

KNOWLEDGE MANAGEMENT ACHIEVING STRATEGY BUSINESS ALIGNMENT IN HIGHER EDUCATION

Riya Widayanti

Informatics, Computer Science, Esa Unggul University, Jakarta, Indonesia
riya.widayanti@esaunggul.ac.id

ABSTRACT

Campus sustainability is an increasingly popular notion for universities around the world in light of increasingly serious global environmental problems. The scope of a sustainable campus could include anything from greening facilities, increasing environmental education, integrating sustainability priorities into purchasing policies, and an endless list of other considerations. The adoption and use of ICT to enhance and facilitate Knowledge Management (KM) has brought to focus the urgent need to come out with new methods, tools and techniques in the development of KM systems frameworks, knowledge processes and knowledge technologies to promote effective management of knowledge for improved service deliveries in higher education. To succeed in KM, higher education institutions must endeavor to effectively link KM initiatives and processes with their ever-changing needs to advance their goals. To succeed in KM, higher education institutions must endeavor to effectively link KM initiatives and processes with their ever-changing needs to advance their goals. Addressing these challenges call for a new conceptual framework and expanded research agenda to ensure success in the utilization of ICT in KM. Using the synergies from Nonaka SECI, Kidwell, Linde, Johnson (2000) KM practice in higher education, with theory Zach (2000) gap knowledge and strategy to form the basis for defining our approach, this paper proposes a conceptual framework for using ICT to enhance KM in higher education. In addition, the paper identifies several research issues to bridge the gap that currently exists between the requirements of theory building and testing to address the different emerging challenges in using ICT to enhance KM in higher education.

Keywords: KM, SECI, higher education, business strategy

1. INTRODUCTION

Knowledge Management is generally about the gathering, storing, disseminating and application of knowledge via the know-how and creation of work by the individuals in an organization (Miller, 1999). Bernborn (2001) explains that KM involves the "discovery and capture of knowledge, the filtering and arrangement of this knowledge, and the value derived from sharing and using this knowledge throughout the organization". Fundamental focus of knowledge management models is the analysis of the expansion and quality of organizational knowledge processes. Underlying principle of knowledge management is that organizations recognize the quality and quantity of knowledge they possess. There is no one organization which does not acquire, store or distribute knowledge some way. The question is that if

they apply their knowledge capital effectively, what is the added value of it with which this capital contributes to the total value of the products/services and customers of the organization. Fundamental focus of knowledge management models is the analysis of the expansion and quality of organizational knowledge processes. Underlying principle of knowledge management is that organizations recognize the quality and quantity of knowledge they possess. There is no one organization which does not acquire, store or distribute knowledge some way. The question is that if they apply their knowledge capital effectively, what is the added value of it with which this capital contributes to the total value of the products/services and customers of the organization (Farkas, 2009). To be able to effectively manage their knowledge resources, higher education institutions need to have appropriate KM

framework in place. KM framework refers to integration of organizational knowledge in organizational culture, organizational information technology infrastructure and the organization's store of individual and collective experiences, learning, insights, and values (Allee, 1997). Members can effectively accomplish higher education goals through use of effective KM processes and procedures (von Krogh et al., 2001). A firm that effectively manages knowledge is likely to be considered a learning organization (Mellander, 2001). A sound KM conceptual framework methodology helps to fulfill the goals of achieving competitive advantage by providing important guiding principles and directions on KM. According to Baskerville and Dulipovici (2006), understanding how pre-existing theories have been used to build a developing field such as KM is important because these theories substantiate and legitimize the field. Together with methods and aims, theories are a key part of any field's claims to scientific rationality. To effectively manage knowledge using ICT in higher education, we need to understand the choices that should be considered to develop an effective KM framework using ICT (omona, 2010)

1.1 Problem Definition

The problem to be addressed, the appropriate processes knowledge management to follow, and connected strategy business/IT.

2. BACKGROUND THEORY

Nonaka et al. (2000) have developed the Socialization, Externalization, Combination and Internalization (SECI) model, which describes four main knowledge conversion modes: from tacit to tacit, tacit to explicit, explicit to explicit and explicit to tacit. The SECI model provides a concrete development scheme and describes both the processes of knowledge creation and sharing, and transformations taking place within and between individuals, groups and organizations, which are all interconnected. *Socialization* presents a process of tacit knowledge sharing between individuals working in the same environment and understanding it. *Externalization* is the

process of transforming tacit knowledge into forms (symbols, analogies and metaphors), which can be understood by other group members. As a result, individual's tacit knowledge become a group's asset. Then, through *combination*, knowledge is organized, edited and systemized; it is shared with other groups and finally becomes a "common property" in the organization. When it is put into practice and used by employees, it is embedded in individuals' skills and competencies, which may lead to a generation of new tacit knowledge. Nonaka et al. called this last stage *internalization* (Nonaka et al. 2000).

Hansen, et al. (1999) divides approaches to KM into two categories: the codification approach and the personalization approach. The codification/people-to-document approach is centered on the computer. Organizations use ICT to capture, store, disseminate, and allow for the reuse of knowledge. This approach allows many people to search for and retrieve codified knowledge without having to contact the person who originally developed it. This approach therefore allows for knowledge to be accessed and used easily by anyone in the organization. The personalization/people-to-people approach on the other hand is centered on the dialogue between individuals, not the knowledge objects in a database. In this approach, knowledge is closely tied to the person who developed it and is mutually shared, mainly through direct person-to-person contact. The main purpose of ICT in this approach is mainly to help in communication of knowledge, and not necessarily to store it (Omona 2010).

A popular framework for thinking about knowledge proposes two main types of knowledge: *explicit* and *tacit*. In an organization, examples of explicit knowledge are strategies, methodologies, processes, patents, products, and services. Examples of tacit knowledge in an organizational context are skills and competencies, experiences, relationships within and outside the organization, individual beliefs and values, and ideas. Using knowledge management techniques and technologies in higher education is as vital as it is in the corporate sector. Knowledge management

applications could benefit a number of university processes and services: the research process, curriculum development process, student and alumni services, administrative services, and strategic planning (Kidwell, 2000).

effectively, it can lead to better decision-making capabilities, reduced “product” development cycle time, improved academic and administrative services, and reduced costs. Kumarl et.al, 2013. Gap analysis Business Strategy to km strategy for 5 areas as (table 1).

3. FINDING

Using knowledge management techniques and technologies in higher education is as vital as it is in the corporate sector. If done

Table. 1 Application of KM for research process

KM application to be owned	Existing KM
<p>A repository of:</p> <ul style="list-style-type: none"> • Research interests within an institution or at affiliated institutions (potential subcontractors). • Research results (where possible) and funding organizations (federal agencies, foundations, and corporations) with easy search capabilities to facilitate interdisciplinary opportunities. • Commercial opportunities for research results. 	<p>Repository scattered research results in several areas and access to documents is still done manually and not integrated, at blog lecturer,</p>
<p>A portal for research administration procedures and best practices related to:</p> <ul style="list-style-type: none"> • Funding opportunities. • Pre-populated proposals, budgets, and protocols. • Proposal-routing policies and procedures. • Award notification, account setup, and negotiation policies and procedures. • Contract and grant management policies and procedures. • Technical and financial report templates and policies and procedures. • Overview of internal services, resources, and staff. 	<p>University portal only displays general information on the scope of the LPPM, although the entire procedure has been owned and properly stored in the directory.</p>

Table 2. Application of KM for development process

KM application to be owned	Existing KM
<ul style="list-style-type: none"> • Repository of curriculum revision efforts that includes research conducted, effectiveness, measures, best practices, lessons learned, and so forth. • Repository of content modularized and arranged to facilitate interdisciplinary curriculum design and development. 	<p>Application for supported curriculum had owned, ata Siak and Novell</p>
<ul style="list-style-type: none"> - Portal of information related to teaching and learning with technology, including faculty development opportunities, outcomes tracking, lessons learned, best practices, technology overviews, and so forth. - “Hubs” of information in each disciplinary area, including updated materials, recent publications, applicable research, and so forth. - Repository of pedagogy and assessment techniques, including best practices, outcomes, tracking, faculty development opportunities, and research. 	<p>And to supported teaching and learning, we had a hybrid learning, and develop from open source software. Many lecturer can access material interdiscipline. For assesment an tracking supported SiUnggul Lecturer and Siunggul student. But for research can be acceses from blog lecturer.</p>
<ul style="list-style-type: none"> - Repository of analyzed student evaluations updated each semester for lessons learned and best practices for all faculty. - Portal for new faculty with guides for developing 	<p>To analyzed supported Siak, Siunggul, and Novell, portal for faculty integrated for one application, but integration at portal</p>

KM application to be owned	Existing KM
curriculum, working with senior faculty, establishing effective teaching styles, advising do's and don'ts, supervising PhD students, and so forth. - Repository of corporate relationships to identify curriculum design advisory task forces, guest speakers, adjuncts, case study sites, and so forth.	of university.

Table 3. Application of KM for Student Alumni Process

KM application to be owned	Existing KM
Portal for student services for both students and for faculty and staff at the institution so that they are well informed to advise students. Information could include policies and procedures related to admissions, financial aid, registration, degree audit, billing, payment process, advising and tutoring, housing, dining, and other services. This portal could be personalized for individual schools or student groups to customize service offerings.	Siak, SiUnggul Student, Siunggul, PPMB application for admissions.
Portal for career placement services (potentially part of a large portal for all corporate connections) to provide a one-stop service center for students, but also for faculty and staff to ensure they are informed.	Career center alumni, job opportunities,
Repository of student affairs services for faculty and staff to ensure all constituents understand existing services and can provide proper advising.	
Portal for alumni and development services to minimize redundant efforts; capture contact reports; and link to research, curriculum, and career development efforts	Career center alumni, job opportunities, article, career alumni testimonial, CV online application
Portal for information on outreach constituents to integrate efforts and minimize redundant efforts.	Career center alumni, job opportunities,

Table 4. Application of KM for Administrative process

KM application to be owned	Existing KM
Portal for financial services (that is, budgeting and accounting) that includes FAQs, best practices, procedures, templates, and communities of interest to share information and serve as impetus for improvement efforts.	Siak integration with academic process
Portal for procurement (that is, purchasing, accounts payable, receiving, warehousing) that includes FAQs, best practices, procedures, templates, and communities of interest (for example, by commodity, purchasing vehicle, vendor, and so forth) to share information and serve as impetus for improvement efforts (for example, leverage lessons learned from others in the institution, design on-line vendor sites such as Web-based catalogs).	Siasset and Siinventaris to support procurement and asset management
Portal for human resources (that is, vacancy-to-hire, payroll, affirmative action, and so forth) that includes FAQs, best practices, procedures, templates, and communities of interest to share information and serve as impetus for improvement efforts.	SIMUEU application, fot maintainin human resource, absency controlling

Table 5. Application of KM for Administration Planning process

KM application to be owned	Existing KM
Office of Knowledge Management, emerging from the previous Office of Institutional Research. □□ Portal for internal information that catalogs the strategic plans, reports developed for external audiences (for example, IPEDS, accreditation reports), clear data	Every semester student access monitoring evaluation for lecturer and services

KM application to be owned	Existing KM
<p>definitions, presentations by executives, and so forth.</p> <p>□□Portal for external information, including benchmark studies, environmental scans, competitor data, links to research groups, higher education research groups and publications, presentations by executives, and so forth.</p> <p>□□Monthly “market watch” developed in tandem with Admissions, Continuing Education, Alumni and Development, and others that document key trends and potential implications.</p> <p>□□Repository of data related to accountability and outcomes tracking by monitoring assessments, performance indicators, benchmarking, and so forth.</p>	



Figure 1. KM Pilar

From the mapping will be created for the next KM KM pillars which became the main activity in a college (Figure 1)

1. Research

Research at the university is managed centrally by the Institute for Research and Community Service (SBRC). Dissemination of information, collecting both the proposal document or any other document reports on the results of the research, and community service is done either manually or e-mail. So the

difficulty in data management and information dissemination difficulties, often complained about the time limit research. In addition to managing research and community service, LPPM also handles the management of the journal, as for the journal that has been owned by the University of Esa Unggul accessible through <http://jurnal.esaunggul.ac.id/>.

2. Curriculum development

Each program of study are expected to always conduct curriculum development. For the management of the University Academic Excellence Esa have done computerized , from the curriculum that has been designed based on the expected competencies. To then translated into the subjects that will be presented in the lecture. Currently Esa Superior University has repository to support lectures , while the grouping based study program, which can be accessed through <http://element.esaunggul.ac.id/> and <http://vle.esaunggul.ac.id>. This application is known as hybrid learning and online learning, which combines the concept of classroom teaching with online lectures for some courses. University web management centrally managed, and there are few who managed independently by the unit, such as hybrid learning by Learning Support Bureau, the digital library by library unit, and e-paper by the Department of Marketing section of e-marketing.

3. Student Services and Alumni

Students access the application-lms learning management system to study enrollment, see the value and the financial bill, in addition to the LMS application is also accessible faculty to enter grades. Management of new admissions also performed computerized and integrated with academic units and student finance. Alumni students can find information on the university web address. <http://www.esaunggul.ac.id/organization>

/career-center/, which all have its application to the University web. In addition, the Faculty requires a web that can accommodate updated information on faculty environment itself, such as the announcement of the start date of an important faculty council, guidance counseling until discussion forum.

4. Administrative Services

In the administrative services Esa Unggul University supported by a system known as SIAK and SIMEUE, ranging from academic management Academic Synthesis, management lectures and exams DPPU Synthesis, Synthesis of data management lecturer Lecturer, financial management student and Synthesis Synthesis Student Financial and other support. While SIMUEU more focused on data management lecturer and staff.

5. Strategic planning

University leaders and faculty are involved from the planning to the four pillars of the above, to control the impact of its implementation and can see or measure the performance of research, academic, administrative and student services and alumni

Knowledge Gap

What is known by the organization with what should be known by the organization, in this case Esa Unggul University have used various ways to make the process of building and disseminate knowledge. There are several identification spread knowledge in a university environment Esa Superior summarized in the table 6.

Table 6. Knowledge Gap Analysis

Mapping KM	KM Pilar	Description	Gap
Socialization	Research	Dissemination of information through scientific Forums lecturers, e-mail	Trouble concerning the dissemination of information. Management of the manual for information about the researcher, the researcher title so it takes a relatively longer. Have not been able informs research status and the extent to which the research process.
	Development Curriculum	Dissemination of information through scientific lecturer Forum, email, meeting coordination	The discussion of the curriculum is done through coordination Existing tools to determine the conversion course, the operational curriculu

Mapping KM	KM Pilar	Description	Gap
	Student services and Alumni	Information dissemination through a hybrid learning, websites, print	Already Done well and done manually monitoring though. But management has been using the system. A system of teaching faculty moitoring, the waiter who had computerized
	Administration Support	Information dissemination through a hybrid learning, websites, scientific forums, email, print, application of information systems	Already implemented and obtaining development to improved service to faculty and students especially students from registering the trial till graduation
Externalization	Research	Email, printed	Search process research data have difficulty Information expertise / field of expert lecturers not terecord well
	Development Curriculum	Email, printed	Able to see track record of the curriculum
	Student services and Alumni	Websites, hybrid learning, e-paper, printed, sintesa, digital library	Already implemented
	Administration Support	Websites, hybrid learning, e-paper, lms, sintesa, digital library	Already done and always done development for improvement by using the latest technology.
Combination	Research	Email, printed	Management of research data is still manual, so the difficulty in making reporting
	Development Curriculum	Email, printed	Track Record curriculum can be accessed by the system
	Student services and Alumni	Websites, hybrid learning, e-paper, lms, sintesa, digital library	Already implemented and carried out manually, although monitoring
	Administration Support	Web sites, hybrid learning, e-paper, lms, sintesa, digital library	Already Done well and need the data for decision support university leaders
Internalization	Research	-	Faculty performance measurement in this case relating to product knowledge is still done manually
	Development Curriculum	-	Implementation of curriculum change and development has been done well
	Student services and Alumni	-	The system supports the student services but still need to be improved for the alumni in terms of decision support for the executive
	Administration Support	-	Application IS was carried out, but there are some things that must be built to support the decision

Table 7. Mapping Strategy

Strategy	KM Pilar	Explanation
Internal	Research	<ul style="list-style-type: none"> - Increasing cultural competence and research and community service - Increasing active as a motivational lecturer speaker in scientific forums - Increasing cultural competence and research and community service - Increase motivation lecturers write textbooks
	Development Curriculum	<ul style="list-style-type: none"> - Improve the quality of teaching and learning through the SCL approach to e-learning - Establish a curriculum that is in line with the demands and needs

Strategy	KM Pilar	Explanation
		of a global labor market
	Student services and Alumni	<ul style="list-style-type: none"> - Increasing softskill and superior competence - Improving international communication competence
	Administration Support	<ul style="list-style-type: none"> - Improving the quality of advice and academic infrastructure - Improving the efficiency and effectiveness of utilization of funds assets facilities and infrastructure - Improve the effectiveness and organizational culture SOTK - Increase excellent service - Improve infrastructure - Developing a website UEU
	Planning strategy	<ul style="list-style-type: none"> - Application of SPM PT - Application of SPM International Standard - Improving leadership competencies - Improving the welfare of staff and lecture
External	Research	<ul style="list-style-type: none"> - Enhance institutional cooperation - Increase the speaker's motivation for lecturers in scientific forums - Carry out research and service activities in the target area masyarakat
	Development Curriculum	<ul style="list-style-type: none"> - Increase the speaker's motivation for lecturers in scientific forums
	Student services and Alumni	<ul style="list-style-type: none"> - Increase student participation in a variety of scientific work competitions and sports and arts competitions - Enhance institutional cooperation - Provide scholarships to prospective student achievement - Tightening the new system of student selection - Provide special scholarships for students from the region IBT - Open access for foreign students - Enhance the role of the alumni in various academic activities - Utilizing a network of graduates in internships and employment - Utilize the Alumni in promotional activities - Provide scholarshipsMeningkatkan role of alumni in various academic activities - Utilizing a network of alumni in internships and employment - Utilize the alumni in promotional activities - Provide scholarships
	Administration Support	<ul style="list-style-type: none"> - Growing institutional pride - Increase the speaker's motivation for lecturers in scientific forums - Implement promotional campaigns and special themed - Leveraging social media social - Provide general assistance and consultancy services

4. CONCLUSION

This paper proposed a conceptual analysis KM in higher education and identified strategy and knowledge gap. That analysis gap highlights the relationships and interplay between higher education process, KM pilar and theory SECI. In the proposed framework, leadership, and organization are considered as constituent part of higher education process, enabling ICT and KM processes. From a theoretical point of view, the proposed framework gives a first understanding of a methodology for developing a framework for using ICT to

enhance KM in higher education by defining the key issues that should be considered when developing an effective KM framework, while the research agenda highlight new areas for further research that should be tackled to address emerging challenge.

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