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INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
يُونِيسَيتِي: اِسْلَامٌ اَنْبَارٌ يَجْنِبُ مِلْسِنًا

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## KNOWLEDGE MANAGEMENT INITIATIVE AND SOLUTION: A CASE STUDY IN INTERNATIONAL ISLAMIC UNIVERSITY OF MALAYSIA (IIUM)

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# Knowledge Management Initiative and Solution: A Case Study in International Islamic University of Malaysia (IIUM)

## ***Abstract***

Universities are the important place for learning and sharing information internally or externally where the knowledge management (KM) implementation will give sustainable competitive advantage, achieving substantial savings, improve significant performance and establish the long-term existence among the others. The International Islamic University of Malaysia (IIUM) is a private publicly funded university in Malaysia while eight different governments from the Organization of the Islamic Conference (OIC) as its financial sponsor. So far, IIUM does not really have a system in managing the knowledge to inculcate a knowledge culture in development of education in Malaysia. This paper represents KM initiative and solution through investigating resource content and organization culture in IIUM in developing the appropriate KM framework that include set of plan and strategy based on ontology approach.

***Index Terms*** – IIUM, Knowledge Management, Framework, Ontology Approach

## I. INTRODUCTION

Nowadays, knowledge management (KM) becomes really important where the information as knowledge assets moving around everywhere, so it should be the procedure based framework to manage it. KM has many definitions, though it is not simple issue as it looked like in defining it. *Ernst Biesalski* (2003) illustrated KM as a holistic combination of measures for managing people, processes and technology and always a collection of different techniques to acquire, organize and make knowledge transparent. Since KM is not a technology, it needs the technology to store and to capture the values of it to improve human performance and capability. On other hand, Knowledge Management and Information Retrieval Research Group in IIUM define KM as a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing all of an enterprise's information assets which include databases, documents, policies and procedures and previously un-captured expertise as well as experience in individual workers.

An organization's knowledge resources are complex and multifaceted, ranging from tacit components to knowledge that is explicitly represented (Nonaka, 1991; p. 96] and including descriptive knowledge, procedural knowledge and reasoning knowledge (Holsapple & Whinston, 1987; p. 78). Therefore, the management of the rich knowledge in the organization like university should be organized carefully and be structured to prevent data lost and data waste. In this paper, we will investigate the current issues of KM infrastructure and analyze the best approach to implement KM by designing the KM framework. The structure of this paper is as follow: in chapter II will discuss about background of current situation of IIUM in general which relate to content and culture. While chapter III will discuss the component in KM those include people, task, structure and technology based on Leavitt's model. At last, in chapter IV proposed framework for IIUM implementation derived from combination three-degree approach existing framework, as the flexibility and concrete concept.

### A. Problem statement

Universities usually face many challenges reflected by the increase of external pressures such as competition, internationalization, university rankings, student population, high demands for graduates, etc. They have forced universities to seek better strategies for their competitive advantages (Tuamsuk et. al, 2009). University as educational institution supposed not to be using the teaching method based solely on theoretical term but the combination of theory and practical in further advancing the knowledge itself. The university to expand the service will build their branch in another area that usually has far distance from the main building, which needs the system to manage knowledge assets. The staff or student comes in and comes out from university while they stay still, university will require a lot of benefit but suddenly when they move out, university will experience certain loss. The complexity of organizational structure from university should be utilized based on their relationship where the common management in university only focus on the explicit type of knowledge rather than make collaboration between those explicit and implicit.

### B. Scope of research

The scope of study is about KM initiative and solution in IIUM. It is going to propose a KM framework that later on can be used by IIUM institution in developing and implementing KM within IIUM environment. The framework proposed is involving knowledge processes namely production, creation, sharing and distribution among IIUM students and staff as well as the interaction with technology.

### C. Significance of research

This study suggests the KM framework that can be used effectively and efficiently in utilizing knowledge in IIUM environment to encounter various problems regards the availability and accessibility to the students and staff especially. There are around 3 types of core knowledge need to be identified in IIUM, which are basic core knowledge, strategic core knowledge and developmental core knowledge. Basic core knowledge relates to essential knowledge that generated, access and share among staffs and students in IIUM, based on IIUM strategic planning those are Islamic, academic programs, finance, human resources, administration, entrepreneurship, Internationalization, research & consultancy and ICT. The strategic core knowledge relates to limited access, sharing and needs updating but progressive development, those are project management, promotion and marketing area, industry-relationship, human resources, system analysis & design, innovation and integration. At last, developmental core knowledge relates to knowledge that really potential but still under

development, which are profitability analysis, COBIT and IT/Business alignment. This core knowledge identified based on IIUM strategic planning that has goals to improve the productivity and profitability by increasing students and staff value regards their satisfaction, competency and excellence that should be managed by KM.

## **II. BACKGROUND**

Nowadays, Knowledge management (KM) has been widely considered for organizing knowledge creation, storing, sharing and distribution. Mostly, culture and content are the common elements to be taken into account before KM adoption since both are not exclusive to each other. In order to successfully implement the KM practice in universities, it is essential that the KM organizational strategy is well defined and aligned with the organizational background. Several studies have commented on how to develop organizational KM strategies. The problem of why and how KM can be used in an organization must first be identified and analyzed (Zack, 1999; p. 125) as well as the critical success factor (Alavi & Leidner, 2001; p. 107). Understanding organizational behavior and how its operations are related to a KM process and practice extremely important, where certain process might waste some organizations content resources or some organizational cultures might be more receptive to the community approach instead of process approach (Leidner & Kayworth, 2006).

Content is the information leverage that a university owns, it can elevate them to the next level systematically as well as improve responsiveness, innovation, competency and efficiency in organizational performance. KM allows the preparation of policies and guidelines for the management in university to manage the intellectual property produced by staffs and students. They should be collaborated as the organizational knowledge and constantly updated. Apparently, the content resource from the university is only stored in documented, recorded or artifacts. The richness of the content become waste if there's no further study in utilizing that resource. The collection of resource in the end could eventually be information 'graveyard'. Hence, such easy accessibility and availability should be developed immediately. A well KM development could stimulate person to be creative by providing every need for resource optimally. Content background should be looked at in meeting the objective and problem because it will strengthen the competitive advantages and significant performance of the organization.

Culture of knowledge sharing plays very important role in the successful implementation of KM in any organization (Suhaimiea, et. al, 2006). These processes are making knowledge visible, increasing knowledge intensity, building knowledge infrastructure and developing strong network relationship of inter-organization. Universities need to share information and knowledge among the academic community within and outside the institution. The culture has constraint to manage knowledge for several reasons. For examples management support and sponsorship should start to implement the management of knowledge, appear of deterrent the change management implications, interoperability, architecture business process between unites. It's important to keep up with technology in order to utilize function maximal. Allocation of staff workload to meet the organization's needs through administration and structure complexity is will become another issue be hard to manage (Suzana, 2010). Actually, there still many critical success factors in university that need much consideration before KM implementation such as a trusting and open organizational, senior management leadership and commitment, employee involvement, employee training, trustworthy teamwork, employee empowerment, information system infrastructure, performance measurement, benchmarking and knowledge structure (Kidwell, et. al, 2008). On other hand, the challenges in execute the strategy like financial, increasing public demand, accountability, rapidly evolving technologies, changing role of staff, diverse student demographics, competing values, rapidly changing world and all of this should be studied and manage to achieve a good implementation for knowledge management (Leavitt, 1965). Culture background should be well understood before execute the initiative because the uniqueness between each organization existed even they have stayed in the same country.

Defining core knowledge scope, parameter and structure will lead to knowledge mapping process that describes the knowledge categories and focus area. Knowledge map will define the breakdown of core knowledge area detail and specific. It also needs the core knowledge policy from the executive level to make sure the adoption through proper management. Knowledge mapping is an important practice consisting of survey, audit and synthesis to track the acquisition; loss of information and knowledge while it also explores personal and group competencies as well as proficiencies on how knowledge flows throughout an organization.

The knowledge mapping construction process through identifying knowledge intensive processes, problems or issues within the organization, deducing the relevant knowledge sources, assets or elements from the above process or problem, codifying these elements to make more accessible to the organization, integrating codified reference information such as specialist and resource on expertise or documents into a visual interface for navigation purpose and search-ability and providing means of updating the knowledge map. IIUM has the 6 main core knowledge which related in academic, finance, Islamic, ICT, quality assurance and human resource, although this study focus in ICT generally and information security awareness specifically but the other 5 main core knowledge should be integrated to boost the awareness in every aspect and activities.

### III. KM COMPONENT

Traditionally, KM has been perceived as a theory that is derived from and relies on high levels of technology. However, in most instances, the necessary cultural shift is more difficult to accomplish and often overlooked. KM component is the representation set of interrelation entity that could define the solution to the problem. Leavitt's organizational change model suggests that tasks, structure, people, and technology need to be aligned in order for change to be successful (Leavitt, 1965).

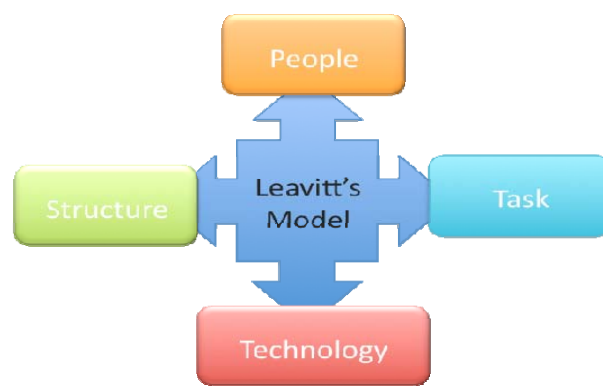


FIGURE 1. LEAVITT'S MODEL (1965)

#### A. Task

Task in here refer to action and process should be completed accordingly to achieve objective. The result acquire after completion task always various between each person even they followed the same instruction. Task can be optimized by reward system to person who meets the specific criteria in the achievement. It is a critical task factor that organizations can use to affect employee behavior by influencing and motivating the employees' decision about knowledge creation and transfer activities. An acknowledgement from communities also gives the motivation from person to do their best way. Evaluation task could be described in terms of four core-dimensions, which are variety, autonomy, identity, and feedback. These four dimensions were viewed as critical to determining task satisfaction. Task usually very dependent into the job, so detail task planning to specific job really acquire to give clear guidance. High performance of the task executer will give a considerable support to the adoption of KM, especially in the complex tasks that need a high level of integration between different departments, kulliyah or institutions.

#### B. Structure

Structure means in this concept, the view of relationship between entities and stability of patterns. In using Leavitt's model for envision a KM culture, organizational structure needs to be defined in terms of characteristics and processes that encourage and simplify the creation and transfer of knowledge (Leavitt, 1965). The complex of the organizational structure in organization usually bring a lot of confusion especially in bureaucracy, administration, allocation workload and coordination. Therefore, concepts of dependent, contingency and workflow are the important entities for the KM adoption. It is also important to define the characteristics and processes of the creation and transformation of the knowledge within the IIUM community, so that it can be helpful in terms of avoiding any redundant or distraction in the KM workflow like two institution might buy same licensed software in the same time. Each institution should know their role in supporting KM implementation into organizational knowledge and inter-organization terms.

### ***C. People***

People are the component that really difficult to handle because the necessity, needs, problem and many abstract things influence more in the people minds. It could lead to the degradation of performance, decreased of capability, internal conflict, etc. The role of the KM leader appears as a key factor to organize people in doing their responsibility. Having different goal and objective in their mind, KM leader should lead them to have same vision and concept by positive steps like develop awareness among IIUM communities. KM leaders are encouraged to attend courses frequently to enhance their competencies and efficiencies, particularly in the information technology and knowledge management related areas (Zahrawi & Yahya, 2009; p. 325). In addition, individual motivation is also very important element in creating any KM culture. Since knowledge can only be volunteered, members of IIUM community as an individuals or teams should contribute in deciding whether any reward that is offered matches the value of knowledge sharing. In terms of Leavitt's model, the attitudinal factors associated with the people who work in the organization need to be defined in terms of intrinsic rewards and individual motivation. Through the individual's motivation to create and transfer knowledge, a KM culture can be established (Wiig, 1999).

### ***D. Technology***

Technology relate to the system or tools be used by institution to make easy the task involves application, software, artificial intelligent, etc. Since the technological infrastructure plays the role of the enabler, the right IT investment address knowledge management should be enhanced. If this issue is properly being taken care, it will increase the performance and productivity. The technology is needed to accommodate the user requirement, particularly in improving the performance and capability. The enhancement of the technology should be integrated between each other to develop effective and efficient system. Data quality issues are the common problem appear relate to integration. Technology is really critical when institution is using it in communication and decision making process. Adopting the bad performance and poor capability technology will bring such disaster to the organization. As organizations share their lessons learned about implementing knowledge management programs, some are discovering the interdependent nature of KM capabilities. They are finding that a balanced portfolio of knowledge management initiatives yields the best results and that excelling at technology-related capabilities does not preclude excelling at people- or process-related capabilities (Suzana, 2010).

## **IV. KM FRAMEWORK**

As those who work in university actively understand that developing the knowledge management framework is really necessary before KM implementation process started. It is essential in ensuring that appropriate knowledge captured and distributed for business process enhancement and effective information distribution. It has function to determine scope, facilitate communication inter-organization, management, implementation, coordination and development process. The initiative to implement knowledge management in IIUM should be discussed further by comparative study between existing theories in KM framework and also with KM benchmark to find the proper framework that match with the KM requirement and component.

Wiig *et al.* (1997; p. 20) suggest that a framework should be developed within the context of the four cycle phases review, conceptualize, reflect and act in attempting to collaborate methods and techniques for “knowledge leader” to carry out the knowledge management task. Wiig (1999) also defines his 16 building blocks a step-wise manner to guide the introduction of KM practices in an organization. It holds the process as descriptive approach to assess and to perceive risk though the starting point to strengthen KM understanding was not discussed explicitly. Another framework that we should consider like five levels framework by J. Liebowitz (2003) with presenting guidance as level by level for project manager to have knowledge management system by emphasizing the phase of systematic process through different kind of level rather than by the iterative cycle. The concept to improve capabilities of project manager in decision process significantly though it didn't exclusively touch the counter action towards external and internal factor might disrupt the flow of the process.

Nevertheless, through the interview process towards the current situation in IIUM, in this paper, we are suggesting the proposed principle design of framework derived from study in threefold knowledge management by Holsapple & Joshi (2002a; p. 52) as the main concept by combination with the previous explained

framework to implement and develop of KM in IIUM that we present as the extended KM building block. Although, threefold KM is the suitable framework in this case, the collaboration and adjustment with another framework design is required as long as the purpose has been obtained that we could call as the KM ontology approach (Holsapple & Joshi, 2002b); In reality, it deal with the order and structure at environment for sharing and reusing the knowledge. Therefore, the collaboration should follow the distinction namely the existence, endeavor and inter-relationship while the collaboration framework here has three main building blocks and one extended; knowledge management influences, resources, activities and contribution.

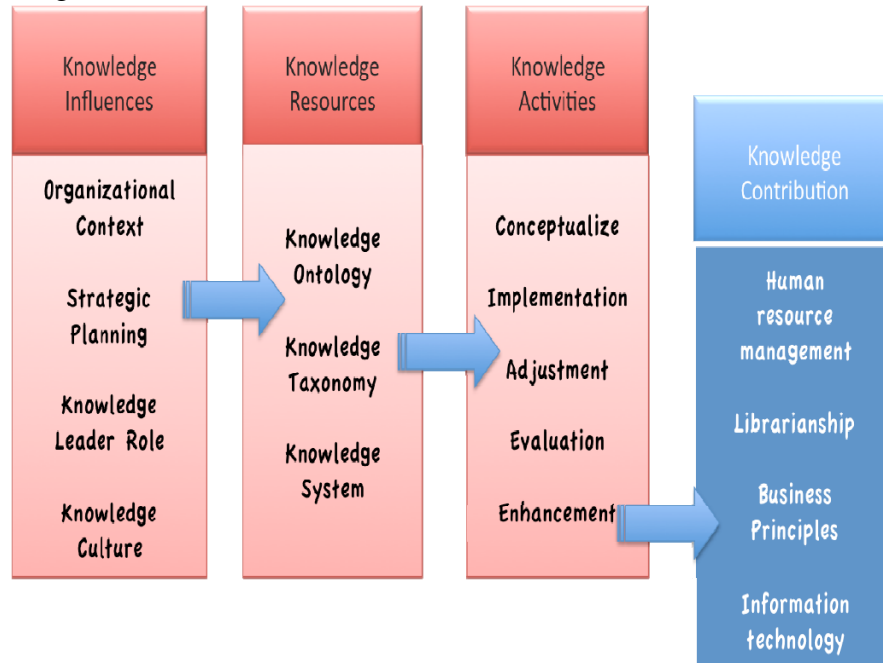


FIGURE 2. KNOWLEDGE MANAGEMENT FRAMEWORK (DEBOWSKI, 2006)

The concept to identify the main elements of KM phenomena and their relationships precisely and concisely so it will provide the perspective in full understanding based on current environment in the university. The relationship with those four building block in the process implementation; first, KM influences as control in handling the process issues, second, KM resource as the tools to assist the process performance, then, KM activity is the set of details strategy to achieve goal effectively and efficiently, lastly, KM contribution depict the relevant institution to bring KM in the environment based on the discipline. Figure 2 depicts the framework process of KM. The collaboration of KM ontology approach concern more in the implication towards adoption and application support while the management of each phase as the secondary factor. Having the priority of goals and purpose before implementation will give the bigger picture about the reality in the IIUM environment.

#### A. *Knowledge Management Influences*

In the modern era, organization should be proactive to preserve competitiveness and advantages. The management needs to identify the factor influences in process; those are managerial, financial and culture. By delineating factors that influence the KM process in university gives the foundation for systematic development and evaluation of system and technologies intended to aid KM leader (Holsapple & Joshi, 2000a; p. 236). The framework's activities are not confined and limited to manipulate explicit knowledge but it could be performed on implicit knowledge (Holsapple & Joshi, 2000b; p. 480). It's required such the understanding of influences factor in the organization like trigger, culmination, coordination, leadership, satisfaction, etc. to appreciate how the university work and perform in usual form. The intangible aspects within the organization could be benefit or the loss to the university. They need the high attention in management while KM influences would analyze the relevant issues that might arise as the part of dependencies among institution, which could influence the activity process directly or indirectly. The classification of KM influence derived from the common issues appear in organization, which are managerial, technical and social.



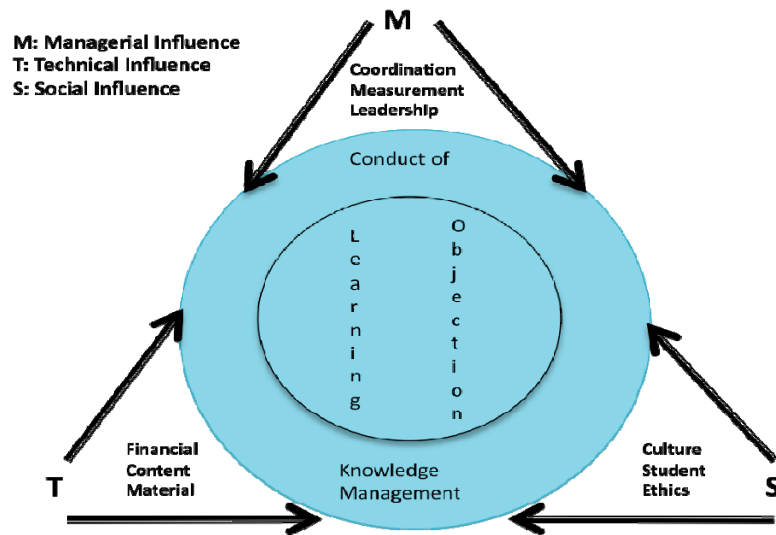


FIGURE 3. KNOWLEDGE MANAGEMENT INFLUENCE'S BUILDING BLOCK (HOLSAPPLE & JOSHI, 2002)

Having the specific institution based on their main role in university to handle these common issues will make the cooperation between four main building blocks of KM run well. In addition, kind of policy and reward system would strengthen the performance and collaboration between each institution. As a matter of fact, social issues like resistance to implement something new and passive response are the common issue could drag the concept of implementation KM to the failure. Reward system or hiring system could be the alternative to motivate the employee to do their task consistently. Other influences might disrupt the implementation comes from the process involve technical and managerial. This kind of issue should be predicted earlier and prevent immediately with the good structure of reporting management and coordination.

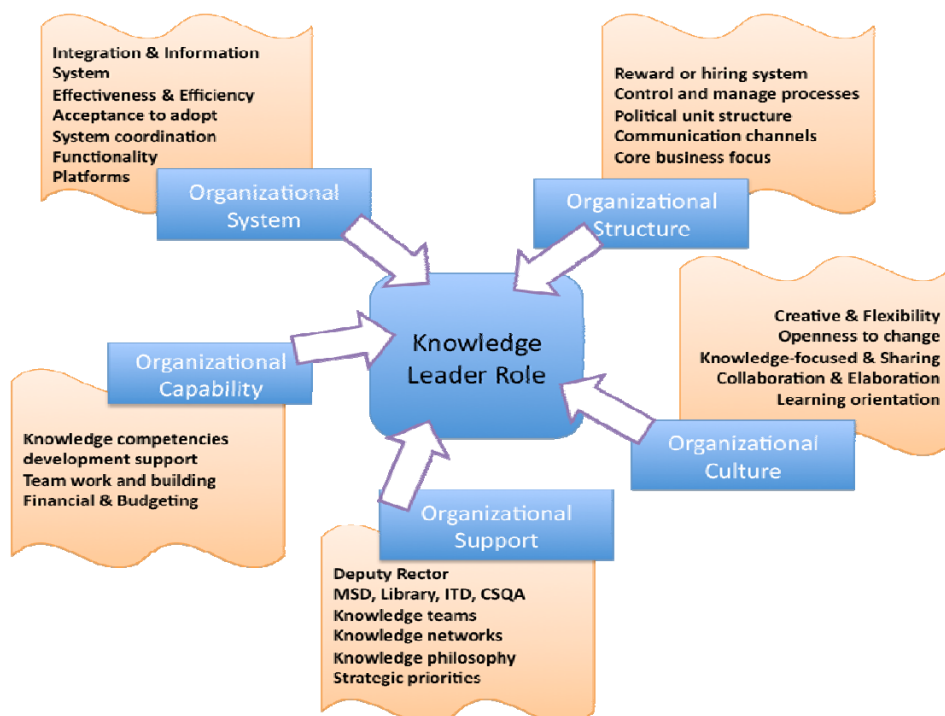


FIGURE 4. KNOWLEDGE MANAGEMENT LEADER ROLE (DEBOWSKI, 2006)

KM leader in the terms of KM influence is other important factor in assuring process run well. Basically, KM leader could perceive the current condition of organization and environment, especially, the social issue. KM leader should be proactive in predicting as well as delivering responsibility to each institution in the university. Frequently report and consultation will encourage the institution to enhance their performance. Actually, the support and other relationship are not only as the initiative from the KM leader but it should also



come from the institution. KM leader could not run the strategy themselves but the institution supposed to give significant contribution to the process though KM leader can have some independent initiative. Many aspects influence in KM implementation and KM leader should aware of them; the initiative and detail plan ought to be the priority to support implementation of KM in university. KM will improve learning and research process; at the next level, IIUM as the main organization will achieve the high benefit. Therefore, KM leader have the function to learn the performance of activities curves as well as the KM purpose and goal. Even so, the IIUM as education institution supposed to have strong leadership in managing knowledge process to optimizing the production, creation, sharing and distribution run effectively and efficiently as the university targets and objectives.

### B. Knowledge Management Resource

Implementation of KM remains a challenging task for the university that has complex structure and diverse culture; for instance like the disparate database and system between each of them. It's an effect by having all the institution inside the university has been grown moderately and separately. Identifying the suitable KM framework in IIUM is really essential in bridging the gaps that might arise between each institution and each people to define the business process. It should be based on the willingness to share and use knowledge for the benefit of teaching, learning, research and business goals, which allows university to seamlessly and easily connect to the information, whenever they need it and wherever it is located (Agrawal, 2008).

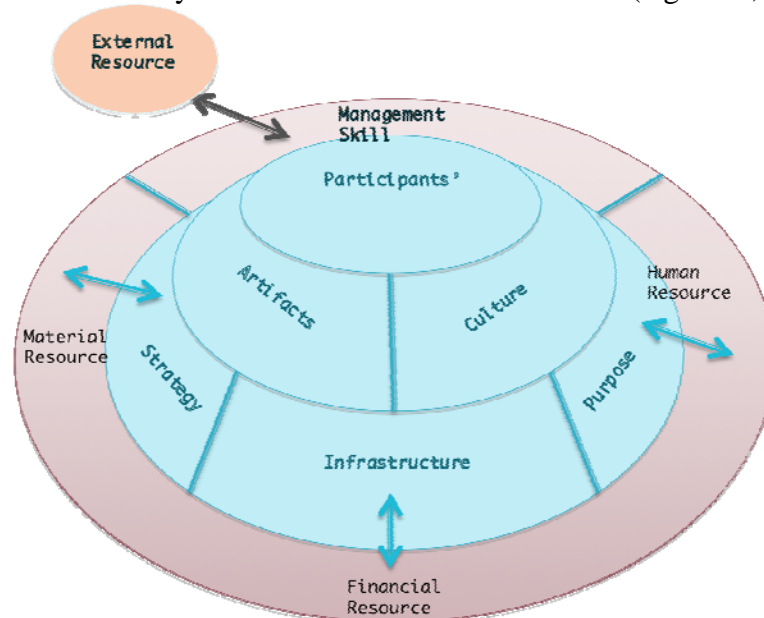


FIGURE 5. KNOWLEDGE MANAGEMENT RESOURCE'S BUILDING BLOCK (HOLSAPPLE & JOSHI, 2002)

In creating the KM, the most important thing is how the knowledge itself could be accessible and available by the user in proper way. However, the classification based on IIUM' library system is not enough to accommodate the knowledge management implementation in exploiting the full potential of richness resource in the IIUM environment that refer to library classification system based on library congress classification scheme, so *Igel & Numprasertcha* (2004) suggestion about the richness of knowledge comes from a lot of resources can be stored, embedded or represented in an university as any of six distinct kinds of resources: participants' knowledge, culture, infrastructure, knowledge artifacts, purpose, and strategy can be considered by to add in the IIUM library system. The six distinct resources of knowledge is the form of basic resources namely financial, human and material resource with the specific form. Furthermore, management skill required for connection the internal resource in university and external resource from outside in the terms of inter-organization. Table 1 shows the classification of resource. Based on the table 1, we try to define the resource exist in the IIUM environment, so we could utilize the resource effectively. Having a system thinking approach with holistic views that maintains the social issue really supportive as there were already number of system application used currently and complexity of institution existed. It will strengthen the process and analyzing the resource resulted in improving the performance and capabilities of the on going strategy.

TABLE 1. CLASSIFICATION OF IIUM RESOURCE

IIUM Resource	IIUM Example
Participants'	Complaint, opinion, student's activities, club, suggestion, survey, people, journal, thesis, article, contribution, workflow, achievement, camp
Artifacts	e-meeting, documentary, books, patents document, memo, business plan, product, news & announcement, email messages, conversation, pictures,
Culture	Organization value, work ethic, bonus, belief, norm, principle,
Strategy	Interactive helpdesk, portal, learning management system, administrative application, data syndication, application sharing, profiling, e-learning, seminar, workshop
Infrastructure	Repository, Internet and Intranet Services, Office Automation, Webmail, Website, Sultan Haji Ahmad Shah Mosque, IIUM Library, expert service, discovery service,
Purpose	Vision, mission, objective, goals, organizational chart, problem

As the starting point, university defines KM by putting the relevant knowledge resources into their own categories through collaboration classification mentioned above in Library system. After classify the existing resource, we could utilize them interchangeably to upgrading the knowledge itself. Therefore, the level of organizational knowledge depend much toward the individual and corporate. The level of knowledge will improve the popularity and prestige of organization in societies. The problem is how we manage all knowledge resource efficiently and could be utilize by people effectively. Meanwhile, R&D resource also should be looking at in university, it could be used to support KM directly to prevent redundant process and bias in data collection instead of run separately (Wong & Aspinwall, 2004). It is important to identify the approach and resource first with in depth insight; then the acquisition and integration process of the R&D resource into KM will improve the quality of KM. The collaboration process with other external resources in generating knowledge is one of the roles that R&D could come up after. Library as the main organization that frequently relate to management resource could be the dominant factor in determine success in classification phase.

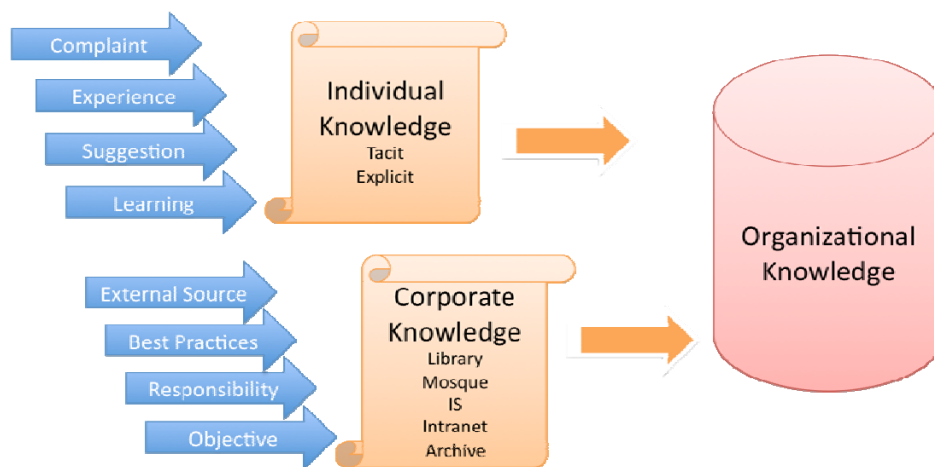


FIGURE 6. KNOWLEDGE RESOURCE FLOW (DEBOWSKI, 2006)

### C. Knowledge Management Activities

Having KM ontology approach by combination framework model is really required in explaining set of concepts within domain and its inter-relationship. Identify the resource in the university as the fundamental study to know the level of importance of KM adoption among the communities. Knowledge should be utilized by transfer and sharing to the others in the learning life cycle to improve the capability of the communities directly and organization performance specially. On the other hand, retention process is also necessary to maintain the viability of the knowledge that could pull to the production and creation of the new knowledge because in some process, university prefer to maintain and store their data for a long time before it's extracted again in some reason.

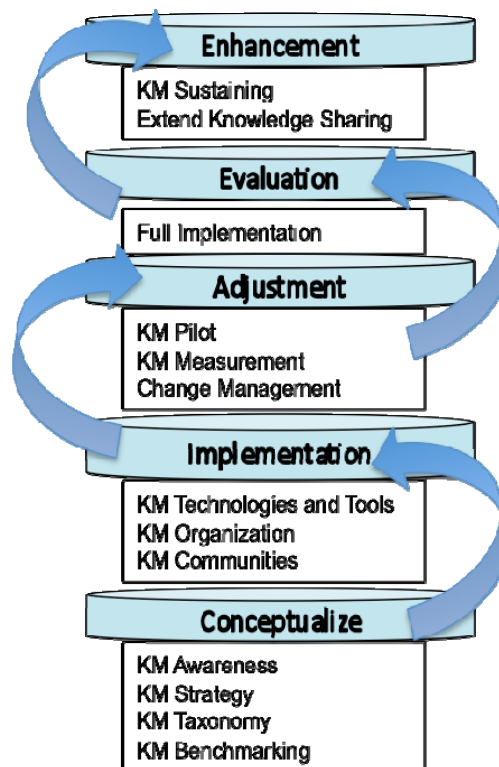


FIGURE 7. KNOWLEDGE MANAGEMENT ACTIVITIES' BUILDING BLOCK (LIEBOWITZ, 2003)

Having this kind of knowledge sharing culture inter-organization will lead to the best practices in adoption and implementation. In addition, all of the resources in the university should be utilized through the proper action. The approach of *Liebowitz* (2003) is already used in Universiti Putra Malaysia (UPM) will be as the main strategy here (Marzanah, et. al) where some kind of similarity with IIUM in culture and workflow. Another study should also be considered as the successful study to give communities motivation is from Universiti Kebangsaan Malaysia (UKM) case study (Zahrawi & Yahya, 2009) that found the prove of significant implication of the existing system already implemented and further research development with the adoption of KM. It explained that implementation of KM is really give high contribution to the next goals of IIUM in elevating themselves into the status of research university. However, the manipulation activities that include acquiring, selecting, internalizing, using and generating (Holsapple & Joshi, 2002a) in this framework could be as other option for supportive strategy if the awareness and control already there but without significant role. Each activity could be performed level by level through iterative process until completed to obtain significant result.

The activity cycles like conceptualize, reflect, act and review (Wiig, et. al, 1997) is the good example as supportive strategy in assessment of the process. Main and supportive strategy should be clear to prevent the conflict and clash. The important thing by using this manipulation technique during the level process to anticipate changes arise during process flow though time consuming and scope coverage should be considered as another factor. It also provides the alternative solution as well as evaluation of the possible failure step, then, start the new methods to encounter the changes but it surely needs the control. This kind of combination should follow the existence, endeavor and inter-relationship of each activity as the ontology approach. The flexibility of this approach use to assure every level have the process control that meet the goals and purposes. Typically, management and administration skill would control, encourage and preserve the following activities from the critical failure internal and external factor such complexity, disparate vision, less attention, lack of support, etc. Most organization especially university that has complex structure would use the collaboration of the two-degree or three-degree approach to maintain the capabilities and performance of the activity and process, it's the kind of flexibility framework approach which adapt the current situation in the organization. However, the knowledge leader will have the important role in deciding as well as assuring the purpose of the activities run as well. Conceptualize and implementation is really fundamental to set knowledge management applied in the organization. Classification of the kind of knowledge existed in environment and comparison study with other KM implement will lead to better implementation process.

Activities	Action
<b>Conceptualize</b>	
KM Awareness	<ol style="list-style-type: none"> <li>1. Attend &amp; organize KM seminar, course, conferences, etc</li> <li>2. Ideas at senate meeting, board meeting, executive meeting, etc</li> <li>3. Field study to organization or university that already implemented KM</li> <li>4. Tour to various departments in IIUM.</li> <li>5. Promotion through media and club in IIUM.</li> </ol>
KM Strategy	<ol style="list-style-type: none"> <li>1. Creation of KMC through R&amp;D or Library by MSD (Management Service Division).</li> <li>2. Identify KM planning, design and process.</li> <li>3. Identify the target area and knowledge management role.</li> <li>4. Develop the KM policy to attract communities by reward or hiring system.</li> </ol>
KM Taxonomy	Based on IIUM resource <ol style="list-style-type: none"> <li>1. Administrative</li> <li>2. Law</li> <li>3. Economic &amp; Management</li> <li>4. Architecture</li> <li>5. ICT</li> <li>6. Engineering &amp; Technology</li> <li>7. IRKHS</li> <li>8. Medical Science</li> <li>9. Applied Science</li> <li>10. Social Science</li> <li>11. Languages</li> <li>12. Contribution and opinion</li> <li>13. Research and publication</li> </ol>
KM Benchmarking	Comparison study with other relevant KM implementation
<b>Implementation</b>	
KM Technologies and Tools	<ol style="list-style-type: none"> <li>1. Evaluation and selection of KM solution and tools.</li> <li>2. Utilize the existing application and system.</li> <li>3. Office automation and accessibility.</li> </ol>
KM Organization	Creation of committees as discipline and KM training.
KM Communities	Selection by MSD from various institution by adding some function as the supportive roles.
<b>Adjustment</b>	
KM Pilot	Develop the KM in Library or R&D as the pioneer.
KM Measurement	<ol style="list-style-type: none"> <li>1. Feedback from KM user through interview or survey.</li> <li>2. Statistic of KM user's access.</li> <li>3. Number of activities involve of KM discussion.</li> <li>4. Percentage of relevance content with the user's expectation based on classification.</li> </ol>
Change Management	New policies and procedures to encounter the situation based on the field report study.
<b>Evaluation</b>	
Full Implementation	<ol style="list-style-type: none"> <li>1. Assessment of the whole function of the system.</li> <li>2. Maintain the capabilities, availability and performance.</li> <li>3. Monitoring the usability and accessibility.</li> </ol>
<b>Enhancement</b>	
KM Sustaining	<ol style="list-style-type: none"> <li>1. Investigation through academic and practice.</li> <li>2. R&amp;D and Management process.</li> </ol>
Extend Knowledge Sharing	<ol style="list-style-type: none"> <li>1. The involvement of external knowledge resource.</li> <li>2. The joint research project inter-organization, inter-university and students exchange.</li> </ol>

TABLE 2. KM ACTIVITIES FOR IIUM

Table. 2 describes the propose activities to cater knowledge activities the visualization and determination of the required service and interaction into environment. Having structure of activity and strategy do not static instead of dynamic process; concept should be made it easy for improvement between each activity.

#### D. Knowledge Management Contribution

KM contribution determines the responsibility of the institution in the university. It gives the authority to execute some action plan in the set of KM activities based on the function in the organization. All institution should collaborate harmonious and intimate during the activities although it will allocate other workload to each institution. The authority and the right to execute strategy should be clear; KM leader should organize the delivering authority to each institution by look at the KM discipline. KM competencies and competitiveness are useful in the inter-organizational learning to enhance the capability of the societies and communities; all institution should have this same KM vision and mission. KM leader's role once again is the key in deciding whether the KM contribution operates effective or not. The distribution task and responsibility should be balanced among institution. Deputy rector research & innovation or deputy rector academic and planning may be the KM leader role. The role should be discussed further among board executive meeting and senate meeting.

KM initiative to run successfully should get support from the executive level and be executed properly by institution level. Generally, there's no the constant result though with the best process to follow strictly and accurately the schedule and detail plan for predicting the problem; kind of changes should be expected. The importance role of the institution is managing the problem arise during the process implementation. Based on the KM contribution's building block and the situation reside in IIUM, it's necessary to define the strategic and supportive role among the institution for responsibility and knowledge structure based on their own influence in university. ITD as the institution will have the strategic role within the university for handling the specific tools issues like concept, technology and software. Library as the institution that already have such concrete structure in classification of information will be the advantages in the taxonomy process of knowledge while R&D support in advancing the knowledge content itself through the development process, both of them run as the supportive role. Lastly, finance division has other important role for supporting through the budgeting and cost preparation of implementation.

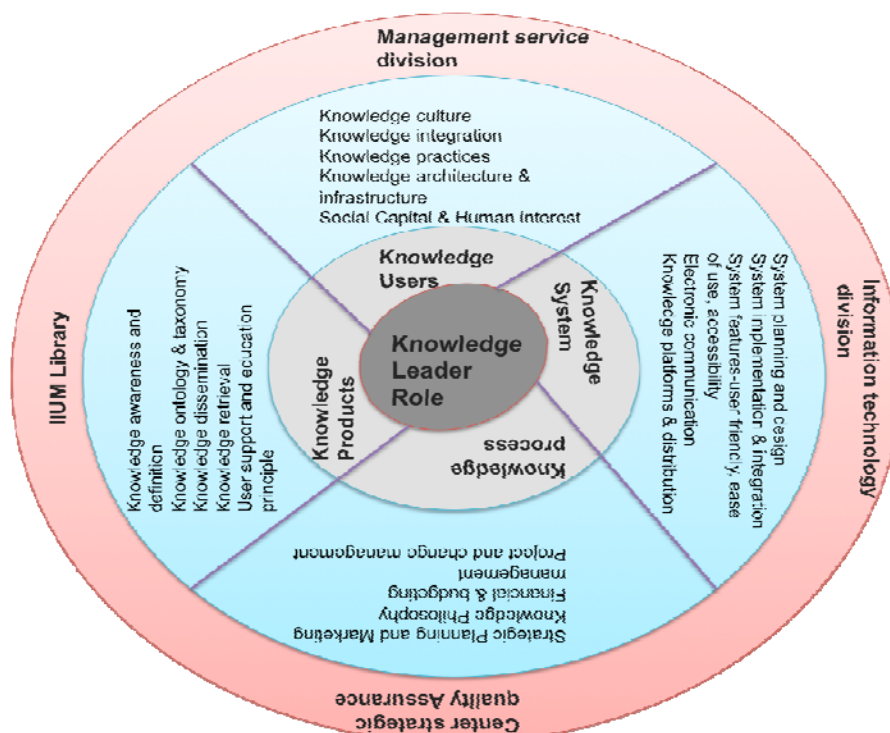


FIGURE 8. KNOWLEDGE MANAGEMENT CONTRIBUTION'S BUILDING BLOCK (DEBOWSKI, 2006)

Meanwhile, management service division (MSD) could have the managerial issue control relate to coordination, measurement and leadership with the strategic role by giving such kind of policy or reward system while the management center could be as the supportive role. Corporate strategy and quality assurance (CSQA) play another important strategic role to have environmental knowledge relate to business principle, improvement, implication and partnership. Development center could help the process strategy as the



supportive role to understanding the impact and the result of such kind policy and implementation already applied to measure the success. Theoretically, the engagement of library, CSQA, ITD and MSD together will strengthen the goals of KM initiative and solution with detailed responsibilities and plan to obtain the target.

## V. CONCLUSION

This study had proposed three main building blocks and one extended as the KM framework in IIUM as the result of study three approach of framework existed. It's the holistic combination to strengthen the strategy to adapt every possibilities problem in front. This initiative of framework based on literature study in matching solution with the problem derived from interview process. KM implementation is really necessary for the university in terms of inter-organization and joint-research. Intangible and tangible aspect also should be considered as the necessity for implementing KM in the university. Knowledge in the implementation should be store, transfer, sharing and produce.

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## APPENDIX

Organizational chart could be downloaded at <http://iiu.edu.my/about/images/orgchart.pdf>

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