Knowledge Sharing for

Individual Innovation Capability at Indonesian SMI

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Abstract. Knowledge sharing is an asset for an industrial organization. It plays a key role in the global competition. Especially, it improves the innovation capacities of Small and Medium Industry (SMI). Here, innovation means introducing new products, making qualitative changes in the existing products, introducing new processes in industrial organizations, creating new markets, and developing new sources of raw materials or other inputs. A great deal of knowledge is kept within the individual, which is referred to as tacit knowledge. Shearing the tacit knowledge among the individuals associated with an industrial organization can improve the above-mentioned innovation capacities. This study analyzes the relation between the tacit knowledge sharing and organization's innovation capabilities. Employees of certain SMI located in Karawang, Klaten, and West and Central Java have been considered the respondents for this study. The opinions of as many as 20 members of each SMI have been analyzed using the method of hypothesis testing. It has been shown that the degree of shearing of tacit knowledge affects the innovation capabilities of an SMI.

Keywords: knowledge sharing, innovation capabilities, SMI

1. INTRODUCTION

In recent economic situation, competition between organization is growing steadily fiercer. This situation is marked by a strong correlation between economic growth and innovation. Innovation becomes an important factor for an organization to produce high quality products which suit the customers' needs (Rumanti, et.al, 2012). There are some theories that identify the meaning of innovation. Innovation consists of five types. Those types are:(1) introduce new products and qualitative changes of current products, (2) introduce new process into industry, (3) create new market, (4) develop new source of raw material or other input, and (5) change in industrial organization. In short, innovation is not just creating new things but creating

a level of improvement between one entity and its previous version (Kukkonen, et.al, 2003).

From those definitions of innovation, innovation is one of important indicators for the organization to survive in tough economic competition. In order to improve their ability, organization has to create an innovation, for example product innovation, method, or market share. The crucial individual factor that has a strong correlation with organization's innovation is knowledge although that correlation between knowledge and organization's innovation is too complex to explain. Knowledge becomes a dominant factor in production process to give added value into organization's output. The definition of knowledge is something unique such as information and data. Individual knowledge is transformed into a new product and service or

modified product and service (Li,et.al, 2006). Knowledge can be divided into two parts, individual knowledge that could be formally dispersed (explicit knowledge), for example: financial report and human resource data, and individual knowledge that is difficult to be communicated (tacit knowledge), for example: working experience, skills, and information knowledge. Because of its character, organization has to focus on tacit knowledge in product development process. This focus can target the knowledge management system within an organization, so knowledge that is difficult to be communicated (tacit knowledge) especially individual tacit knowledge can be developed to make an innovative organization.

Business challenges are becoming heavier nowadays, as the market is demanding higher quality products and services with competitive prices. Moreover Indonesia's unstable economic condition makes the buying capacity of most Indonesian people is still low. In order to survive organizations are demanded to improve their effectiveness and efficiency in every factor of their business activities, so that they can reach their target. Furthermore, organizations must develop and make innovations related to their products and services.

In order to enhance their ability to meet their target and to satisfy the market's demands, SMI have to adjust their business concepts to be able to compete. To be able to compete, traditional business concept mainly focuses on optimization of physical facilities. A concept that does not fit today's global business challenges. Beside physical facilities, human capital has become an important factor to be considered; especially the individual's intellectual capacity. SMI have to accurately manage knowledge that they already have.

1.1. Knowledge Sharing and Individual Innovation Capabilities

Polanyi was the first philosopher to introduce the concept of tacit knowledge. From his perspective, the term tacit knowledge is used to describe a type of human knowledge that is hard to articulate to express in its fullness. That is to say, one obvious characteristic of tacit knowledge is its defiance when described in words. Tacit knowledge is practical know-how that one picks up on a job or in everyday kinds of situation, rather than through formal instruction.

When decided by the ownership of knowledge, tacit knowledge can be divided into two types which are (Sanchez, 2005):
a. Organization tacit knowledge
   Picked up from team work and team spirit that is formed within a team.

b. Individual tacit knowledge
   Formed by experience individually and skills. This type also can be separated into two types: cognitive tacit knowledge such as individual value, and special skill which deals with emotion, technique, professional skill, and so on.

Nowdays in knowledge-based economy era, many organizations are realizing the importance of implementing knowledge management (Dalkir, 2011). Moustaghfir & schiuma in 2013 suggested that knowledge sharing is seen as a social process that goes through the individual's involvement in activities to gain a new knowledge and then be transformed into a new ability and opportunity to innovate and achieve a competitive advantage (Karlsson and Rodrigez, 2015). In knowledge sharing that exchange of knowledge occurs among the individuals, teams and organizations. The knowledge exchange can occur naturally (naturally) and structured or organized. Focus on knowledge sharing is on human capital and the interactions that occur (Gumus, 2007).

1.2. Innovation

Innovation is crucial to the success and survival of companies. Innovation is a process when a company identifies its own problems and get the new solutions (in this case, new knowledge) to solve those problems (Auernhammer, K, et.al, 2001)

Successful product or process innovation can give an organization something unique that its competitor lacks. The main reason for innovation activity is to build up market share and ensure/increase the profitability of the organization in order to protect the future independence of the company. However, innovation is often confused with invention. Invention is manifestation of an idea. In contrast, innovation happens when ideas are applied successfully in practice/adoption (Koskinen, 2003). Adoption process becomes a must for the organization to keep the continuity of innovation process.

Different type of innovation can be delivered, for example it may be a product, a process, or an organizational innovation. The scope of innovation can range in scope from radical/disruptive to incremental/evolutionary innovation. Depending on type, complexity and scope, the role of knowledge in the innovation process is crucial. For more radical innovations, new knowledge needs to be created or applied from very different contexts. For incremental innovations, it is more important to re-use existing knowledge in many aspects of the product's design, manufacture, and delivery. Various mechanisms exist to deliberately feed new knowledge into the organization, for example communities of practice, the reading of technical journals, conversations with customer

and suppliers (Klimasauskiene, 2003; Rumanti, et.al, 2012).

Open innovation using the system inflows and outflows of knowledge with the aim to accelerate internal innovation and expand the markets for external use of innovation. Open innovation is a paradigm that assumes that organizations can utilize the ideas come from internal and external to the organization (Chesbrough, 2006). The development of the innovation process is currently changing from a close innovation into open innovation (Lee, et al, 2010). Open innovation is the way that can be done to improve an organization's ability to innovate. In open innovation, knowledge that is used to innovate can be obtained from external as well as internal organization in the organization of large-scale, medium-scale and small scale (Lee, et al, 2010). Open innovation allows organizations such as SMIs to be able to innovate by adopting knowledge from outside the organization, internalization and then do the knowledge transfer or sharing of information to other organizations with the scale and type of similar businesses.

2. RESEARCH METHODOLOGY

2.1. Model and Hypotheses in Research

In this stage, the preparation of hypotheses related to the research, in which hypotheses are compiled it is useful to know whether there is a relationship between endogenous variables or constructs included in this study. Knowledge sharing as a endogenous construct has two exogenous contructs, there is tacit and explicit knowledge. Another endogenous construct is individual innovation capability.

In Figure 1 shown that the research model have two constructs, there are constructs endogenous and exogenous. Constructs endogenous consists of individual knowledge sharing and innovation capabilities. Exogenous constructs for knowledge sharing is tacit and explicit knowledge, while innovation capabilities individually measured through the indicators.

Indicators for exogenous contruct tacit knowledge are experience, personal interaction, situation, target oriented, community, informal, workplace condition and knowledge transfer and indicator for exogenous contruct explicit knowledge are codified, communication and structural (Rumanti et.al, 2012).

Previous research papers address the knowledge sharing process and the main factors that affect it as well as the factors that play a role of individual innovation capability. Based on the theory of some of these studies, the hypothesis for this study regarding the application of the knowledge sharing to the individual innovation capability can be built. The hypotheses of this study from research model are:

H_0: Knowledge sharing has no effect on the individual innovation capability.

H_1: Knowledge sharing has effect on the individual innovation capability

2.2. Research Strategy

A case study was conducted for this research. Analysis was conducted on individuals working in the small and medium industries. The study was done in several SMI in Indonesia. Small and Medium Industry (SMI) respondents in this study is located in Karawang, West Java and Klaten, Central Java. Respondents in this research are the population of as many as 20 members of each SMI, who are the employees of SMI.
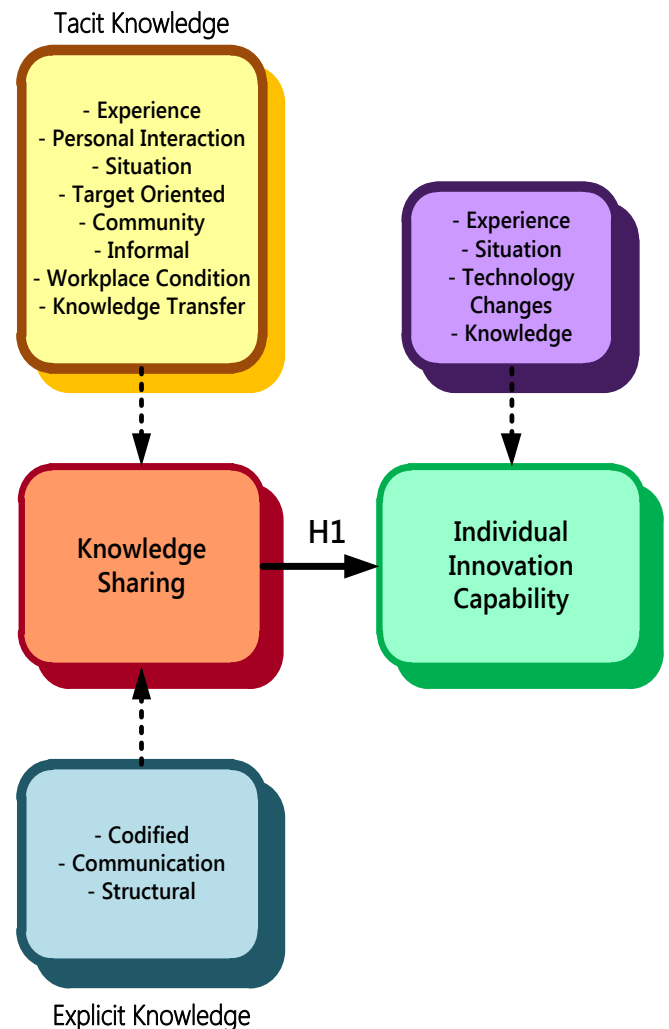

Figure 1: Research Model

3. RESULT

The results of data collection and processing using software smart PLS (Ghozali, 2006). The processing prove that there is an influence on the knowledge sharing for individual innovation capability. The data processing results can be seen in Table 1.

Tabel 1: Statistical Data PLS

Endogen Construct		Exogen Construct	AVE	CR	T-Statistic	Sig
Knowledge Sharing	Tacit Knowledge	Experience	0,82	0,71	7,44	√
		Interaction process	0,80	0,93	10,22	√
		Community	0,86	0,72	8,77	√
		Environmental condition	0,79	0,86	4,92	√
		Knowledge Transfer	0,81	0,80	15,53	√
		Situation	0,72	0,86	5,55	√
		Target Oriented	0,69	0,79	8,99	√
		Informal	0,89	0,81	3,67	√
	Explicit Knowledge	Codified	0,63	0,70	7,01	√
		Communication	0,72	0,75	19,76	√
		Structural	0,82	0,71	4,21	√
Individual Innovation Capability		Experience	0,79	0,69	7,67	√
		Situation	0,64	0,64	5,05	√
		Technology changing	0,60	0,62	14,93	√
		Knowledge	0,91	0,91	17,11	√

From data computation, there are some recommendations for the organization:

a. An organization must pay attention to knowledge because knowledge is the core of innovation process in the organization and knowledge will be of value only through individual innovation capability.

b. Individual innovation capability needs to be supported by the management of the organization because of factors that significantly determine the success of innovation in organizations is the process of knowledge sharing and technological change.

c. Factors or indicators that have significant value to each exogenous contruct are illustrative of SMI owners to enhance the innovation capability of the organization with the ability to innovate every individual involved in it

3. CONCLUTION

Based on the analysis, the conclusions are:

1. The indicators that affect knowledge sharing the most are interaction process, knowledge transfer and communication.

2. The indicators that affect individual innovation capability the most are technological change.knowledge

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