

Achieving Competitive Advantage through Knowledge Management Practices: Knowledge-Based View (KBV) Strategy on Indonesia Electricity Sector

Khusnul Rofida Novianti*

Faculty of Economics and Business; University of Muhammadiyah Malang; Malang; Indonesia.

Abstract

Knowledge is the most valuable intangible assets that became a source of competitive advantage of the firm since the emergence of knowledge management replaces assets management concepts. This makes the paradigm shift from resource-based competitiveness to knowledge-based competitiveness, from RBV to KBV. This research aims to analyze knowledge management practices through Knowledge-Based View (KBV) to gain a competitive advantage in Indonesia electricity sector, namely PT PLN (Persero), one of State-Owned Enterprise with the biggest amount of assets in Indonesia energy sector. This study used a qualitative approach with post-positivism paradigm and research design using case study (single case study). Data obtained through interviews, direct observation, document, archive, and website review. The results showed that the competitive advantage was achieved by knowledge sharing as the organizational culture of PT PLN (Persero), KM to improve individual and organizational performance and by maximizing the role of KM. The challenge of knowledge management comes from internal and external sources like gap generation differences, high rotation of employees without the support of adequate knowledge transfer, selection of suitable knowledge transfer methods, lack of documentation of knowledge transfer and data availability of energy resources.

Keywords

Competitive Advantage; Knowledge Management; Knowledge-Based View (KBV)

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Introduction

A succession of the organization in competing in the era of knowledge economy no longer depends on how strong the financial factor or tangible assets possessed, but on how much knowledge and intellectual capital (intangible assets). This impacts on the change of view in reaching an organization's competitive advantage. Beginning with the inception of the theory of Market-based View (MBV) which emphasizes market competition that impacts on Porter's competitive advantage (1980; 1985; 1996), Ireland (2004). MBV followed by the theory of Resource-based View (RBV) that focuses on the internal side of the company that is valuable, rare, inimitable and irreplaceable (Penrose, 1956) which later expanded by Wernerfelt (1984) and Barney (1991). From this RBV then came the view of knowledge-based (KBV) or knowledge-based theory of the firm. This knowledge possessed by HR is meant in KBV theory (including skill, knowledge, skill) can be a competitive advantage.

KBV is characterized by scarcity and the difficulty of transferring and replicating knowledge, which is an important resource for achieving competitive advantage. In this regard, good knowledge management is required through knowledge management (KM), which is one of the strategies to gain an organizational competitive advantage (Nonaka & Takeuchi, 2011). KM is used in a variety of strategies, processes, and disciplines that formulate, integrate, organize and apply organizational knowledge assets. KM is applied to all sectors, not least in the energy sector

which is one of the biggest contributors to Indonesia's income. Electricity as one part of the energy supply industry is one of the major industries in the economic movement of a country (Wolde-Rufael, 2006). PT PLN (Persero) hereinafter referred to as PLN is one of the State-Owned Enterprises (SOEs) electrical energy sector that provides services to the public in the provision of services related to the sale of electricity and is one of the SOEs with the largest amount of assets. The provision of electricity in Indonesia is not only done by PLN but also by private companies, namely Independent Power Producer (IPP), Private Power Utility (PPU) and Operating Permit (IO) non-BBM. PT PLN's power plant capacity still dominates with a share of more than 76% (39.3 GW), IPP power plant at 15% (7.9 GW).

The purpose of this research is to understand how knowledge management practices in Indonesia electricity sector. This research also aims to describe how knowledge management can be a potential aspect to gain a competitive advantage especially in PT PLN (Persero). Besides that, to explore the challenges of knowledge management faced by PT PLN (Persero).

Literature Review

Knowledge Management

The term knowledge is often associated with data and information. Knowledge is not data or information (Awad & Ghaziri, 2004; Serrat, 2009), but knowledge is based on data and information (Ngai & Chain, 2005). Knowledge is generally divided into two types: tacit knowledge and explicit knowledge (McQueen,

1999; Nonaka, 2006; Sanchez, 2009). Knowledge management focuses on managing knowledge resources such as skills, competencies, and organizational assets. Collison and Parcell in Ghalib (2004) show the success of KM that interacts between three main elements: (1) People, (2) Process and (3) Technology. The human enabler in the succession of knowledge management is the main thing. People create and share knowledge, therefore managing people who have a purpose to create and share their knowledge is very important. Alawi & Leidner (2001)

mentions the knowledge management process consists of knowledge creation, knowledge storage, knowledge transfer, and knowledge application.

The process of creating knowledge within an organization is a core part of the knowledge management process. There are four steps of knowledge creation (Nonaka, 2006) called as SECI model (Socialization, Externalization, Combination, and Internalization) which is a spiral interaction between tacit knowledge and explicit knowledge to generate new knowledge as shown in the following figure:

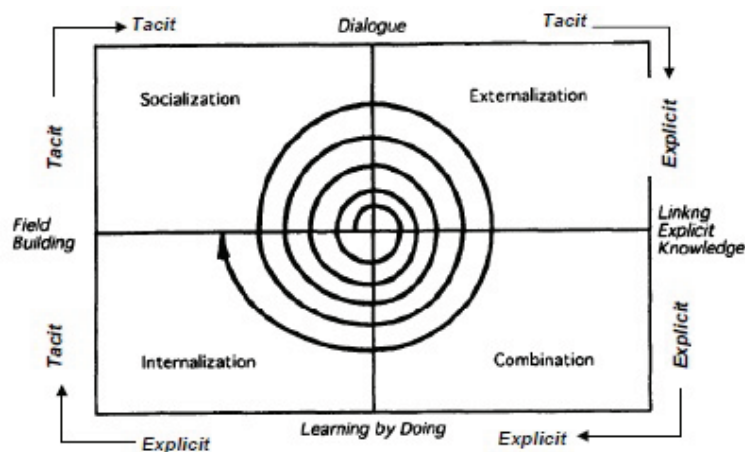


Figure 1. Nonaka SECI Model

Knowledge storage processes include storing, grouping, indexing and linking digital objects such as documents and images to unit knowledge. The next process is the process of knowledge sharing (also called knowledge transfer) mainly involves collaboration and knowledge sharing (KS). KS is one of important process in knowledge management. The final process of applying knowledge involves retrieving and using knowledge in support of decisions, actions, and problem-solving.

Enabler technology in the KM perspective is a fundamental building block that supports and coordinates knowledge management. There is no universal definition of knowledge management. Based on KM PT PLN, Knowledge Management is a series of systematic steps in the management of knowledge assets (collecting, storing and using/disseminating knowledge) to improve the company's performance.

Knowledge-Based View

The strategic management literature explains that the Knowledge-Based View (KBV) is built on the expansion of a resource-based view of the firm (RBV). Knowledge is an intangible asset of human resources that plays an important role in creating an organizational competitive advantage (Grant, 1996). Western management (western) views more explicit knowledge, something formal and systematic.

Explicit knowledge can be expressed in words and numbers, and easily communicated and transferred. In contrast to Japan (Japanese) who have different views and emphasize tacit knowledge that is not easily seen and expressed. Knowledge-based theory of the firm can be used in strategy formulation. Sveiby (2001) outlines 9 knowledge-based strategies to maximize value creation for an organization as shown in the following figure:

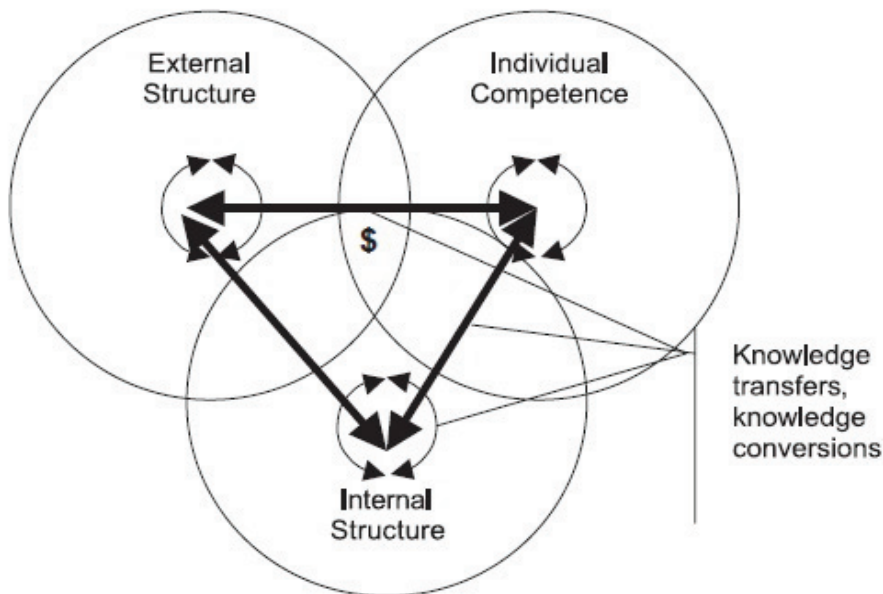


Figure 2. The Knowledge-Based View (Sveiby, 2001)

Sveiby (2001) arguing that the point of the knowledge-based strategy is increasing knowledge transfer between the three elements of intangible assets that are external structures, internal structures, and individual competencies. The shared knowledge is dual. The primary key to value creation arises from the effective communication and

alteration of tacit/explicit knowledge transfer between individuals and knowledge changes from one type to another. Value creation can be understood through interconnected systems among the intangible asset elements into the following nine knowledge strategies as shown in figure 3:

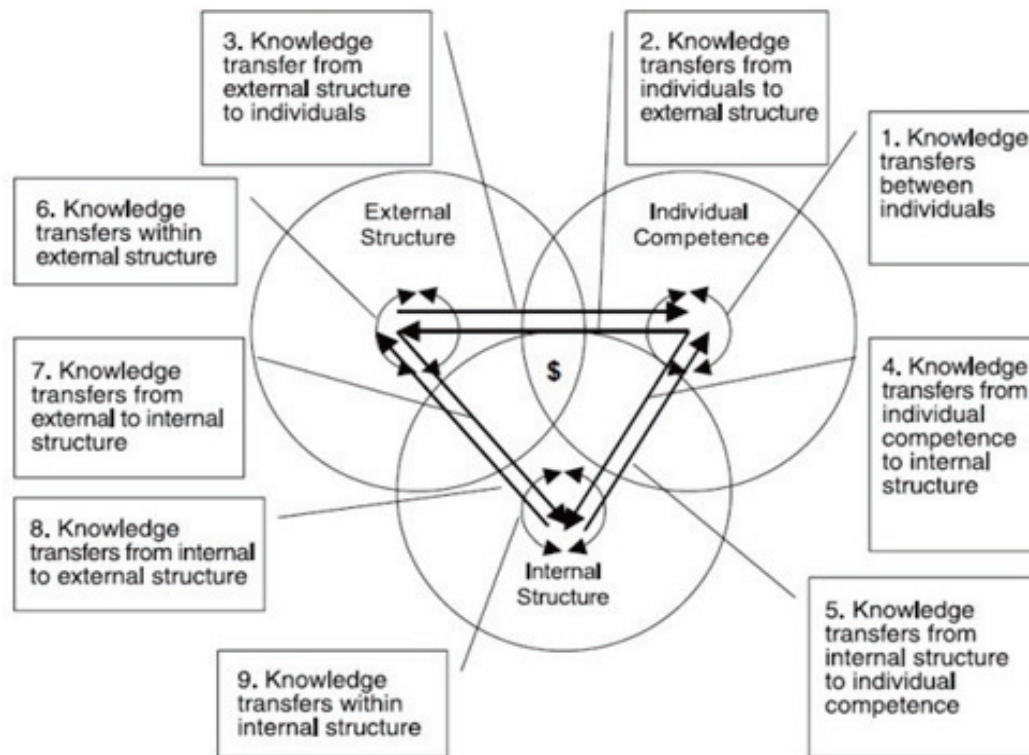


Figure 3. Knowledge-Based View Strategy

Competitive Advantage (CA)

Competitive advantage according to Porter (1986) is the ability of a company to achieve economic benefits above the profit that can be achieved by competitors in the market in the same industry. Many management researchers argue that knowledge is the key factor for competitive advantage. This is in line with the resource-based view (RBV) positions and is effectively the same as a knowledge-based view (KBV). Knowledge is a key resource in a rapidly changing global marketplace where the development of innovative services, products, and solutions is needed to win the competition. The company is said to have sustained competitive advantage if the execution

of its strategy is not simultaneously undertaken by competitors and potential competitors and these competitors are not able to achieve the same benefits from the implementation of the strategy (Grant, 1991).

Research Methodology

This research is a descriptive study using a qualitative approach through a single case study based on the post-positivism paradigm that places the object as the focus of research. The purpose of this research is to understand how knowledge management practices based on KBV in achieving competitive advantage in the electricity sector through a case study at PT PLN (Persero) with three main problem formulation:

- RQ1: How is knowledge management practice at PT PLN (Persero)?
- RQ2: How is knowledge management practice based KBV in achieving competitive advantage in PT PLN (Persero)?
- RQ3: What are the knowledge management challenges at PT PLN (Persero)?

The research object is PT PLN (Persero), which is the biggest state-owned company that holds the most right of the electricity sector in Indonesia with the main focus on knowledge management (KM) PLN headquarter team. In this research, data is collected using several methods, including interviews, observation, document review, archives, and website. Data analysis technique using interactive analysis by Miles, Huberman, and Saldana (2014), the reason that qualitative research data analysis is cyclical and not linear.

Interactive analysis (Miles, Huberman, and Saldana, 2014) underlies four components, namely data collection activities, data display/data presentation, data reduction and verification/conclusion. Data collection is the process of collecting all data about knowledge management process in PT PLN (Persero). Data presentation is an organization of information in the form of classification or categorization that allows conclusions to be drawn. Data reduction is the process of selecting data, focusing, simplifying, and abstracting of raw data from field notes that will be transcribed and reduced to avoid overlapping. Drawing conclusions is an organization of data that has been collected so that a conclusion can be

made from the research conducted. To achieve data validity, this research using the degree of trust (credibility), transferability (dependability) and certainty (confirmability). This research also employs source, theory, and technique triangulation method and (Moleong, 2012).

Result and Discussion

Knowledge Management Practice at PT PLN (Persero)

PT PLN realizes that it is now in the era of knowledge were the determinants of a company's success is not intangible assets such as information, competence, image, but depend on one thing, knowledge. From the results of interviews with informants known that knowledge management has a strategic role for PT PLN (Persero) in managing the knowledge of individual employees into knowledge organization. Knowledge becomes a company asset that must be managed appropriately and seriously. PT PLN seeks to realize an integrated knowledge management system through the unification of the 3 main pillars of KM which is people, process and technology. This is consistent with the KM-related enabler theory that Edwards (2008) proposes that the three main elements in KM (people, process, technology) must be balanced so that KM activities can work effectively. In terms of people, is to make KM as one of the criteria in measuring employee competence through KM activities that include knowledge sharing, knowledge capturing, a community of practice (CoP), and innovation as part of self-development of employees and knowledge assets of PT PLN.

Through CoP, the knowledge of the individual can be channeled to the organizational level of the implementing unit to become the knowledge assets of PT PLN corporate organization in the form of innovation, SOP (Standard Operating Procedure), best practice and lesson learned. The CoP can be done face to face or online through KM PT PLN portal. This is in line with research conducted by Smith (2000) on Oilex which benefits from individual experience transformed into CoP and also Yosua (2015) that CoP will be very effective in the transfer of knowledge. In CoP there is a successor who has more skill and experience than any other member. The objectives of CoP's formation are tailored to the organization's strategic objectives in line with the research proposed by Bardon (2015).

In terms of process, PT PLN has made the policies as the implementation of KM activities and procedures. Knowledge management begins with a knowledge creation known to SECI model (Socialization, Externalization, Combination, Internalization) that explains the concept of converting knowledge from tacit to explicit which eventually becomes a continuous tacit that keeps on spinning continuously. The next process is the storage of knowledge which is also known as knowledge capturing. Knowledge capturing is the documentation or acquisition of the knowledge and experience of employees who have been acknowledged in the field of priority field. The reason for the documentation of knowledge is to anticipate knowledge lost and gap generation (differences in knowledge

between senior and junior). This is in line with Edwards (2008) to quickly address the issue of the generation of knowledge transfer issues. PT PLN overcomes gap generation problems by partnering with the corporate culture division.

After knowledge capturing, the next process is knowledge transfer or knowledge sharing. Knowledge sharing is an activity of sharing knowledge, experiences, and ideas owned by and between employees, which is not a duty or obligation of work, both tasks attached to the title and the obligation attached to the team. Knowledge sharing serves as a means of sharing knowledge to help with daily work and add new knowledge. Knowledge sharing can be done face-to-face in which the presenters and participants are present at the appointed time and place. Knowledge sharing also be done online by using the KM portal or video conference.

The last process is the knowledge application. Knowledge management is implemented in all PT PLN units amounting to 54 units and spread throughout Indonesia either by generating units, transmission or distribution. In its application, KM PT PLN central set policies that become standard operating procedures in the process of implementing knowledge management throughout PT PLN units. Technology plays a vital role in knowledge management as a means of storage and means of disseminating knowledge. In addition to the KM portal, PT PLN also has other supporting applications as well as implement collaborative technology that is expected to accommodate existing knowledge in PT PLN which is always updated following the

development of existing technology. This is in line with Afric (2007) that the capacity of the technology used is very important in the focus of knowledge management. Costello (2011) also stated that technological factors play an important role in innovation to achieve competitive advantage. Implementation of KM should be supported by having a web portal related to KM in line with Ramanigopal (2012) statement. Based on the findings of research and discussion, it can be determined proposition to answer the formulation of the first problem that is:

Proposition I: Knowledge management practice begins with the formation of CoP from the individual, unit and organizational levels initiated through the process of knowledge creation, knowledge storage followed by a knowledge sharing process that is stored in the KM portal and implemented by all units of PT PLN scattered throughout Indonesia.

Knowledge Management Practice Based KBV in Achieving Competitive Advantage

Knowledge-Based View (KBV) should start from the main intangible resources of individual knowledge and competence that can be used in creating value through two directions: internal and external. The strategy formulation based on the KBV concept generates 9 strategic questions related to the relationship between the three aspects (individual, internal and external). Knowledge transfer is a key process of creating knowledge that can generate innovation and corporate value. Knowledge sharing that is implemented

today has become an organizational culture wherein the context of PT PLN, all employees are expected to become a learner. This is consistent with Al-Alawi's (2007) research results that knowledge sharing is based on trust among individuals.

Furthermore, Edwards (2008) proposed to maintain the memory of organizational culture related to knowledge sharing. Openness in knowledge sharing is also an important factor in shaping the organizational culture as proposed by Costello (2011). Connell (2012) argues that trust in knowledge sharing is critical in enhancing the organization's competitive advantage. Besides, this research is in line with Grant (2008) that the success of KM practice requires synergy with technology and corporate knowledge sharing the culture that needs to be used as organizational norms/culture to improve the competitiveness of the organization.

Knowledge management has become the only thing that is included in the provisions of ISO 9001: 2015 assessment. KM is also included in the aspects measured in individual performance appraisal criteria through employee performance measurement conducted every semester. Additional points are given if the employee performs knowledge sharing, CoP, knowledge capturing or other activities included in the knowledge management aspect (which impacts on the process of creating a knowledge-sharing culture as a reflection of the learning organization). Measurements are made by measuring the maturity level of the process at the unit level called MLI (Maturity Level Index) and the result called KPI (Key Performance

Index) is achieved, divided into 5 scales. The reward is given to employees who actively contribute to knowledge sharing, CoP, knowledge capturing and other knowledge sharing activities. Giving rewards made in PT PLN is in line with Al-Alawi research (2007) which states that rewards (rewards) are positively related to knowledge transfer within the organization. In addition, this study complements the research of Yosua (2015) in which rewarding can motivate and make employees feel valued in terms of knowledge sharing activities undertaken.

KM role needs to be maximized especially with the number of benefits that can be given when used properly. This is related to not yet felt the role of KM by unit or another unit. The shift in related paradigms put more emphasis on quality than quantity is an effort to maximize the role of KM. This is in line with Ozigbo (2012) and Yosua

(2015) stating that the role of KM should be maximized with top management support in sharing knowledge to increase competitive advantage. Based on the findings of research and discussion, it can be determined proposition to answer the formulation of the second problem is:

Proposition II : Maximize knowledge sharing within the individual, internal and external spheres as PT PLN's organizational culture in an effort to improve individual and organizational performance and maximize the role of KM in order to achieve competitive advantage in the electrical energy sector.

Using Sveiby concept, the main point of the knowledge-based strategy is increasing knowledge transfer between three elements of intangible assets that are external structures, internal structures, and individual competencies to achieve competitive advantage can be seen at figure 4:

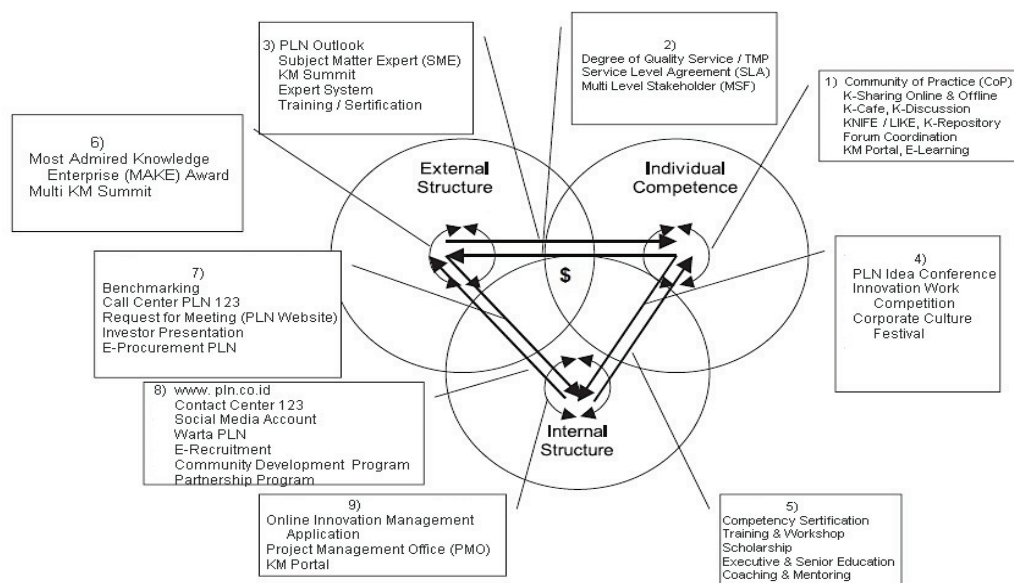


Figure 4. Knowledge-Based Strategy of PT PLN (Persero)

Knowledge Management Challenges

The source of KM challenge comes from 2 factors, namely internal and external. From the external side of the challenge that arises related to information readiness related to the availability of energy resources in the future as well as the increasing number of private power plants (Independent Power Producer / IPP). Internally, related knowledge sharing and knowledge capturing, selection of suitable knowledge transfer method, gap generation differences, the potential of knowledge lost due to the rotation of office or turnover rate and organizational structure. This is in line with those proposed by Smith (2000) regarding external factors (the general trend of industry, in this case, related to future energy availability) and internal (organizational structure) that challenge knowledge management. This is in line with Edwards's (2008) study of the challenges in the generation gap that will continue to occur annually. Based on the findings of research and discussion, it can be determined proposition to answer the formulation of the third problem is:

Proposition III: *The Challenge of Knowledge Management comes from external factors namely the increasing of IPP (Independent Power Producer) as well as the availability of energy resources, in terms of internal gap generation, high rotation of employees without the support of adequate knowledge transfer, selection of knowledge transfer methods matching, lack of documentation of knowledge transfer and organizational structure.*

Based on proposition I, II, and III, it can be concluded that the major proposition of this research is knowledge management practices that implemented by PT PLN (Persero) are based on three main pillars (people, process, technology) by maximizing knowledge sharing in individual, internal and external structures as PLN's organizational culture in order to increase innovation, individual and organizational performance, also maximizing the role of knowledge management to achieve competitive advantage from internal and external challenges.

Conclusion

Knowledge-Based View knowledge management practices in achieving competitive advantage run at PT PLN (Persero) is based on 3 pillars of knowledge management which is people, process and technology. In terms of people, PT PLN emphasizes the existence of Community of Practice (CoP) so that individual knowledge can be shared to the organizational level to become the knowledge assets of the PT PLN corporate organization. The process of knowledge creation of PT PLN is based on SECI model which is stored through knowledge capturing which is distributed to other individuals (knowledge sharing) online (KM portal) and offline and then implemented by all PT PLN units spread in Indonesia. The knowledge-based view emphasizes the importance of knowledge transfer between individuals, internal and external organizations in order to gain competitive advantage.

Knowledge sharing has become PT PLN's organizational culture reflected in values (mutual trust and learners). PT PLN's competitive advantage in the electrical energy sector is achieved by maximizing knowledge sharing within the individual, internal and external spheres as PT PLN's organizational culture in an effort to improve individual and organizational performance and by maximizing KM's role in providing and managing strategic knowledge to be accessible to strategic people to establish strategic policy.

Limitations and Research Recommendations

Based on the research that has been done, there are some limitations of this research such as : (1) the research is only done on KM team of PT PLN (Persero) Headquarter as policymaker, while the implementation of knowledge management is more observable in PT PLN Unit (generation, transmission and distribution) and (2) Further research is expected to be conducted in PT PLN Units

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based on knowledge-based views (KBV) using different theoretical guidelines as well as measuring knowledge sharing. Future research related is needed to the relationship of knowledge management with innovation using innovation-based view (Innovation Based View).

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Notes on Contributor

Khusnul Rofida Novianti She is a graduate student in Magister Management Program, University of Brawijaya and now work as a lecture at the University of Muhammadiyah Malang. Her research interest is Knowledge Management, Human Resource Management, and Cross-Cultural Management.

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