

*Implementations of Knowledge Management as a Strategy for Improving  
Competitiveness in Higher Education Organization (Application research of Soft  
Systems Methodology for higher education organization)*

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Abstract

In the current globalization era existence of organizations that exist both within the government and companies are required to always react to environmental changes and be able to answer the challenges faced. An organization's environment consists of various segments such as cultural, technologocial, educational, political, legal, natural resources, demography, social and economic development. Changes in the organization not only in companies but also on college organizations both private and government owned and run in evolutionary staged. Bureaucracy is sensitive to the knowledge base should be able to make an innovation. In answering the challenges of globalization today, the organization see that the elements of knowledge becomes important and called knowledge management. As a learning organization, the knowledge management becomes the determining factor of competitiveness and organizational change. One of the concepts developed in the knowledge management organization later to be known by knowing the three stages, namely: sensemaking, knowledge creation and decision making. To describe an organization that has a concept that's SECI knowledge creation (socialization, externalization, combination, internalization), which carried by Nonaka & Takeuchi (1995) became the most important to gauge how the organization will continue to grow and learn and have knowledge. Impact of changes to higher education particularly in Garut City-West Java-Indoneisa growing need of research that details how changes in the environment, competitiveness and innovation organizations were able to make higher education in Garut City into organizations that are knowledgeable, ready to compete to face the demands of industry and environments changes. In this study, the unit of analysis is UNIGA (Garut University) and STTG where the results give an idea that basically the two organizations have implemented knowledge management to stakeholders but the result is different (as seen from the leadership, faculty, administrative staff and students). The methodology used is Soft Systems Methodology (SSM). Soft systems thinking seeks to explore the 'mesy' problematic situatuons that arise in human activity. This interpretive approach is strongly influenced by Checkland (1999) and Checkland and Scholes (1990) have attempted to transform these ideas form system theory into practical methodology that is called Soft Systems Methodology (SSM). STTG and UNIGA and continually strive to make organizational learning and knowledge sharing through a network of information and technology owned so that human resources were continuously innovative in improving organizational competitiveness.

Keywords: innovation, knowledge management, college

## **A. Introduction**

Entering the era of knowledge-based economy and globalization that is full of competition, the role of universities in building national competitiveness is vital. Welfare and progress of the nation is no longer determined by the abundance of natural resources, or the amount of labor available, but rather is determined by the productivity and creativity beings. Globalization spawned an increasingly tough competition in all sectors but it also opens the globalization of borders between countries. Unpreparedness to face global competition characterized by the competition in quality and efficiency can lead to lower self-esteem. In this research, the role of higher education also important to answer industrial needs, one of higher education located in Garut City-West Java, Indonesia. This city have a special characteristic in building higher education especially in using information technology and implementing of knowledge management. The city of Garut physical development through a phase of changes that began in the 1960s in which the physical development of the city of Garut is divided into three periods , the first period ( 1813-1920 ) developed a linear fashion. The second period (1920-1940) Garut city developing concentrically. The third period (1940-1960) Garut city development tends to follow the theory of multiple nuclei . Environment of an organization ( company industry ) is composed of a variety of segments such as segments of culture, technology, education, political, legal, natural resources, demographic, social and economic ( Lubis & Huseini , 2009). There is a paradigm shift in the view that segment of tacit knowledge to the organizational explicit knowledge (Choo , 1998) in which knowledge management has inspired a shift in perspective that exist in organizations both governmental and corporate organizations

## **B. Knowledge Management and Knowledge Creation**

The impact of the change is the creation of something that is new , one of the strategies that should be held so that the innovation is something new that have the unique characteristics and is able to improve the competitiveness of the organization and can contribute something new to replace the old rules and paradigms . " Innovation is a powerful force of human nature . Creater new business innovation , culture movement , and social institution and destroy , replaces , or leaves behind the old ones. Innovation seeds on the known and convert it into the new " ( Gollin , 2008). In an organization that is based on the knowledge-based view ( Spender, 1996; Nonaka and Takeuchi, 1995; Nonaka, 2007) emphasizes that organizations exist on two objectives , namely generation and application of knowledge ( Mitchell, 2010). Competence of the generation and applied knowledgeable organization based on one of the main sources of competitive advantage of the firm ( Leonard - Barton , 1990; Nonaka , 1994; Spender , 1996; Zollo , Winter, 2002). Knowing the views of the Organization (Choo; 1998 ) discusses the use of the information three starts making sense (sense making) , the creation of knowledge (knowledge creation) and decision making (decision making ) which is in fact is a process which is associated with a very strong and by analyzing how these three activities each provide energy to one another as well as the holistic view of an organization's information is displayed. According to Nonaka & Takeuchi (1995 ) there are four modes of knowledge changes from tacit knowledge to tacit knowledge through a process of socialization , from tacit knowledge to explicit knowledge through externalization, through a combination of explicit knowledge and from explicit knowledge to explicit knowledge through internalization .

Gilbert (2001, 24 ) explains that knowledge is the whole part of the existing knowledge and skills of individuals who are used to solve the problem and Polanyi (1967 ) divides knowledge into two areas , namely tacit and explicit.

### **C. Research Methodology used Soft System Methodology (SSM)**

The method used in this study is divided into several stages , such as: 1) the object in this research: there are two universities as a locus of research such as : UNIGA (Garut University) and STTG (Garut School of Technology), 2) the sampling method is a way to distinguish the first , groups of policy makers and decision in this regard is the leader. In this study only took two higher education (Diploma level and undergraduate level) and this is in accordance with the selection criteria of the sample ( Sekaran , 1998) , the academic community ( faculty and administrative staff ) are considered quite have a role in their own chapters. For informants in each group selected divided into two steps, such as: 1) for a group of decision makers and policy taken the leadership level ( Director / Rector and Head of Department ) and 2 ) For the academic community is taken by a proportional random techniques (Lecturer and Administration Staff).

Soft systems thinking seeks to explore the ‘mesy’ problematic situations that arise in human activity. This interpretive approach is strongly influenced by Checkland (1999) and Checkland and Scholes (1990) have attempted to transform these ideas form system theory into practical methodology that is called Soft Systems Methodology (SSM). Checkland’s premise is that systems analysts need to apply their craft to problems of complexity that are not well defined, and that SSM attempts to understand the wicked and fuzzy world complex organizations. This achieved with the core paradigm of learning (Checkland, 1999: p. 258).

### **D) Method Of Analysis Data**

Method approach is used in this research used Soft Systems Methodolgy Method ( SSM ) from (Checkland , 2006). Data collection methods used in this study were interview, questionnaires and the data obtained from the relevant agencies. The data collection techniques implemented by way: (1) Interview : in-depth interviews using a structured interview guide was not particularly group leaders; (2) Questionnaires : the spread to a number of informants in some groups ( led in Higher of Education, Lecturer and Administrative Staff ) . Questionnaire distributed in the form constructor ( strongly agree , agree , neutral , somewhat disagree , strongly disagree ) to explore issues of innovation and knowledge management.

Data analysis method used in this research is qualitative data analysis conducted in accordance with the type of data studied. The data have been grouped to associate with one another and interpreted by using the Soft Systems Methodology (SSM) and CATWOE approach (Clients, Actors, Transformation, Weltanschauung or World View, Owners and Environment ) in analyzing the application of the concept of knowledge management in higher education organizations in Garut City-West Java-Indonesia. Soft Systems Methodology (SSM) can be separated from its environment by a boundary or limit. Hard and soft system is often interchanged with the system usually refers to quantitative and qualitative. Soft system generally refers to a conceptual and contextual approaches that tend to be more realistic, pluralistic, and holistic rather than drive system ( Checkland, 1990). SSM is more humanistic approach or a more appropriate approach to social problems. There are 7 stages in the

SSM methodology: 1 ) Phase One and Two - defining the situation, 2 ) Stage Three : the basic definitions of the relevant system ( Root definition of Relevant systems ), 3 ) Stage Four : Developing the Model, 4 ) Stage five : Compare models and the real world, 5 ) Stage six : Make intervention ( intervention), 6 ). The seventh stage : Measures to improve the situation.

### E. Data Analysis

Based on data obtained from the college organization of UNIGA and STTG, the questionnaire given to the three elements , namely : Lectures (10 respondent), Administrative Staff ( 10 respondents) and students ( 20 respondents ). For the level of the leadership done with the interviewed . The question posed in the questionnaire is divided into two aspects, namely ( a) Innovations and organizations as well as ( b ) Knowledge Management.

Figure 1: Rich Picture of UNIGA and STTG

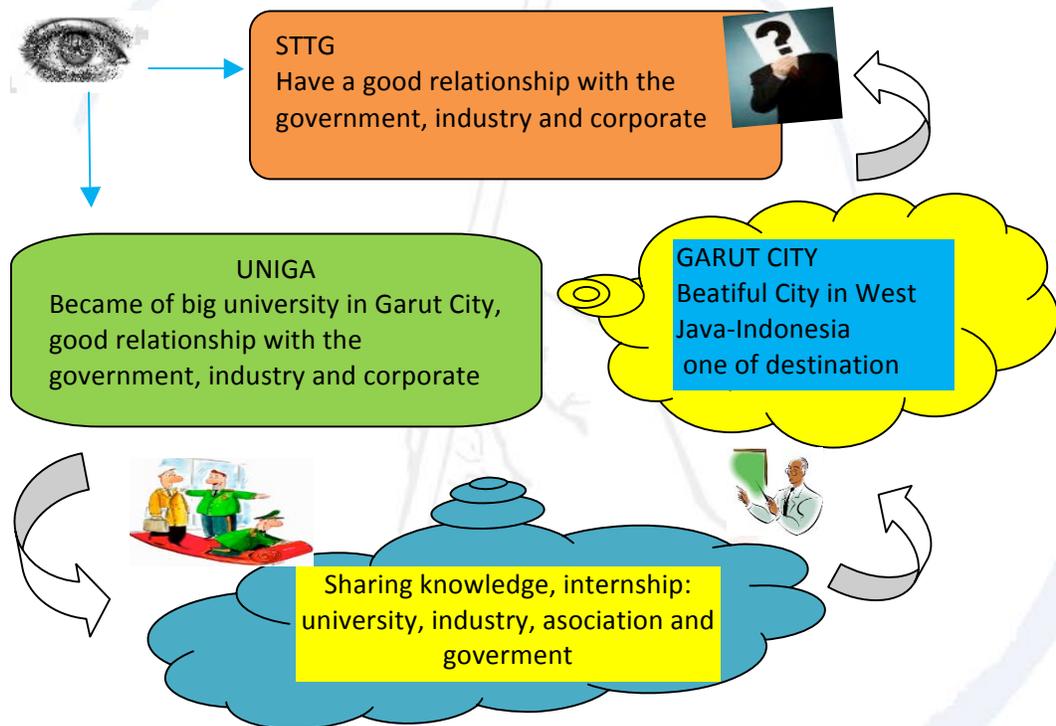


Table 1 Root Definition for UNIGA and STTG

Root Definition	CATWOE
UNIGA (Garut University)	Customer: industry, corporate, government Actors: Rector, Dean of Faculty and Head of Department Transformation: Knowledge, processes and technology together with details implementations of knowledge information technology on teaching and learning process. Weltanschauung: To assess the implementations of knowledge management and knowledge creation in teaching and learning process. Owner: Rector, Dean of Faculty and Head of Department Environment: Competitive, teaching and learning process, quality of facilities, community, industrial and corporate needs.
STTG (School of Garut Technology)	Customer: industry, corporate, government Actors: Rector, Dean of Faculty and Head of Department Transformation: Knowledge, processes and technology together with details implementations of knowledge information technology on teaching and learning process. Weltanschauung: To assess the implementations of knowledge management and knowledge creation in teaching and learning process. Owner: Rector, Dean of Faculty and Head of Department Environment: Competitive, leadership, teaching and learning process, quality of facilities, community, industrial and corporate needs

From root definition and data analysis there are several changes and activity (Tabel 2 and Tabel 3).

Tabel 2: Comparison of problem application the concept in UNIGA

No	Conceptual Model Activity	Existing Conditions		Actor	Changes and Activity
		Yes	No		
1	Implementations of information technology	√		Rector, Dean of Faculty and Head of Department, Lecturer and Administration Staff	a. Intranet and e-learning activity should be improved. b. Supporting infrastructure PBM further optimized in accordance with the standards of teaching and learning activity.
2	Leadership	√		Rector, Dean of Faculty and Head of Department	Leadership style faces changes of globalization and information technology.
3	Teaching and learning process	√		Head of Department, Lecturer, Administration Staff and the Students	a. Sustainability of training and development for academic staff (lecturer and administration staff); b. Implementation of knowledge management and knowledge creation has done.

					<p>Cooperation with industry and other universities further enhanced;</p> <p>c. Academic culture needs to be improved;</p> <p>d. Tribute to others by giving schools the opportunity , training , seminars for staff who perform well;</p> <p>e. Sanction for low -performing administration staff.</p>
4	Role of Administration Staff implementing service excellent for academic purposes	√		Adminsitration Staff, Customer and Student	<p>a. Standard operation procedures (SOP) for role of administration staff doing service excellent to be improved and evaluation.</p> <p>b. Administrative staff serving the academic community better , teachers can improve the quality and competence;</p> <p>c. Culture of organizations evaluated periodically.</p>
5	Implementations of policy leader	√		Rector, Dean of Faculty and Head of Department	<p>a. Policy leader expected to improve the performance of the administrative staff,, faculty and students studying comfort.</p> <p>b. Inviting users graduates such as: government , companies and industries.</p>

Tabel 3: Comparison of problem application the concept in STTG

No	Conceptual Model Activity	Existing Conditions		Actor	Changes and Activity
		Yes	No		
1	Implementations of information technology	√		Rector, Dean of Faculty and Head of Department, Lecturer and Administration Staff	<p>c. Intranet and e-learning activity should be improved.</p> <p>d. Supporting infrastructure PBM further optimized in accordance with the standards of teaching and learning activity.</p>
2	Leadership	√		Rector, Dean of Faculty and Head of Department	<p>a. Leadership style faces changes of globalization and information technology;</p> <p>b. Leaders look that human resources is becoming a valuable asset on the future organization.</p>

3	Teaching and learning process	√		Head of Department, Lecturer, Administration Staff and the Students	<ul style="list-style-type: none"> <li>a. Sustainability of training and development for academic staff (lecturer and administration staff);</li> <li>b. Implementation of knowledge management and knowledge creation has done;</li> <li>c. Cooperation with industry and other universities further enhanced;</li> <li>d. Academic culture needs to be improved;</li> <li>e. Tribute to others by giving schools the opportunity , training , seminars for staff who perform well;</li> <li>f. In contrast to the existing low - performing staff sanction .</li> </ul>
4	Role of Administration Staff implementing service excellent for academic purposes	√		Adminsitration Staff, Customer and Student	<ul style="list-style-type: none"> <li>a. Standard operation procedures (SOP) for role of administration staff doing service excellent to be improved and evaluation.</li> <li>b. Administrative staff serving the academic community better , teachers can improve the quality and competence;</li> <li>c. Culture of organization evaluated.</li> </ul>
5	Implementations of policy leader	√		Rector, Dean of Faculty and Head of Department	<ul style="list-style-type: none"> <li>a. Policy leader expected to improve the performance of the administrative staff,, faculty and students studying comfort;</li> <li>b. Inviting users graduates such as: government , companies and industries;</li> <li>c. Knowledge management and knowledge sharing has been implemented in view of the unity of the leadership of the organization in STTG;</li> <li>d. The existence of values, beliefs and the courage to be invested for the entire organization by using language that is easily accepted or informally.</li> </ul>

## **E. CONCLUSION**

- a. Models of knowledge management in accordance with UNIGA is pattern information to be provided through the top to flow down from the party leadership (management and organization) then lecturer and administrative staff to manage the information held for the benefit and advancement UNIGA.
- b. The policy leader and work culture in UNIGA has implemented well.
- c. While in STTG models that have been done have reflected that denganbaik implemented knowledge management and has been in STTG that knowledge is always divided, both for administrative staff and lecturer.
- d. STTG leadership roles within the organization STTG looking forward to contribute to a dynamic academic environment so that all academic organ that is in them feel cared for and comfortable to undergo sharing knowledge and do not see this as a threat conditions .
- e. STTG saw that the city was made to build a network of knowledge sharing, when there is conflict management, the solution is to make the organizational restructuring for better answer.

## **F . SUGGESTIONS**

- a. Understanding of knowledge management in organizations both in UNIGA and STTG to be developed as part of a dynamic academic culture.
- b. Stakeholders both within and outside the organization UNIGA and STTG should be able to work together to realize the vision and mission towards Garut City.
- c.. Innovation and networking between the parties did UNIGA and STTG with the industry and colleges as well as absolute government developed and improving in higher education.

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