

## **The Linkages of the Role of Human Capital and Knowledge Management on Innovation: According to a Literature Studies**

**Muthia Roza Linda<sup>1</sup>, Gesit Thabrani<sup>2</sup>, Firman<sup>3</sup>, Dina Patrisia<sup>4</sup>**

<sup>1</sup> Universitas Negeri Padang, Padang and Indonesia, ✉ muthia\_rozalinda@yahoo.com

<sup>2</sup> Universitas Negeri Padang, Padang and Indonesia, ✉ gesitthabrani@gmail.com

<sup>3</sup> Universitas Negeri Padang, Padang and Indonesia, ✉ firmanfeunp@gmail.com

<sup>4</sup> Universitas Negeri Padang, Padang and Indonesia, ✉ patrisiadina@yahoo.com

### **Abstract**

The advancement in the field of information technology and the increasing of competitive competition have made many companies shift from conventional business by relying on labor (labor based business) into knowledge based business of which main characteristic is knowledge. Knowledge based business is a business that is run with more use of intellectual capital. In order to be able to survive in the business environment, organizations carry out various methods such as creating product innovation, expanding markets, improving service quality, improving production process, improving organizational system, and doing cost saving. Organizational strategies are made and created in order to survive in the rapid changes of environment, and organizational strategies must be able to create competitive advantage (Kusuma, 2005). Banking sector is a business sector that utilizes intellectual capital quite intensively. Banking in Indonesia consists of sharia banking and conventional banking which in principle are high technology and high service companies, also driven by the development of information technology and knowledge in their operational activities so that it has triggered the need for the banks to develop intellectual capital in conducting their business. Based on the above-mentioned matters, it is necessary to conduct a study in the banking sector in order to see how far the role of human capital is, as part of intellectual capital and knowledge management, in innovation in banking companies in Indonesia. After discovering the impact, in the following year a further study will be carried out to see how the innovation in the companies would affect the companies' competitive advantage and what the impact is on company performance.

**Keywords:** *human capital, knowledge management, innovation, competitive advantage, company performance*

### **Introduction**

Banking sector is a business sector that utilizes intellectual capital quite intensively. Banking is an industry loaded with risks, ranging from fundraising, financing productive assets, to other service activities such as online banking that can be done by customers without interference from bank officers. Besides, a bank in its operational activities uses a very large amount of cash and other current assets, so this triggers the importance of developing intellectual capital in the bank so that the bank can gain competitive advantage and succeed in knowledge based economy happening today.

In order to be able to increase the growth of a company, it is necessary to do a variety of innovations in business development to maintain the sustainability of the company. Innovation is often described in terms of what changes a company offers to the world (product/service innovation) and how to create and provide these offers (process innovation) (Liao, Fei, & Chen, 2007).

The challenges in terms of innovation can be anticipated by the banking through human resources. An organization with highly skilled and knowledgeable human resources has higher human capital and is more likely to create knowledge, make appropriate decisions and have better innovation (Hitt et al, 2001). Human capital is a HR characteristic determined by the knowledge possessed that is used to create value for an

organization (Collin and Clark, 2003). The ability to exploit knowledge is an important component of innovation capability. Then, the related knowledge before giving the ability to recognize the value of new information, absorb and apply sharing knowledge about customer needs, market changes, competitors' reactions and technology evaluation can be more preeminent than the competitors (Liao, Fei, and Chen 2007).

On the basis of the phenomena and the studies that have been done on how human capital influences banking performance, then the model in creating innovation in a company becomes more important. Therefore this study questions how the innovation model must be applied by the banking in order that in the future the company has competitive advantage and can improve company performance.

The targeted findings of this study are to obtain empirical evidence about the role of human capital and knowledge management through the creation of innovation as the moderating variable in creating competitive advantage for banking companies and to find out the impact on the performance of banking companies in Padang.

The fundamental contribution of this study is the enrichment of teaching materials on the role of human capital and knowledge management through the creation of innovation as the moderating variable in creating competitive advantage for banking companies and the impact on company performance, so this study contributes to broadening horizons and deepening knowledge about competitive advantage and banking company performance. The specific objective of this study is to build an innovation model for banking companies in Indonesia so that through this study it is expected that there is a source of knowledge about how to build innovation in a company through human resources available. This study is worth conducting due to the unavailability of models in building innovation in banking companies that can be used as a reference and learned by businessmen and academics.

### **Intellectual Capital**

The concept of intellectual capital was first used in 1969 by John Kenneth Galbraith in a letter to Michael Kalecki. However, Tom Stewart popularized the concept in 1991, when Fortune Magazine published the article "Brainpower: How Intellectual Capital is Becoming America's Most Important Asset" (Bontis, 1998). According to Bukh et al. (2005), intellectual capital is a variety of knowledge resources in terms of employees, customers, processes or technology that can be used in the process of creating value for the company.

Intellectual capital is composed of three components, namely 1) human capital (such as intellectual, skills, creativity, work procedure), 2) organizational capital (such as intellectual property, processes data, culture), and 3) relational capital (all external relations with consumers, suppliers, partners, networks, regulators, etc.). The whole component is what forms an entity called intellectual capital (Rupidara, 2008).

### **Human Capital**

One of the components of intellectual capital that is very decisive is human capital. Human capital includes intellectual force derived from human beings in a company, the employees who are competent, committed, motivated to work, and very loyal to the company and they are the core of the creation of intellectual power that can disappear when they are no more working for the company.

Human capital comprises knowledge, skills, and experiences brought by employees when leaving a company which includes knowledge of an individual of organization that is generated through intellectual competence, attitude and intelligence (Bontis, Crossan and Hulland, 2002).

Human capital reflects the collective ability of a company to yield the best solution based on the knowledge of employees in the company. Human capital refers to a process related to training, education, and other professional initiatives to increase the levels of knowledge, skills, abilities, values, and social assets of an employee that will lead to employee satisfaction and performance, and ultimately to company performance (Marimuthu, et al., 2009).

According to Bontis, et al., (2000), human capital represents individual knowledge stock of an

organization that is represented by the employees. Human capital is the knowledge, skills, and experiences brought by employees when leaving a company, which includes know-how, education, vocational qualification, knowledge-related work, work assessment, psychometric assessment, competence-associated work, entrepreneurial spirit, innovative spirit, proactive and reactive abilities, and ability to change (Starovic et al., 2004)

Human capital in a company can be described through indicators of learning and education, experience and expertise, innovation and creation. (Sharabati, Abdel-Aziz Ahmad; Jawad, Shawqi Naji and Bontis, Nick. 2010).

### **Knowledge Management**

Knowledge management has evolved as a body of knowledge after the economic era (Moustaghfir and Schiuma, 2013 Lee, Foo, Leong, & Ooi, 2016) It is believed that knowledge can inform and change the business arena with continuous improvement, or radical innovation, both of which drive change for the better because they assimilate new and relevant knowledge in an organization (McDermott and O Connor, 2002 in Lee et al., 2016).

Human beings in the context of knowledge management are a source of knowledge, innovation and renewal. Human beings are intangible resources that are believed to be able to develop knowledge. That is, the better the knowledge acquired by human beings is, the better the new knowledge can be created (Prabowo, 2010).

The indicators used to measure knowledge management according to de Guimarães et al. (2018) are as follows:

1. New knowledge for the sustainable development process. A leader is always open to each individual in developing their creativity on new ideas for the sustainable development process.
2. Development and process for new ideas. All parties in an organization are involved for the development of science and technology.
3. Exchange of knowledge among departments. New ideas for sustainable development and innovation are exchanged among departments.
4. Development and process in creating works. Works in an organization are created based on new ideas obtained.

### **Innovation**

Innovation is a change in the process or development of knowledge into better results. Gray, Matear, & Matheson, (2002) say that innovation capability of a company will guarantee the company's competitive ability. According to Lin and Chen (2007), innovation is one of the decisive aspects of company performance, in an increasingly fierce competitive environment.

According to Certo and Certo (2009), innovation is the process of applying new ideas for the improvement of process, products, or services of an organization. In addition, Schermerhorn et al. (2006) explain the definition of innovation as follows: "Innovation is the process of creating new ideas and putting them into practices. It is the means by which creative ideas find their way into everyday practices, ideally practices that contribute to improved customer service or organizational productivity." Based on the definition, it is stated that innovation is the process of creating new ideas and putting them into practices. It means that creative ideas are used in everyday practices, ideally these practices contribute to the improvement of customer service or organizational productivity.

In understanding organizational acceptance behavior and identifying determinants of innovation, it is necessary to know the types of innovation. There are three types of core innovation that get wide attention, namely administration and technical support, product and process, and radical and incremental (Damanpour, 2016).

Wang, Campus, and Campus (2004) identify five main areas that determine the overall innovation of an organization, namely (1) product innovation, (2) market innovation, (3) process innovation, (4) behavioral

innovation, and (5) innovation strategy. According to Liao, Fei, and Chen (2007) in addition to product innovation, more effort must be made to procedure change because the product life cycle becomes shorter.

Besides, the effect of management innovation is not as clear as product and process innovations because the scope of management innovation is very broad. New managerial changes require proper planning and consequence consideration. In this study, product innovation and process innovation are discussed, but management innovation is poured in process innovation, because management changes are also needed.

Liao, Fei, and Chen (2007) measure innovation by using three indicators that are developed into the following statements:

1. Product innovation, developed into questions including product and service development, some benefits of product and service development, product or service development evoking competitors' imitation, speed in launching products or services, R & D capabilities and development of skills in changing products.
2. Process innovation, developed into questions including innovative operating procedure to realize company goals, new skill innovation or equipment in improving manufacturing and service operation, innovation of manufacturing process development or operation procedure, flexible in providing products and services and benefits of manufacturing process or operation procedure to evoke competitors' imitation.
3. Management innovation, developed in the form of questions including innovation of labor division, adopting a new leadership approach, adopting a new staff welfare system, adopting a new financial management system, innovative and creative capabilities in recruiting staff, and adopting a new performance assessment method.

## **Results and Discussion**

### **The Relationship Between Human Capital and Innovation**

Human capital, according to Dermawan (2006), is the most important resource for winning a competition because it is the backbone of the entire system designed, the methods implemented, and the technology used. Technology, products and services of an organization can be imitated, whereas intellectual capital is hard to imitate, and that is why human resources are unique and strategic (Duica et al., 2012).

Morover, Lado and Wilson claim that human resources through the human capital can encourage and facilitate innovation by generating and strengthening employee role behavior, including creativity and innovation, long-term orientation, cooperation and trust, risk taking, and conflict tolerance. (Gönül Kaya Özbağ et al, 2013). Human capital is represented by professional knowledge, skills, abilities and health that can make a person enhance his/her creativity (Suciu and Bratescu, 2011). Human resources are very important because they are the source of innovation and strategic renewal (Bontis, 1998) in (Ratna and Lilis, 2017).

Based on the results of a study conducted by (Alpkan et al, 2010) the role of human capital was found to be an important impetus of innovative performance especially when organizational support was limited. Additionally, Anker (2006) conducted an empirical study in Denmark and pointed out the importance of upgrading the employees' skills especially in the high-tech sector. He concluded that HC increases the ability to innovate. Empirical studies on different cultures around the world, investments made to improve human capital could enhance innovation. As an example, Dakhli and De Clercq (2004) found out strong support for the positive influence between human capital and innovation in their study on the secondary data across countries with different innovations.

### **The Relationship Between Knowledge Management and Innovation**

Effective knowledge management involves creating, catching, sharing, implementing and exploiting knowledge (Egbu, 2004). The idea of knowledge management is to gather, classify, store, and disseminate all the knowledge needed to make an organization grow and develop (Mukherjee et al, 2011). Knowledge

management is a useful instrument for creating innovation by obtaining, creating, sharing, storing, and applying knowledge that is a material needed for innovation work in an organization. Knowledge management can enhance innovation because it allows the sharing and codification of tacit knowledge, helps to change tacit knowledge into explicit knowledge, and creates a culture that promotes the creation and sharing of knowledge and collaboration (Madhoushi, et al, 2011).

Many studies have shown that knowledge management can provide information about customers so that it can help a company achieve success in applying innovation (Basadur and Gelade, 2006; and Nonako et.al, 2000). Basadur and Gelade (2006) mention the role of knowledge in innovation process. The process they propose consists of four stages; 1) proactive gaining and generating new information, and sensing trends, opportunities and problems, 2) conceptualizing new challenges and ideas, 3) developing and optimizing new solutions, and 4) implementing new solutions.

### **The Relationship Between Knowledge Management, Human Capital, and Innovation**

Human capital and knowledge management are two concepts that are of concern in achieving organizational goals including innovation. Human capital is defined as a collection of talents, skills and abilities of employees that bring economic value to an organization. Knowledge management is defined as the experience and understanding of an individual that can be communicated and shared. (Jalal, et al, 2011). Therefore, it has been suggested that knowledge residing in an individual employee in the form of tacit knowledge plays an important role in facilitating the growth of knowledge to enhance his/her value. Human capital is needed to catch and share knowledge which is then used to create new knowledge through collaborative activities. Knowledge sharing is an activity or behavior that involves the transfer and dissemination of knowledge from one person to another and it is considered an important process (Jalal et al; 2011).

Intangible capital can provide a company with heterogeneous resources needed to develop new competitive products, maintenance and services. Specifically, based on the view of knowledge, we suggest that human capital manifests itself in explicit knowledge, whereas organizational capital manifests itself in implicit knowledge. Therefore, we suggest that human resources can be codified effortlessly, and thus manifest themselves in explicit knowledge.

Bollinger and Smith (2001) state that in order that knowledge management can be a strategic asset for a company, there are things to be considered in implementing knowledge management, one of which is that in implementing knowledge management intellectual asset is needed in the form of human capital. Strengthening the idea of Bollinger and Smith (2001), Bontis (1998) and Bontis et al (2000) also state that human capital represents the wealth of individual's knowledge in an organization that supports the implementation of knowledge.

### **Conclusion**

Based on the previous discussion, the following conclusions can be drawn:

1. The concept of human capital is the overall capabilities inherent in individual employees which are valuable assets of the company so the company must be fostered and developed.
2. The concept of knowledge management is the overall knowledge and information held by the company and employees.
3. The concept of organizational innovation is the overall activity directed to create and implement new ideas better than before.
4. The higher the ability of human capital owned by the company will have an impact on increasing the company's innovation capability.
5. Better knowledge management owned by a company will have an impact on increasing the company's innovation capabilities.

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