to create, share, and use knowledge more systematically.

Academic library is the organization that engages with information and knowledge. The function of academic library is to provide the best service to their users. The frequencies of library use, user satisfaction and materials used are the indicators to show the level of library performance. Most of the researchers agreed that KM is mechanisms that will bring a significant benefit to the organization that implemented KM approach. However, in an academic library discipline, there is a dearth of discussions and studies on KM and library performance both in conceptual and empirical study. Most of the studies focused

on information management due to the nature of the organization. Thus, the paper proposes a framework (as shown in Figure 1) for future research to bridge the gap.

REFERENCES

Al-Athari A. and Zairi M. (2001). Building benchmarking competence through knowledge management capability: an empirical study of the Kuwaiti context. *Benchmarking: An International Journal*, 8(1): 70–80.

Alavi, M. and Leidner, D. (1999). Knowledge Management System: issues, challenges and benefits. *Communications of the Association for Information System*, 1(7): 2-41.

Amit, R. and Schoemaker, P.J.H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1): 33-46.

Beckman T.J. (1999). The current state of knowledge management. In J. Liebowitz (Ed.), *the knowledge management handbook*, New York: CRC Press.

Boekhorst, P. (1995). Measuring quality: The IFLA guidelines for performance measurement in academic libraries. *IFLA Journal*, 21(4): 278-281.

Bollinger, A.S. and Smith, R.D. (2001). Managing organizational knowledge as a strategic asset. *Journal of Knowledge Management*, 5(1): 8-18.

Bounfour, A. (2003). *The management of intangibles. The organisation's most valuable asssets,* London: Roudlege.

Boumarafi, B. and Jabnoun, N. (2008). Knowledge management and performance in UAE business organizations. *Knowledge Management Research and Practice*, 6: 233–238.

Branin, J.J. (2003). Knowledge management in Academic Libraries: building the Knowledge Bank at the Ohio State University. Available at http://kb.osu.edu/dspace/bitstream/1811/187/1/KBJAL.pdf. (Retrieved Jan 19, 2013).

Davenport, T.H., and L. Prusak. (1998). *Working knowledge: how organisations manage what they know.* Boston, MA: Harvard Business School Press.

DiMattia, S. and Oder, N. (1997). Knowledge Management: hope, hype, or harbinger?*Library Journal*, 122(15): 33-35.

Drucker, P. (1992). Managing for the future: the 1990s and beyond. New York: Truman Talley.

Drucker, P.F. (1995). Managing in a time of great change. New York: Truman Talley.

Fulford, R. and Love, P.E.D. (2004). Prepagation of an alternative enterprise service application adoption model. *Industrial Management & Data Systems*, 104(6): 450-456.

Gandhi, S. (2004). Knowledge management and reference services. *The Journal of Academic Librarianship,* 30(5): 368-381.

Gorelick, C. and B.T. Monsou. 2006. For performance through learning, knowledge management is the critical practice. *The Learning Organization*, 12(2): 125–39.

Hawkins, B. (2000). Libraries, knowledge management, and higher education in an electronic environment. *Paper presented at the ALIA 2000*. Available at: www.alia.org.au/conferences/alia2000/proceedings/brian.hawkins.html (Retrieved on 15 Jan 2013).

Jantz, R. (2001). Knowledge management in academic libraries: special tools and processes to support information professionals. *Reference Services Review*, 29(1): 33-39.

Kantor, P.B. (1976). Library as an information utility in the University context: education and measurement of service. *Journal of the American Society for Information Science*, 27: 100-112.

Koh, S.C.L. and Gunasekaran, A. (2006). A knowledge management approach for managing uncertainty in manufacturing. *Industrial Management & Data Systems*, 106(4): 439-459.

Kogut, B. and Zander, U. (1992). Knowledge of the firm, combinative capabilities and the replication of technology. *Organization Science*, 3(3): 383-97.

Krogh, G. and Roos, J. (1996). *Managing knowledge: perspectives on cooperation and competition.* London: Sage Publication.

Leonard, D. and Sensiper, S. (1998). The role of tacit knowledge in group innovation. *California Management Review*, 40(3): 112-32.

Mavodza, J. and Ngulube, P. (2011). Exploring the use of knowledge management practices in an academic library in a changing information environment. *Journal of Library and Information Science*, 77(1).

McDermott, R. (1999). Why information technology inspired but cannot deliver knowledge management. *California Management Review*, 41(4): 103-17.

Mentzasm, G. (2004). A strategic management framework for leveraging knowledge assets. *International Journal of Innovation and Learning*, 1(2): 115-142.

Mphidi, H. and Snyman, R. (2004). The utilization of an intranet as a knowledge management tool in academic libraries. *The Electronic Library*, 22 (5): 393-400.

Moffert S., Mcadam R. and Parkinson S. (2003). An empirical analysis of knowledge management applications. *Journal of Knowledge Management*, 7(3): 6–26.

Nonaka, I. and Takeuchi, H. (1995). *The Knowledge-creating company: how Japanese companies create the dynamics of innovation*. New York: Oxford University Press.

Nonaka, I., Konno, N. and Toyama, R. (2000). Emergence of Ba. In Nonaka, I. and Nishiguchi, T. (Eds), *Knowledge emergence: social, technical and evolutionary dimensions of knowledge creation*. Oxford: Oxford University Press.

Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. *Organization Science*, 5: 14–37.

O'Dell, C. and Grayson, C.J. (1998). Only we knew what we know: identification and transfer of internal best practices. *California Management Review*, 40(3): 154-74.

Oldroyd, M. (2004). Taking the strategic approach to staff development. In M. Oldroyd Ed.), *Developing academic library staff for future success* (pp. 157-179).London: Facet.

Pathirage, Chaminda, Dilanthi Amaratunga and Richard Haigh, (2007). Tacit knowledge and organizational performance: construction industry perspective. *Journal of Knowledge Management*, 11(1): 115-126.

Peteraf, M.A. (1993). The corner stones of competitive advantage: a resource-based view. *Strategic Management Journal*, 14(3): 179-91.

Polanyi, M. (1983). *The Tacit Dimension*, Gloucester, Mass: Peter Smith.

Quintas, P., Lefrere, P. and Jones, G. (1997). Knowledge management: a strategic agenda. *Journal of Long Range Planning*, 30(3): 385-91.

Raja Suzana, R.K. (2004). Knowledge management practices among MSC status organizations: a survey. *Proceeding at the Fifth International Conference on Knowledge, Culture, and Change Management Organization*. University of Aegen, Rhodes, Greece, 19-22. July 2005.
Rzasa, P. V., and Baker, N.R. (1972). Measures of effectiveness for a university library. *Journal of the American Society for Information Science*, 23: 248-253.

Saracevic, T. (1984). Measuring the degree of agreement between searchers. *Proceedings of the American Society for Information Science*, 21: 227-230.

Scarborough, Swan, H. and Preston, J., (1999). Issues in people management: knowledge management: A literature review. Wiltshire: The Cromwell Press.

Selhorst, K. (2007). Framework for knowledge management in a public library: based on a case study on knowledge management in a Dutch Public Library. *Paper presented*

at the 8th European Conference on Knowledge Management, Barcelona, September 6-7.

Shanhong, T. (2000). Knowledge management in libraries in the 21st century. *Paper presented at the 66th IFLA council and general conference, Jerusalem, Israel.* Available at: http://www.ifla.org/IV/ifla66/papers/057-110e.htm. (Retrieved on 15 Jan 2013).

Shin, M., Holden, T. and Schmidt, R.A. (2001). Form knowledge theory to management practice: towards an integrated approach. *Information Process Management*, 37: 335–355.

Stover, M. (2004). Making tacit knowledge explicit: the Ready Reference Database as codified knowledge. *Reference Services Review*, 32(2): 164-173.

Teng, S. and Al-Hawamdeh, S. (2002). Knowledge management in public libraries.*Aslib Proceedings*, 54(3): 188-97.

Tiwana, A. (2000). *The Knowledge management toolkit: practical techniques for building a knowledge management system*. New Jersey: Prentice Hall.

Wasko, M. and Faraj, S. (2000). It is what one does: why people participate and help others in electronic communities of practice. *Journal of Strategic Information Systems*, 9(2-3): 155-173.Wen, S. (2005).

Implementing knowledge management in academic libraries: a pragmatic approach. *Paper presented at the 3rd China-US Library Conference, Shanghai. Av*ailable at: http://www.white-clouds.com/iclc/cliej/cl19wen.htm. (Retrieved on 15 Jan 2013).

White, T. (2004). Knowledge management in an academic library: based on the case study 'KM within OULS'. *Paper presented at the 70th IFLA General Conference and Council,Buenos Aires, Argentina.*

Yahya S. and Goh WK. (2002). Managing human resources towards achieving knowledge management. *Journal of Knowledge Management*, 6(5): 457–468.

Yang, J. (2004). Knowledge management opportunities for cycle time reduction. *International Journal of Innovation and Learning*, 1(2): 192-207.

Young, P.R. (2001). Electronic Services and Library Performance Measurement: A Definitional Challenge. Paper presented at the 4th Northumbria International Conference on Performance Measurement in Libraries and Information Services: Meaningful Measures for Emerging Realities. Pittsburgh, PA.