

THE IMPACT OF KNOWLEDGE MANAGEMENT ON ORGANIZATIONAL PERFORMANCE IN TODAY'S ECONOMY

Muhammad Saqib
Zulkifli Mohammed Udin
Nazim Baluch

ABSTRACT

Knowledge is the currency of today's economy and the crux of knowledge management, which in turn the lifeline of modern-day organizations. It has been used since 1990s as a tool to achieve sustainable competitive advantages and greater performance, and now, it is becoming an essential asset to sustain organizational competitive advantages and a vehicle for continuous progress and innovation. It is every organization's objective to be able to grow and progress whether it is an SME or a large enterprise so to ensure that there is return on investment of the shareholders and this objective can be met through sustainable superior organizational performance. There are many determinants that may influence organizational performance operating in the current economy but one that is being increasingly recognized as vital is knowledge management. This article has two objectives: The first is to provide an overview of knowledge management and highlight the importance of this field of practice, and the second is to provide few case studies of the successful implementation of knowledge management from different industries. Thus, we will further explore the notion that knowledge management positively impacts organizational performance through the analysis of a number of case studies where knowledge management is being practiced. We will start by highlighting the general interpretation of organizations, the current economy within which they are operating, the concept of knowledge management and how it may be used within organizations. This will be followed by an analysis of cases of knowledge management being practiced and the impact it has had on the overall performances, and finally present our argument that suggest knowledge management positively impacts organizational performances.

Keywords: Knowledge Management, Organizational Performance, SMEs, Knowledge Economy

1 Introduction and preliminary literature review

The idea of Knowledge Management (KM) established as Management and Information System discipline since 1991. KM has emerged as one of the most popular and new management technique. One of the most debated areas of KM is the association between knowledge and overall firm performance. Past studies are available on the relationship but lack of understanding and consensus still remains as a major issue.

Nowadays, decisive drivers for firm practices and performance are the differences in the firm's knowledge bases and capabilities of using and developing knowledge (Grant, 1996). The pioneering academic discussion addressing the phenomenon revolved mainly around the concept of knowledge management was by (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995). KM is representing the processes and practices conducted in the firm with the aim of unleashing its intellectual potential by improving the effectiveness and efficiency of the management of organizational knowledge resources (Gold & Arvind Malhotra, 2001; Heisig, 2009; Bhatti, Zaheer, & Rehman, 2011).

1.1 Generalization of organizations

Bittner describes an organization as an associated group of people engaged in specific activities focusing on achieving precise goals. (Bittner, 2013). This means that it is crucial for all the persons involved in an organization to have common understanding of the objectives and to continuously develop their personal abilities through individual or group learning so to actively participate in the collaborative effort required to achieve them. In doing so, it will ensure effective operation of the organization as it may be noted that organizational and people capabilities are the key to driving organizational performance and enabling organizational strategies (Balla, et al., 2011).

1.2 Understanding the current economy

Beside the organizational and people capabilities, it is also important to understand the economy within which today's organizations are operating. Today's organizations are operating in what is often referred to as the knowledge economy which is basically an economy where productions and services are based on knowledge-intensive activities (Powell & Snellman, 2004). Such knowledge-intensive activities may be observed in several major organizations such as Siemens through the use of "ShareNet" (KnowledgeBoard, 2002) and Microsoft through the use of "Sharepoint". Powell and Snellman also explained that in this knowledge economy, technical and scientific advancement may be accelerated while they can also become obsolete much quicker. This shows the dynamism required from the supported technologies within organizations while also highlighting the importance of organizational learning which is the continuous incorporation of what has been learnt into the processes of the

organization (King, 2009). Organizational learning depends on people learning; which is basically acquiring new knowledge and managing them effectively.

1.3 The need to manage knowledge

In the knowledge-based economy era, superior organizations depend more on their knowledge-based resources to survive (Choi, Poon, & Davis, 2008; Ho, 2008; Kim & Gong, 2009; Yang, Zheng, & Viere, 2009) and to cope with the changes. Therefore, the Knowledge Management (KM) implementation is increasingly becoming a main power to improve Organizational Performance (OP) for various organizations (Haas & Hansen, 2005; Liao & Wu, 2009; Safa, Shakir, & Boon, 2006). According to Resource-Based View (RBV) and Knowledge-Based View (KBV) theories, knowledge is a key resource for survival, stability and growth of the organizations. Thereby, since 1990s the success of organizations is closely related to managing knowledge (Drucker, 1993; Ho, 2008; Ho, 2008; Jiang & Li, 2009; Kim & Gong, 2009; Liao & Wu, 2010; Nonaka & Takeuchi, 1995; Wiig, 1997).

It can be appreciated that this current economy is quite dynamic where resources value span are becoming much shorter (Powell & Snellman, 2004) as marketplaces are becoming increasingly competitive and the rate of innovation is rising. Beccera-Fernandez and Sabherwal identified four forces as the forces driving the need to manage knowledge in this current economy and they are namely: "Increasing Domain Complexity" which means the knowledge required to complete a particular business task just becomes more complex; "Accelerating Market instability" which means the rate of change in market trends has increased significantly over the years to the extent that market changes may happen overnight; "Intensified Speed of Responsiveness" which means that decision makers are now given much less time to respond to the market changes otherwise risk losing business opportunities; and finally "Employee Turnover (Diminishing Individual Experience)" which means that employee mobility is even greater than before thus leaving organizations with major challenges of maintaining their intellectual capital (Beccera-Fernandez & Sabherwal, 2015).

Based on the four forces discussed above, it can be deduced that the competitive nature of the marketplaces is putting pressures on organizations to undertake personnel reduction that may result in jeopardizing their business knowledge. Personnel reduction creates a need to replace tacit knowledge (informal, people intellect) with explicit knowledge (formal, stored knowledge) otherwise organizations will end up losing significant amount of their knowledge as most of organizational knowledge is in the form of informal knowledge. Early retirements, increasing mobility of the workforce, and necessary changes in an organization strategic direction further add to loss of organizational knowledge. To worsen the situation, the amount of time available to experience and acquire knowledge has continuously diminished in this economical era and therefore any occurrences of one of the factors discussed will result in a drop of organizational performance. As such, the need to effectively manage organizational knowledge is crucial in achieving and sustaining the minimum expected level of organizational performance let alone achieving a competitive advantage.

1.4 Knowledge Management and its relevance to the knowledge economy

As it is widely accepted that today's organizations are operating within a knowledge economy and are dependent on knowledge-intensive activities for sustainable competitiveness, it is becoming increasingly vital to be able to effectively manage knowledge. Knowledge is now being regarded as a valued element (explicit) for knowledge embedded products while also very exposed (tacit) due to highly mobile workers and therefore, their creation and dissemination are important factors for sustainable competitiveness (Dalkir 2005).

Knowledge is considered as the organizational power (Skyrme, 2011) and it is the real asset of organizations when it comes to surviving in this competitive business environment. Without knowledge, organizations would find it very challenging to effectively respond to the ever-changing market needs to maintain its competitiveness and therefore the concepts of knowledge management is becoming a necessity for any organization whether it is large, medium or small; even though their managing approach can be different (Rizea, et al., 2011).

Knowledge management can simply be described as making effective use of the available knowledge resources, that is, by transforming individual knowledge (tacit) into organizational knowledge (explicit) (Rasula, Vuksic & Stemberger 2012). Or more formally, as a systematic process of acquisition, creation, refinement, storage, transfer, sharing, and utilization of knowledge to improve employees' understanding (King 2009). As highlighted by Dalkir, this implies bringing employees together for the greater good including breaking down silos, promoting innovative collaboration, and being more productive from an individual and collective standpoint. In doing so, employees capabilities continue to grow, they become more effective and efficient, and they can contribute more. This allows for valuable organizational memory to be built to further support quicker problem solving with best practices identified and diffused across the organization, to create more opportunities for innovation through collaborative work, to produce better knowledge embedded products and services, and eventually to provide the necessary competitive edge and driving the overall organizational strategies (Dalkir 2005).

Knowledge management allows for the integration of people, processes and technology to create values from both organizations' intangible and tangible assets. This integration allows for new business opportunities to be identified and developed through the use of knowledge gained from the knowledge worker (expert), quick and easy access to the needed knowledge at any time and under any circumstances, that is, ensuring the needed knowledge always gets to the right place, in the right format, at the right time, and the implementation of more efficient and effective processes through the continuous learning. It also helps to better share the knowledge with the different stakeholders which can significantly improve existing relationships or create new ones. For example, improved customer relationships would normally result in better customer loyalty and better organizational public

image. It helps to enhance the collaborative effort expected from employees, encourage continuous development of people capabilities through individual or group learning, and promote organizational learning for improved production and services offering, and the overall resulting effect on organizational performance (Skyrme, 2011).

Knowledge Management (KM) is a vital source of sustainable competitive advantage for firms and has more positive influence on firm performance in the last two decades **Invalid source specified.** The literature revealed that creation and discovery of knowledge and opportunities originated from the creative and cognitive capabilities of individuals. Conversely, the same can be stated about those organizations that effectively utilize the capabilities of their personnel. However, the ability of sensing and creating knowledge and opportunities is not uniformly distributed among individuals in organizations. It would be rather true that abilities to discover and exploit opportunities depends both on the individuals' capabilities and knowledge as well as the knowledge management and learning capability of the firms **Invalid source specified.** One of the expected benefits of KM implementation and practices is growth of sales and overall sales performance. In measuring the efficiency and effectiveness of sales in its relationship with KM practices, sales growth is the commonly used term. Nevertheless, A number of past studies also indicate that market share and sales growth are the prominent measures of sales performance **Invalid source specified.** Jayasingam, et al. (2013) confirmed that there is a significant effect of KM implementation and practices on the organizational and sales performance. The same is shown in the figure given below and discussed in subsequent portions with the case studies examples.

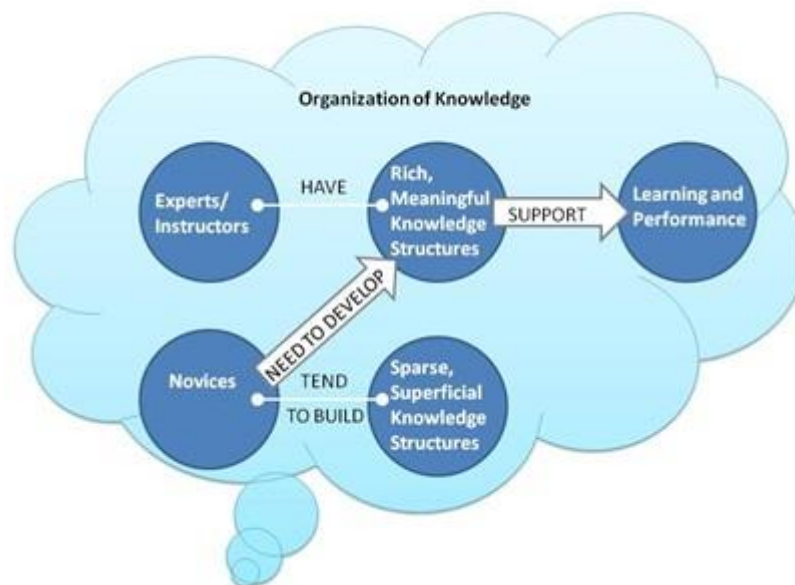


Figure 1: Organization of Knowledge Supporting Learning & Performance (Ambrose et al, 2010)

2 The Knowledge Management life cycle

The significance of knowledge management to organizations is clear and its contribution towards service and product offering is the key to organizational competitiveness thus improved organizational performance (Uit Beijerse, 2006). Knowledge management allows organizations to effectively plan, create, organize and motivate employees by making the most of its knowledge resources. Integrating the people, process and technology as a single unit is also an important by-product of knowledge management (King, 2009) where organizations need to always transform the tacit knowledge into explicit knowledge making it easier for others to re-use the knowledge thus improving the business processes.

Knowledge management life cycle provides a guide on implementing knowledge management within organizations efficiently, thus the person responsible for it needs to closely follow that guide (Sagsan, 2006).

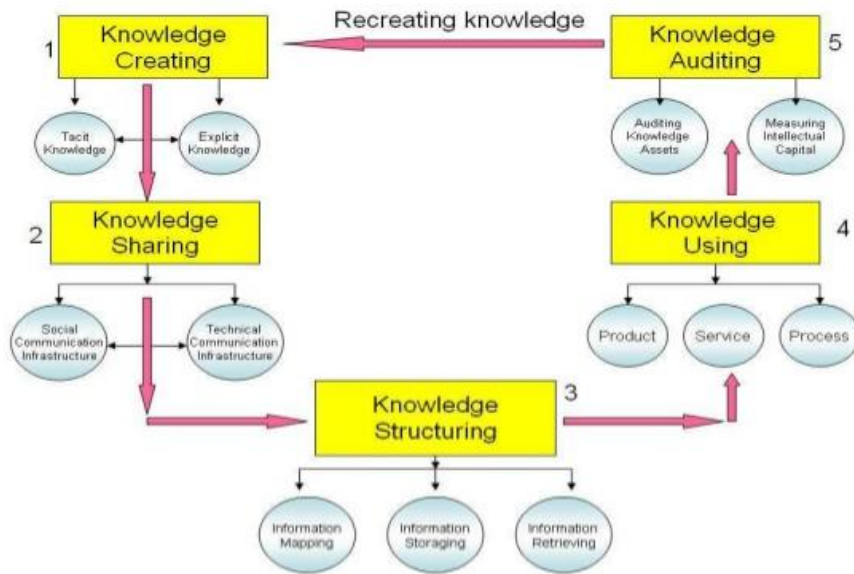


Figure 2: KM life Cycle (SAGSAN 2006)

KM life cycle starts with the knowledge creation stage where individuals create new ways about how to enhance the efficiency and effectiveness of each individual business process within organizations. As discussed by Nonaka, knowledge creation mainly comes from organizational employees through group collaboration, experiences, skills, attitudes and behaviors (Nonak & Takeuchi, 1995). Knowledge creation comes in two forms namely tacit knowledge and explicit knowledge. Explicit knowledge can be generated from a variety of already codified and stored sources such as books, magazines, documents, newspapers, and education (Collins, 2001) whereas tacit knowledge is human intellect and experience (Polanyi, 1967). During this stage, an organizational knowledge-based system is developed and the knowledge-base will consist of knowledge created internally and also knowledge captured from other sources.

The knowledge captured would occur through the use of different capturing methods such interviews, questionnaires, observations, black boarding, on-site observations, and brainstorming to mention a few (Bali, Wickramasinghe, & Lehaney, 2009). It will be then codified where the captured knowledge will be modified, organized and filtered. As specified by Newman and W. Conrad, organizations will have to select applicable methods to store the codified knowledge so that it can be adopted and integrated within the everyday work (Newman, 1999).

Once the codified knowledge is stored, then it needs to be shared. When organizations acquire any knowledge, the knowledge should be shared with other staff whenever they need to further develop the knowledge-based system or in dealing with departmental problems. According to Newman and W. Conrad, the knowledge sharing is an important component of organizational success and the quicker the knowledge diffusion takes place, the greater the response time to problem solving would be and therefore the better the organizational performance would be.

As organizations strategies and customer requirements may keep changing due to the driving forces described early, it is also important for organizations to frequently have a snapshot of their knowledge inventories to ensure their capabilities for appropriate responses. Therefore the knowledge audit is a crucial stage as it allows organizations to audit their knowledge assets, measure their intellectual capitals and identify their knowledge gaps that should be filled through knowledge recreation.

3 Problems/Issues with Knowledge Management

Nowadays, there is lot of issues with knowledge management in several different organizations and one of the main issues is the lack of expert human resources. Knowledge Management is more about people centric where more tacit knowledge can be captured by experts and can be converted into explicit knowledge. Knowledge is the real power and asset for organizations and it is considered as a key source to achieving competitive advantages in today's dynamic world. Another issue is that frequently, department teams do not want to deal with complex systems. The lack of connection of departmental systems in between the different departments within organizations is another issue faced by many organizations nowadays. There is a need for departmental system to be able to interact with each other as individual meetings are time consuming and would normally delay processes. Departmental system interaction can mitigate those issues if not completely eliminate them thus it can improve inter-departmental decision-making process significantly. The lack of documentation of some of business processes within departments may also add to the issues and moreover, there is a lack of knowledge in some specialization areas within departments. Probably, the worse issue of all is the fact that the concept of knowledge management is unknown to many organizations especially the SMEs (Carmen & Alexandra, 2012). All those factors may add up to cause inconsistency in decision-making quality within organizations.

4 Exploring some knowledge management case studies

As evidence that knowledge management does have impact on organizational performance, some cases are presented where knowledge management has been implemented and its impact measured from different industries. It may be noted that different organizations implement knowledge management with different objectives thus have different expected outcomes.

4.1 Case Study: The Siemens ICN Knowledge Management Challenge: ICN/ICM ShareNet (KnowledgeBoard, 2002) – Telecom Industry

I. Need for knowledge management

Massive transformation of the market environment in the mid-1990s saw new competitors entering the telecom market and increased pace of innovation due new technology development caused customers to request more personalized solutions. The pure product business way of Siemens had to be replaced by a stronger service approach. Siemens came up with a knowledge management initiative to assist with the change called ShareNet, a global knowledge sharing network. The initiative allowed Siemens to network its frontline employees who were more knowledgeable about market trends to capture the necessary market knowledge.

II. Leveraging local innovations globally

Given that Siemens was a global organization, it had multiple experts working for it globally and through ShareNet, the experts could be networked to share and develop their knowledge to create better customer solutions. As a result, local innovations could be detected and leveraged globally. The global nature of Siemens made ShareNet independent of time zone and therefore response time to any problem questions came through much quicker.

III. Getting members to contribute knowledge

Siemens would make it a task for all members to contribute knowledge by giving all members reader/user status and also a publisher status. This idea was based on no central or single “source of wisdom” but rather to have all members to collectively contribute in an easy to use virtual community, gather the collective knowledge of the worldwide community with as little bureaucracy and “barriers to entry” as possible. Regardless where members were located, they could contribute their knowledge by filling in web-based project questionnaires as part of their responsibilities.

IV. Providing universal access knowledge

Universal access to sales, marketing and service knowledge meant members could use past solutions, innovative pricing schemes, and success stories with customers to increase the trustworthiness and the probability of winning projects. Feedback and comments would also be provided for any knowledge reused together with a subjective rating of the value of the contribution. As ShareNet operated as a virtual organization which was integrated in the daily work, necessary support had to be provided to ensure its effective use and so each local company was allocated at least one ShareNet support manager.

V. Incentive systems to encourage knowledge sharing

To enhance the chance of success of the ShareNet initiative, Siemens also implemented incentive systems to encourage members to share their knowledge. The incentive systems included:

- Promote take and give – since other members helped in solving your problem, it is only natural to return the favour.
- Personalized contributions feature allows ShareNet to make valuable contributors visible and improve their chances to be spotted and rewarded by the global organization and to the board.
- ShareNet users’ bonus points - valuable contributions would result in bonus points which could be exchanged for rewards relating to individual knowledge development.

VI. The benefits of the ShareNet initiative

The benefits of the ShareNet initiative were measured for both the organization and for the individual and the main advantages Siemens derived from it were:

- Provided real life experience knowledge business targets with well tested customer solutions that can be escalated to similar circumstances.
- Time saving for development of value-added services or products, building better customer relationships and working on new service or product prospects.
- Shorten client involvement solution development cycle and encourage more staff participation by improving the visibility of their contributions.
- Saving consulting fees as the knowledge and analyses of external consultants’ reports could be made available on a global scale whenever possible.
- Visibility of innovative customer solutions to all members for possible reuse elsewhere creating new income streams.
- Quick understanding and response to market changes due to the networked front liners employees from different locations contributing and as well as enhancing their capabilities to quickly appreciate any changes, market trends, technology developments and customer requirements.

4.2 HSBC (<http://www.ikmagazine.com>) – Banking and Finance Industry

I. The need for knowledge management

HSBC is a major banking and financial services organization that decided to introduce knowledge management as an improvement to its already very well-functioned business units. Its size and power provided a good opportunity to form a strong knowledge base. Its global workforce capability could easily contribute to that; further thus such decision.

II. The approach to knowledge management

A dedicated unit was given the responsibility to the knowledge management initiative where the necessary knowledge auditing was conducted, action plans were developed, and appropriate knowledge management tools were introduced. Through the use of knowledge management tools, the employees' knowledge could continuously be captured, codified, shared and used across the organization. This ensured that the organizational knowledge memory was always up to date; properly showing the value of the senior staff who were the main knowledge contributors while simplifying the integration and learning of newcomers.

III. The challenges in implementing the knowledge management initiative

As expected, managers in large organizations tend to be much occupied and therefore the managers felt that they were unable, time-wise, to manage the knowledge management tools and techniques successfully. Also, most of their goals were short-term based (generally less than a year) while knowledge management initiatives could easily take well over a year. Such would not align well with their existing set of goals and deliverables which in turn would negatively impact their individual yearly performance appraisal. This created some sort of reluctance to willingly accept and undertake knowledge management initiatives.

On top of that, a range of other restricting factors also came to light and those were as follows:

- Absence of good understanding by senior managers who were not specialized in knowledge management though much effort was spent explaining what it was before it could get on and do it. Using knowledge management brochure alleviated this problem and helped raise awareness.
- Slow return on investments by knowledge management initiatives due to its lengthy initiation-implementation-outcomes cycle.
- Dominated established and highly respected hierarchy and procedures that exist in large organizational cultures.

IV. The benefits of the initiative

The benefits of the initiative were measured for both the organization and for the individual and the main advantages HSBC derived from it were:

- Updated organizational memory making the senior staff feeling highly valued while reducing the learning curve of newcomers.
- Further understanding of the market trends and allowing customers and staff to communicate interactively.
- Better capability to process information and undertake knowledge-sharing activities. Appropriate mining and filtering could easily be done while identifying incorrect and obsolete knowledge
- Time saving when it came to solution development using client engagements, improved participation and visibility of staff and customers views, and thus improving customer services.
- Enhanced efficiency and consistency of services (reduced cost and personnel, increased sales and profitability).
- Better customers' knowledge helped with better targeted marketing campaigns and promotions while reaching new target markets.
- Increased customer loyalty using the strong virtual community. It also helped in obtaining good knowledge-sharing mechanisms and in developing systematic customer services.

4.3 The WISECARE project (<http://wisecare.nurs.uoa.gr/>) – Service Industry

I. The need for knowledge management and the approach

The WISECARE project was a knowledge management initiative with the aim to enhance cancer nursing practices across several countries in Europe. Appropriate knowledge management tools were introduced to support a systematic use of electronic patient records for clinical nursing data. The tool allowed those countries to pull their knowledge together and made them accessible to all participating countries leading to a solid knowledge-base of best practices in nursing care. Comparisons and performance measurement could then be easily done by each participating institution against the best practices of other participating institutions and necessary actions could immediately be taken for improvement.

II. The benefits of the WISECARE project

Since the WISECARE project was being supported by appropriate knowledge management systems, it naturally benefitted from the many benefits information technology provided which are; improved efficiency, mitigation of errors, improved communication and easy documentation. Besides the benefits of the information technology, the key benefits were organization of nursing in an unprecedented new and creative ways having knowledge sharing replacing knowledge dissemination, organizational knowledge replacing individual knowledge, and the change from deductive prescriptive knowledge to inductive experience-based knowledge. Additional tools were also developed to better exploit the clinical databases thus improving clinical decision making

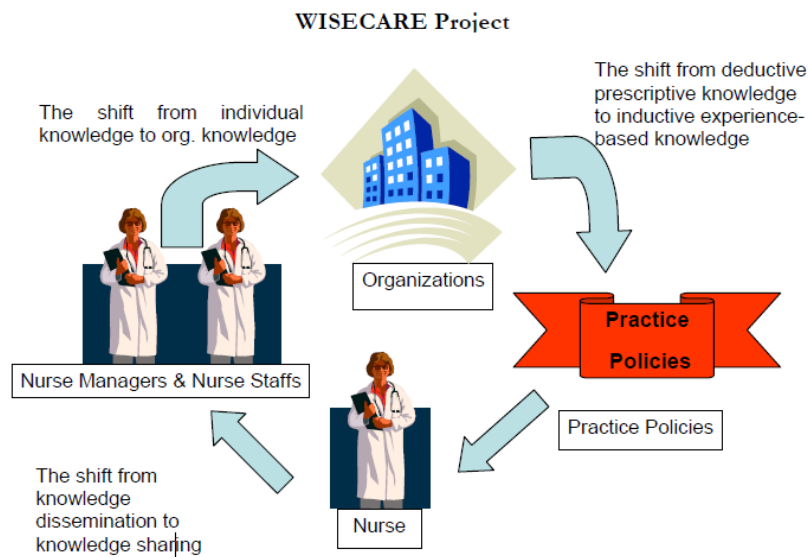


Figure 3: Wise Project Development (2011)

5 Discussion and Conclusion with Future Recommendations

It is seen that knowledge management initiatives within organizations can provide real life experience knowledge business targets with well tested customer solutions that can be escalated to similar circumstances. This can save organizations significant development time for value-added services or products allowing more time for building better customer relationships and working on new service or product prospects. It can also shorten client involvement solution development cycle and encourage more staff participation by improving the visibility of their contributions together with that of customers thus improving customer service. Having rich customer relationship and focusing on value creation using the time saved, would allow an organization to develop innovative customer solutions which can also be made available for organization wide use regardless of location. This in itself can create new income streams. In instances where organizations have to use consultants, knowledge management initiatives can help in saving consulting fees as the knowledge and analyses of external consultants' reports can be made accessible to all appropriate staff wherever possible. Besides consultants' reports, knowledge management can offer similar benefits to organizations through the use of their own employees. It can allow the networking of their frontline employees from different locations to contribute as well as enhance their capabilities to quickly appreciate any changes in market trends, technology developments and customer requirements and to ensure immediate appropriate responses.

Knowledge management initiatives would also ensure that organizational memory is always up to date. As updated knowledge is normally provided by senior staff, this process would make the senior staff always feeling highly valued by organizations thus continue to contribute while the learning curve of newcomers would be reduced. Knowledge management tools provide the necessary capabilities to process information stored in the organizational memory and to undertake knowledge-sharing activities for managerial and professional workers. They would help mine and filter the information while identifying incorrect and obsolete knowledge. As a result, organizations would become more efficient and effective by reducing their cost and personnel, experience sales and profitability growth, and improved consistency in decision making.

The benefits of properly implemented knowledge management initiatives within organizations expressively outweigh its possible drawbacks and therefore we can safely argue that knowledge management does positively impact organizational performance whether it is large organizations or SMEs even though their approach to knowledge management may differ. But as mentioned before, it has to be implemented properly. It requires appropriate level of awareness of the concept by all senior managers so that the appropriate support would be provided, right amount of time would be allowed for its implementation and expected outcomes cycle, appropriate investments would be made available for its supporting technologies and good incentive schemes would be set up to encourage knowledge sharing.

It is clear that the concept of knowledge management is a natural fit for any organization implementing knowledge-intensive activities. And since it is established that knowledge-intensive activities is the way forward in today's knowledge-based economy, it means that the knowledge management concept is an inevitable component of any organization operating in this knowledge-based economy. Therefore, to successfully operate, achieve and sustain a competitive advantage within such economy, it is crucial to manage the organization's knowledge assets or resources efficiently and effectively and so is to incorporate the knowledge management practices within organizations.

6 References

- Bittner, E. (2013). The concept of organization. *Ethnographic Studies*.
- Balla, V., Caye, J.-M., Dyer, A., Dymond, L., Morieux, Y., & Orlander, P. (2011, September). High Performance Organizations. *The Boston Consulting Group*.
- Powell, W., & Snellman, K. (2004, February). The Knowledge Economy. *Annu. Rev. Sociol.*, 30(30), 199-220.
- KnowledgeBoard. (2002). *1.1 Case Study: The Siemens ICN Knowledge Management Challenge: ICN/ICM ShareNet*. http://www.providersedge.com/docs/km_articles/Siemens_ICN_KM_Challenge.pdf.
- King, W. (2009). Knowledge management and organizational learning. *Annals of Information Systems*.
- Choi, B., Poon, S., & Davis, J. (2008). Effects of knowledge management strategy on organizational performance: A complementarity theory-based approach". *Omega*, 36(2), 235-251.
- Ho, L. (2008). What affects organizational performance? The linking of learning and knowledge management". *Industrial Management & Data Systems*, 108(9), 1234-1254.
- Kim, H., & Gong, Y. (2009). The roles of tacit knowledge and OCB in the relationship between group-based pay and firm performance". *Human Resource Management Journal*, 19(2), 120-139.
- Yang, B., Zheng, W., & Viere, C. (2009). Holistic Views of Knowledge Management Models". *Advances in Developing Human Resources*, 11(3), 273-289.
- Haas, M., & Hansen, M. (2005). When using knowledge can hurt performance: the value of organizational capabilities in a management consulting company". *Strategic Management Journal*, 26(1), 1-24.
- Liao, S., & Wu, C. (2009). The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance. *International Journal of Business and Management*, 4(4), 64-76.
- Safa, M., Shakir, F., & Boon, O. (2006). Knowledge Management: Practice and Performance of NGO in Maldives". *International Journal of Management and Entrepreneurship*, 2(1), 69-86.
- Beccera-Fernandez, I., & Sabherwal, R. (2015). *Knowledge Management Systems and Processes* (Second Edition ed.). New York: Routledge.
- Skyrme, D. (2011). Capitalizing on Knowledge Online. [:https://books.google.com/eg/books?id=EBRjJsnv iwwC&printsec=frontcover&hl=ar&source=gbs_ge_summ ary_r&cad=0#v=onepage&q&f=false](https://books.google.com/eg/books?id=EBRjJsnv iwwC&printsec=frontcover&hl=ar&source=gbs_ge_summ ary_r&cad=0#v=onepage&q&f=false).
- Rizea, Carmen, I., Pararpandel, L., Elena, D., Caldararu, Elena, A., . . . Lorena, A. (2011, December). Current Approaches Regarding the Knowledge Management Impact on SMEs Performance. *Economia Series of Management*, 14(2), 563-568.
- Uit Beijerse, R. (2006). Questions in knowledge management. *Journal of knowledge management*.
- Sagsan, M. (2006). A new life cycle for processing of knowledge management. *The academy of management review*, 87-89.
- Nonak, I., & Takeuchi, H. (1995). *The knowledge creating company*. New York: Oxford University Press.
- Collins, H. (2001). Tacit Knowledge, Trust and the. *Social studies of Science*, 70-86.
- Polanyi, M. (1967). *The tacit dimension*. New York: Garden City.
- Bali, R., Wickramasinghe, N., & Lehaney, B. (2009). *Knowledge management primer*. New York: Routledge.
- Newman, B. C. (1999). A framework for characterizing knowledge management methods, practices and technologies. <http://www.km-forum.org/KM-Characterization-Framework.pdf>.
- Carmen, P., & Alexandra, C. (2012). The Relationship between performance and Knowledge Management in Romanian SMEs. *Economic Science Series*(18), 514-519.
- Dalkir, K. (2005). *Knowledge Management in theory and practice*. Oxford: Elsevier Butterworth-Heinemann.
- Rasula, J., Vuksic, V. B., & Štemberger, M. I. (2012). The impact of knowledge management on Organisational Performance. *Economic and business review*, 14(2), 147-168.
- Gavrea, C., Ilies, L., & Stergorean, R. (2011). Determinants of organizational performance: The Case of Romania. *Management & Marketing Challenges for the Knowledge Society*, 6(2), 285-300.
- Liao, S.-H., & Wu, C.-c. (2009, April). The Relationship among Knowledge Management, Organizational Learning, and Organizational Performance. *International Journal of Business and Management*, 4(2).
- Drucker, P. (1993). *Post-Capitalist Society*. New York: HarperCollins Publishers, Inc.
- Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How Learning Works: 7 Research-Based Principles for Smart Teaching*. Retrieved from Learning with Kristin.

Muhammad Saqib¹

¹*School of Technology Management, COB, OYAGSB,
University Utara Malaysia, 06010 Sintok, Malaysia*
saqib.ims@gmail.com

Zulkifli Mohammed Din¹

¹*School of Technology Management, COB, OYAGSB,
University Utara Malaysia, 06010 Sintok, Malaysia*
zulkifli@uum.edu.my

Nazim Baluch¹

¹*School of Technology Management, COB, OYAGSB,
University Utara Malaysia, 06010 Sintok, Malaysia*
nazimbaluch@uum.edu.my