

Knowledge Management and Sharing Culture for University Quality Sustainability

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This research aims to explore role of knowledge culture as an important part of knowledge management at university level. The research method was qualitative in knowledge management applied in the Bogor Institute of Agriculture, Indonesia. The data was obtained from relevant key informants through in-depth interviews, observation, and documentation. The data analysis was conducted on knowledge culture and the knowledge management process by displaying, reducing, and concluding. Results of the research show that knowledge culture has an incredible role in developing knowledge management through knowledge creation, knowledge capture and use, and knowledge sharing. The recommendation given is that it is necessary for a technology application with full support by the role of leaders as a knowledge gap identifier and future leader preparation, which always give trust and support employees to work continuously.

Key words: *Knowledge Culture, Knowledge Management, Leadership, Technology.*

Background

Knowledge is an intellectual asset as a result of human creation and university is an institution with responsibility to continuously develop, transfer, communicate, and disseminate to the society. The university has a role as an education institution with the ability to acquire knowledge, share mutual knowledge, create new knowledge and maintain the knowledge based on the demands and development of the environment. If there is no good management knowledge, then it will cause damage. To make the optimal function of knowledge in human live functions, then it is necessary for a management to manage knowledge known as knowledge management.

The presence of knowledge management in university basically is seen as a prime mover, which strengthens and supports the institution to apply its functions in order to achieve vision and mission. In order to apply knowledge management appropriately in the organisational environment, it is necessary to consider and involve the people component as an intellectual asset, processed and technology support. Though knowledge is merely a personal accountability, the institution giving autonomy of its development in the individual, which later the knowledge belongs to the institution (Esthi & Sukmawati, 2011), and the institution can utilize it.

Literature Review

Knowledge management means how to manage knowledge. Through knowledge management, consciously, organisations carry out creation, acquisition and distribution of knowledge and its utilisation processes to create value and competitive excellence, so that there is an improved learning culture and organisational performance (Swan, et.al., 1999). Frequently, value created by the knowledge acquisition process, knowledge sharing process and knowledge utilisation process is seen as the best practices for organisational members. Through good skills on knowledge guidance and empowerment by organisational members, then in turn, it will support organisational performance comprehensively.

Knowledge management in organisations consists of eight processes, namely (1) the process of setting knowledge goals, (2) the process of knowledge identification, (3) the process of knowledge acquisition, (4) the process of developing knowledge, (5) the process of knowledge sharing and distribution, (6) the process of knowledge utilisation, (7) the process of knowledge retention and maintenance, and (8) the process of knowledge assessment (Swan, J. et al, 1999; Probst, Raub & Romhardt, 2000). The process of knowledge can also be simpler conducted in three processes namely knowledge capture and / or creating, knowledge sharing and dissemination, knowledge acquisition and application (Marquardt, 2004). The three most popular knowledge management processes, which are most commonly applied, are the knowledge acquisition process, the knowledge sharing process, and the knowledge utilisation process (Dalkir, 2005; Meyer & Zack, 1996; Bukowitz & Williams, 2003; McElroy, 1999; Wiig, 1993).

There are a very various opinions given by experts on the knowledge management process by different formulations. However, generically, they have basically the same process that the knowledge management process consists of four main stages namely (1) acquisition of knowledge consisting of knowledge creation and the acquisition process; (2) knowledge collection consisting of preparation, codification, and storage processes; (3) knowledge dissemination consists of retrieval, and distribution processes; and (4) knowledge use consisting of knowledge utilisation and application processes. Through the knowledge



management process, universities consciously identify the knowledge they have and use in order to improve the performance of the main components and support higher education to achieve a higher quality.

Method

This study uses a qualitative approach with a case study (case study research) as the implementation technique. This technique tries to study a case phenomenon in a real context found in the Bogor Indonesia Agricultural Institute. In this study, researchers describe the application of knowledge management, which is organising intellectual assets using information and communication technology assistance in managing strategic components of academic services in tertiary institutions. There are important processes that are observed by researchers, namely the application of knowledge management in curriculum development, academic administration services, and teaching and learning (PBM).

Results and Discussion

IPB has knowledge sharing culture in an informal situation. To create a knowledge sharing culture, it can be conducted through an informal approach such as playing music, greeting each other in the morning, or talking with staff during lunch breaks about their experiences in doing daily tasks in the office and solving a problem. The foundation of a knowledge sharing culture at IPB is trust. The culture of sharing knowledge among lecturers is as follows: —In IPB, the culture of an interactive knowledge café is developed, which creates a relaxed atmosphere and there are no restrictions between structural and functional parties. Because basically, in higher education the structural office also functions as a functional party1 (Key informant2).

IPB success in Knowledge Management is proven by the IPB innovation study is as follows:

Figure 1. IPB innovation



323 Inovasi IPB

2008 - 100 Indonesia Innovations	: 21% inovasi berasal dari IPB
2009 - 101 Indonesia Innovations	: 23% inovasi berasal dari IPB
2010 - 102 Indonesia Innovations	: 50% inovasi berasal dari IPB
2011 - 103 Indonesia Innovations	: 32% inovasi berasal dari IPB
2012 - 104 Indonesia Innovations	: 46,1% inovasi berasal dari IPB
2013 - 105 Indonesia Innovations	: 53% inovasi berasal dari IPB
2014 - 106 Indonesia Innovations	: 41% inovasi berasal dari IPB
2015 - 107 Indonesia Innovations	: 42% inovasi berasal dari IPB

Source: <http://admisi.ipb.ac.id/p/single/alasan#inovatif>

The commercialisation of innovation conducted by IPB is by strengthening innovation promotion through facilitation of business plan preparation, business gatherings, innovation expos, and others. Then, it is also conducted by development of an innovation gallery as a storefront and vehicle for interaction of the parties by establishing a mini gallery of innovation through enriching content and interactive content, then compiling and establishing an innovation gallery master plan and it's development plans, and strengthening alumni and partner networks to support the development of innovation galleries (source 4).

Process in Knowledge Management Implementation

The process focuses on optimising a knowledge flow within the organisation, and assisting any issues that facilitate the knowledge transfer process in curriculum development, academic administrative services, and teaching and learning activities at the S1 level at the Bogor Agricultural Institute. The process can start from capturing data obtained from outside the organisation (knowledge acquisition) or from within the organisation (knowledge identification). It can also start from a thought about something that comes from a work unit.

The process of forming new knowledge is realised by IPB because of the interaction or conversion between two types of knowledge namely tacit knowledge or knowledge that is still in the human mind or brain and explicit knowledge or knowledge that has been recorded or documented. Through these two types of knowledge, there is socialisation, externalisation, combination and internalisation processes which are called the knowledge spiral.

Table 1: Tacit, Explicit Knowledge and Knowledge Management System (KMS) in IPB

Tacit Knowledge	Explicit Knowledge	Knowledge Management System	
1. Ideas	1. Books	1. Decree	6. Directory
2. Views	2. Reports	2. Task letter	7. Reference
3. Perceptions	3. Letters	3. Regulations	8. Articles
4. Innovation	4. Minutes meeting	4. Announcement	9. Reports
	5. Results of discussion	5. Manual	10. POB
	6. POB		

The process of applying Knowledge Management to Academic Services at IPB starts with Knowledge Creation, Knowledge Capture and Use, and Knowledge Sharing.

Table 2: The process in Knowledge Management Implementation in Academic Service in IPB

Research focus / Analysis Unit	Research Findings
A. Knowledge Management <i>a. Knowledge Creation</i>	
1. <i>Tacit and explicit Knowledge as IPB human capital</i>	<i>Tacit Knowledge:</i> ideas, views, perception and innovation <i>Explicit Knowledge:</i> books, reports, letters, minutes meeting, results of discussion and POB <i>Knowledge Management System:</i> decree, task letter, regulation, announcement, manual, directory, reference, articles, reports and PBO
2. <i>Knowledge creation</i>	Knowledge creation is conducted in curriculum development, academic service, teaching and learning by lecturers, and learning media

<i>B. knowledge capture</i>	
Research focus / Analysis Unit	Research Findings
1. <i>Knowledge capture</i> in academic service	New knowledge capture conducted by listening to complaints given by students, lecturers, or education staff about various matters such as slow processing of letters, accumulation of work at a certain time, conflicting lecture schedules, or lack of seats for lectures.
2. Study and research as a medium to capture knowledge (<i>knowledge capture</i>) in the learning process	While in curriculum development activities, teaching, and learning process, there is a knowledge capture process when lecturers conduct research, develop models or learning media.
3. The <i>knowledge mechanism</i> can be reused by users	For reuse knowledge (knowledge use), knowledge must be represented through the process of changing knowledge in various forms, so that knowledge can be accessed, controlled, and transferred independently without being bound by the existence of individual knowledge owners. This representation can vary from formal codifications, such as policies, instructions, guidelines, reports, circulars, announcements, and procedures, to an archive of tacit elements such as narratives, lessons learned from certain experiences.

<p>4. Contribution of <i>Knowledge Management System</i> (KMS) of IPB in the process of <i>knowledge capture and use</i></p>	<p><i>IPB's Knowledge Management System (KMS)</i> is a system for managing knowledge in IPB that supports the knowledge capture and use processes, as well as a medium for sharing knowledge electronically. On a global scale, KMS is a means to increase the empowerment and marketing of non-conventional resources, namely the knowledge of institutions and lecturers / education personnel, which aims to increase the viability of institutional funds and the welfare of lecturers and education personnel.</p>
<p>5. Blogs as a medium for knowledge capture and use</p>	<p>The blog was designed by IPB staff and students to help people find what they need such as finding someone, a place, or something. Knowledge maps are used to describe the flow of knowledge in a process.</p>
<p>c. Knowledge Sharing)</p>	
<p><i>Knowledge sharing</i> process in academic administration</p>	<p><i>Knowledge sharing</i> at the Directorate of Education Administration of IPB is conducted through discussion activities. Before discussion, each employee is given an IPB Handbook or POB, other standards, including rules and regulations to be studied for about two weeks, and then discussed together because as an administrative unit everyone in the AP Directorate must know and comply with administrative rules. Media knowledge sharing process, carried out through:</p> <ol style="list-style-type: none"> 1) Discussion 2) Training



	<p>3) Document retrieval facility 4) Website 5) Electronic discussion 6) Electronic publications</p>
Research focus / Analysis Unit	Research Findings
B. Sharing Culture	
1. Sharing Culture	<p>In developing a culture of sharing in IPB, it is conducted through the provision of rewards. IPB provides incentives for lecturers whose scientific works are published internationally and indexed in reputable journals. In addition, incentives are given to lecturers who produce and conduct community service. Through the system, the number of lecturers' research results published in accredited national scientific journals has increased.</p>
2. Packaging the results of research knowledge and devotion of lecturers so that the process of sharing knowledge can be carried out effectively	<p>The results of research and lecturer devotion are then digitally documented in various information systems such as IPB Scientific Repository, IPB e-Journal, staff blogs, and the Knowledge Management System. Packaging the results of research knowledge and service by the lecturers with the help and support of ICT in various information systems will accelerate and facilitate the process of sharing knowledge.</p>



Discussion

Kidwell, Vander Linde & Sandra (2000) and Prabowo (2010) have conducted research on the implementation of knowledge management in the university. In principle, they state that universities can use knowledge management for five main processes, namely (1) the research process; (2) the curriculum development process; (3) student and alumni service processes; (4) administrative service processes; and (5) strategic planning. The implementation of knowledge management in each of these processes can provide benefits to improve the quality of processes and outputs and to enable the process of knowledge acquisition, the process of sharing knowledge, and the process of optimally utilising knowledge. Higher education has significant opportunities in implementing knowledge management practices to support the stated mission.

Maier (2007) explained that currently ICT devices and systems have been developed so as to provide sophisticated functions for publication, organisation, visualisation, contextualisation, search, retrieval, and distribution of knowledge, as well as support functions for communication, collaboration, and connecting individuals in social networks, sometimes called low-cost social software. ICTs are global challenges that create unlimited openness, so that anything to know can be easily accessed. On one hand, ICTs create convenience; on the other hand, it can cause chaos. In order to avoid chaos, competent and skilled human resources in the field should control the ICTs in each university. The impact of ICT-based knowledge management implementation in university is able to improve the quality of institution performance. However, it does not mean that knowledge management can be replaced by ICT, or even that ICT is knowledge management (Dalkir, 2005). As McDermott (1999) said, —knowledge involves thinking with information.‖ So by only using information technology - or information systems - it does not necessarily mean that knowledge can be managed properly because ICT in knowledge management is an enabler, which leads to the knowledge management process efficiently and effectively (Gholipour, Jandaghi & Akbar Hosseinzadeh, 2010 and Revilla, Prieto & Prado, 2010).

Developing a knowledge management system in an organisation is like travelling, in which the organisation needs a map to plan the path to be taken and determine alternative routes to be chosen (Prabowo, 2010). This journey goes through five different stages, namely: knowledge-chaotic, knowledge-aware, knowledge-enabled, knowledge-managed, and knowledge-centric (Gamble & Blackwell, 2001). In knowledge-chaotic, at this stage, the organisation has not yet realised the importance of knowledge to achieve organisational goals. Knowledge is still in the form of documents, archives that are managed conventionally. Knowledge-aware means that organisations begin to realise the need to manage knowledge. There are efforts to identify and document various sources of knowledge, as well as to make several ways of acquiring existing knowledge to be related to the process of the strategic



components. Knowledge-enabled means that organisations are starting to feel the benefits of knowledge management. To care for organisational knowledge using standardised procedures; various sources of knowledge are inventoried, evaluated, and classified with established procedures. Knowledge-managed is a more integrated procedure and instrument framework. Knowledge-centric is where an organisation reformulates in the context of knowledge-based organisations. At this stage, the organisation is able to demonstrate competitive advantage through the application and improvement of knowledge that is difficult for competitors (Gamble & Blackwell, 2001).

Conclusion and Recommendation

The basis of knowledge creation is communication, information exchange, and continuous interaction. One indicator of the knowledge creation process can be seen from innovations. These innovations can be observed from positive changes in the administration, processes, and products of academic services. Acquiring new knowledge is conducted through scanning and interpreting the external environment, capturing complaints, criticisms, suggestions and input from various parties, conducting research, development, and others. For knowledge use, knowledge must be represented through the process of changing knowledge in various forms so that the knowledge can be accessed, controlled, and transferred independently without being bound by the existence of individual knowledge owners. To distribute and exchange knowledge and best practices about academic services, it can be conducted through face-to-face meetings, use of documentation, websites, electronic discussions, and publications.

Recommendation

Knowledge creation, knowledge capture, & use, and knowledge sharing activities will only be effective if there are supporting factors for the process implemented in the university. Without a clear process, it will not be able to create a culture of knowledge in university organisations. The university is advised to study in depth about the knowledge management implementation in five main processes, namely (1) the research process; (2) the curriculum development process; (3) the student and alumni service processes; (4) the administrative service process; and (5) strategic planning, in order to strengthen and assist institutions in improving the implementation of the Three Pillars of Higher Education. It can use knowledge management as an institutional part of the system so that the processes of knowledge creation, knowledge capture & use, and knowledge sharing are interconnected with the institutional strategic plan.



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