

Knowledge Shifting Process in Energy Sector Company (Case Study PERTAMINA an Indonesian Energy Company)

Rhian Indradewa, M. Ali Iqbal

Esa Unggul University Jl. Arjuna Utara 9, KebonJeruk Jakarta, Indonesia

Mercubuana University Jl. Meruya Selatan No. 1, Kembangan Jakarta, Indonesia

Abstract: This paper introduces a model to manage a knowledge shifting processes when a company changes their vision and mission following with extending their strategy, business process and organization design because of the environment issues and regulations. This paper based on case study in Pertamina An Energy Company in Indonesian as one of the Developing Country. This paper used a quantitative research conducted by survey. The findings showed that in extending business scope causes the knowledge shifting processes that generate new knowledge which is different with the existing knowledge in current business. The extending business process itself divided into 3 phases: first phase change vision and mission, second phase change strategy, business process, and organization design, and the third phase change and shift the knowledge. The knowledge shifting process will become a successful factor in conducting the new business. The knowledge shifting process consist of two factors: managing existing employees with new knowledge and managing new employees with new knowledge. In managing the existing employees hopefully they will have new knowledge the factors consist of change mindset, willingness to learn, collaboration and age. In managing the new employees we can hire new employees with new knowledge and we can choose new employees with diversified educational background and diversified experiences matching the extended business scope. This paper viewed the knowledge shifting process from the perspective of Knowledge Based View (KBV) theory.

Keywords: Knowledge Shifting Process and Knowledge Based View

Biographical notes: Rhian Indradewa is a Bachelor of Engineering Faculty at University of Indonesia in 2001, Master in Marketing Management Science in Economic Faculty University of Indonesia in 2005 and Doctoral in School of Business and Management Institut Teknologi Bandung, Indonesia in 2016 specialization in strategic and technology management. He is a Practitioner and has many experiences in oil and gas, and energy sector industry such as PETRONAS (Malaysian Oil and Gas Company) and since 2010 joined in PERTAMINA (Indonesian Oil and Gas Company). He also becomes a part time lecturer in School of Business and Management Institut Teknologi Bandung, Esa Unggul University, BINUS University.

Biographical notes: M. Ali Iqbal received his Bachelor Degree from the Academy of Fisheries, Indonesia, received a scholarship for Master Degree in Agricultural Economics from Kasetsart University, Thailand where he was also awarded for the best thesis of the year, then received his PhD in Human Resource Management from Universitas Negeri Jakarta, Indonesia. I have also participated in workshops of Macroeconomic Adjustment and Food/ Agriculture Policy and in Budgeting of the Public Sector, both at Harvard University, USA. He previously served as Researcher at the Centre of Social Economy, Ministry of Marine and Fisheries; Head of Sub Division Public Information Centre, Ministry of Marine and Fisheries; and Head of Sub Division of Policy Development at the Ministry of Agriculture. M. Ali Iqbal actively serves as lecturer at Mercu Buana University, Jakarta, Indonesia.

I. Introduction

People in the petroleum industry will remember the current times as one of the most difficult, unpredictable, and promising periods in its history. But it isn't price volatility that is causing most of the excitement and anxiety. It is the realization that tectonic shifts in the world's economies, technologies, environment and consumers are changing the global energy map. The energy map trend is shifting from the fossil fuels to the new and renewable energy driven by environment issues and regulations. People are more aware to the environment issues they need and hope for the clean energy source comparing with current energy source. Even the policy or regulatory risks represent one of the major barriers for renewable energy investments in developed country (Gatzert and Kosub, 2017) but still new and renewable energy is a future energy that should be developed.

New forces are reshaping the energy industry's structure, its organization, and markets, driving it toward a future that will be very different from anything it has ever seen. Many oil and gas company not only in the developed country but also in the developing country put the environment issues and regulations as the main aspects in providing the energy. The green and clean energy sources become the first foundation in that's policy. Since the green and clean energy sources become the foundation and thensome of the Oil and Gas Company shifting their current business, with changing or extending their businesses scope, from oil and gas business to become the energy business. Some of them change their vision and mission even further they change their corporate names. When company extended their business scope competency and capability of their employees become important to be managed. Collaboration in innovation activities or projects can become a way in enhancing the knowledge management process (Indradewa et al., 2015, Indradewa et al., 2016). For the examples Danish Oil and Gas Company is name DONG to become ORSTEDsince they are moving from oil and gas business to energy business. Norwegian oil giant STATOIL officially rebranded as EQUINOR. The new name will attract young talent who are likely to be more interested in renewable energy rather than its legacy in fossil fuels.

As the locomotive of the national economy in Indonesia PERTAMINA is a state-owned company engaged in the oil and gas sector now changing to the energy sector including oil, gas and new and renewable energy, also improve and innovate in all operations, as demanded by global conditions. Pertamina is also commits in fulfilling its strategic role in the national economy. The currently proclaimed Renewable Spirit is one proof of Pertamina's commitment in creating alternatives in providing more efficient energy sources which are sustainable and environmentally sound. Given initiatives in harnessing resources and potentials for new and renewable energy sources in addition to its main business, Pertamina has moved forward steadily to actualize its Vision of Becoming a world class national energy company. The development of new and renewable energy business in order to strengthen business positioning and competitiveness, optimize profitability and to support the Company's business sustainability following by the development of new strategy, new business process and new organization design.

Further, all of that is enough in succeeding the extending business scope? In my opinions it is not enough. To succeed in conducting new and renewable energy business, Pertamina have to shift their knowledge. The knowledge shifting process should become one of foundations in the new business landscape.

Why this is study become important? From the theoretical perspective, there were many studies about knowledge management but it was rarely discuss about the knowledge shifting management process when the business change their vision and mission in extending the business. How business extending or changing success affected by the knowledge shifting management process is something that needed to discuss and research.

From the practical perspective, because the study was conducted in the company's energy sector company Pertamina, when we saw a few years back when the competition is getting tougher especially driving with the environment issue and regulation and Pertamina are faced with limited resources and knowledge they have. Then it raises awareness of the importance of knowledge shifting process following the extending business scope. Amid these limitations, it is then Pertamina should be started doing knowledge shifting from the current knowledge to the future knowledge anticipating the future trend of the business. Seeing so lagging condition of current knowledge following the extending business scope especially in the new and renewable energy business knowledge shifting management may be one way to increase the successful of extending new business.

The purpose of this research is cover both theoretical and practical. In the theoretical field there are several objectives of this study:

- 1) To introduce a new conceptual model in knowledge shifting process implemented when company changing their vision and mission.
- 2) To extend the theoretical perspective in the knowledge based view theory especially the knowledge shifting process.

In the practical field, the purpose of this study:

- 1) To introduce a model that can be adopted in shifting the knowledge when companies have to extending their business and performing the new business which is different with current business not only by Indonesian state owned enterprises in Energy Sector, but also other organization.
- 2) To introduce a model that can be adopted in forming an effective business extending or business shifting not only by Indonesian state owned enterprises in Energy Sector, but also other organization to increase the probability of business extendedget succeed, which means the new business is sustain and generate profit.

II. Conceptual Framework

Pertamina as one of the energy companies in developing countries are trying to increase the added value and competitive advantage by changing and extending their business due to environment issues and regulations in the near future with change their vision and mission from Oil and Gas Company only to become An Energy Company. As we know that the environment issues have become a business driver for many oil and gas industry to shifting and performing new business especially in New and Renewable Energy Sector. The changing causes the knowledge shifting processes that generate new knowledge which is different with the existing knowledge in current business.

The extending business process itself divided into 3 phases:

1) Change vision and mission

The first phase is change vision and mission. The vision statement is the statement that show what company want to be, and the mission statement is the statement that show why company exist its talk about the reason why the company developed (Grant, 2010). Pertamina as one of oil and gas companies before 2016 has a vision *to be a world class national oil and gas company* and with the mission *to carry out integrated business in oil, and gas base on strong commercial principles*. Pertamina only focus on oil and gas business. The mission and objectives must be made before alternative strategies can be generated and evaluated (Wheelen and Hunger, 2012). The clear vision provides the foundation for developing a comprehensive mission statement (David, 2011).

But since the business environment changing and many government and country give more attention on environment issues and regulations then Pertamina change their vision and mission. The new vision then become *to be a world class national energy company* and with the mission *to carry out integrated core business in oil, gas, new and renewable energy base on strong commercial principles*. Pertamina extended their business scope to become an energy company.

2) Change strategy, business process, and organization design

The second phase is change strategy, business process and organization design. The vision and mission pursued with a focused strategy (Roberts, 2003). A clear mission statement is essential for effectively establishing objectives and formulating strategies (David, 2011). Business strategy focuses on improving the competitive position of a company's or business unit's products or services within the specific industry or market segment that the company or business unit serves (Todd and Maury, 2003). Since Pertamina change their vision and mission to become the energy company then they extend their strategy and put their business strategy scope included the new and renewable energy business.

Business Process as a management systems provide the mechanism of communication, decision making and control that allow companies to solve the problems of achieving both coordination and cooperation (Grant, 2010). When Pertamina change their strategy and organization structure then it was impacted the business process. Pertamina revised their business process from corporate level until subsidiary level. Put their new business in new and renewable energy business as their current business process. Organizing the new business process in succeeded the new business in energy business replacing the previous business process in oil and gas business.

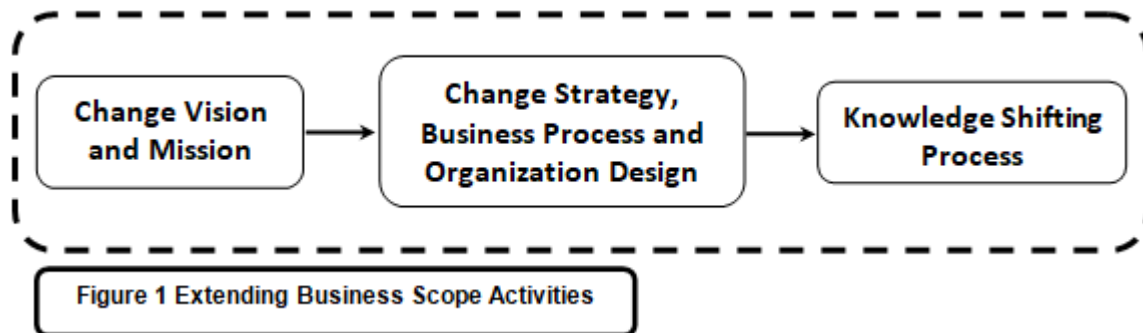
Organization design will be following the strategy. Once company has decided what its strategy will be and what operational requirements it imposes, the next issues presents around how to organize to accomplish that strategy (Thomas and Thomas, 2008). The purpose of organizing is to achieve coordinated effort by defining task and authority relationships (David, 2011). Organizing means determining who does what and who reports to whom. A well-organized firm generally has motivated employees who are committed to seeing the organization succeed. Pertamina developed the New and Renewable organization structure which has a task in developing the new and renewable energy business. And also Pertamina built the new subsidiary company in developing the new and renewable energy business, put the committed employees to seeing organization succeed in energy business.

3) Change and shift the knowledge.

The third phase is the knowledge shifting process. The knowledge shifting process will become a successful factor in conducting the new business, the new and renewable energy business. As the nature of how work is accomplished changes the type of person required to do that work also changes (Roberts, 2003). As Pertamina extended their business into energy business they need people who will actually fill these roles and do the work in terms of their skills, background, and experience especially in new and renewable energy business. It is important that when vision and mission change, organization structure and business process change, it will create new tasks and often demand new skills (Gareth, 2010). Pertamina have to shift their

knowledge. The knowledge shifting process should be managed well. This paper viewed the knowledge shifting process from the perspective of Knowledge Based View (KBV) theory.

Based on above description, the extending business scope phase can be defined and formulated into 3 phases as follow:



From figure 1 above it can be described that the process consists of 3 phases: the first phase is change vision and mission, the second phase is change strategy, business process and organization design, and third phase is knowledge shifting process.

III. Theoretical Framework

The aim of this literature review is to develop a model in knowledge shifting process implemented in a company when they change their business scope. The review of the literature, which provides context for the study, is divided into four major sections that consist of change vision and mission; change strategy, business process, and organization design; knowledge shifting process; and since this study view from the Knowledge Based View (KBV) perspective. We put the KBV as the basis of the theoretical model for this study.

1) Change Vision and Mission

The global business environment condition has resulted in many firms changing direction and thereby altering their entire vision and mission in order to survive and to win the competition (Gregory, Lumpkin and Alan, 2007). Especially in oil and gas business, some companies have broadened their business scope from only oil and gas to become the energy industry. As the consequences they have to change their vision and mission.

So what is the vision and mission? Why is it become important for the company or organization? The vision is a statement which should answer the basic question "what do we want to become?". It provides the foundation for developing a comprehensive mission statement (David, 2011). Many organizations have both a vision and mission statement but the vision statement should be established first and foremost. It is especially important for managers and executives in any organization to agree on the basic vision that firm strives to achieve in the long term.

The mission is the purpose or reason for the organizations' existence. It tells what the company is providing to society (Wheelen and Hunger, 2012). A well mission statement defines the fundamental, unique purpose that sets a company apart from other firms of its type and identifies the scope or domain of the company's operations in terms of products and services offered and markets served. A mission statement may also include the firm's values and philosophy about how it does business and treats its employees. Some people like to consider vision and mission as two different concepts: mission describes what organization is now and vision describes what the organization would like to become (Wheelen and Hunger, 2012).

Some company due to the environment business and regulation then changing and shifting their vision and mission with a hope they can still survive and exist (Gregory, Lumpkin and Alan, 2007). It is a normal condition when they have to adjust their business. Business are confronted by new bases of competition, the redefinition of whole sectors and the continual re-establishment of innovative practices by leading companies from across the globe. When they change their vision and mission, it will be followed by change their business model. Changing their strategy, business process, and organization structure will be conducted.

2) Change Strategy, Business Process and Organization Design

Once a company has decided to extend their business scope and following with change their vision and mission, now they have to decide what its growth strategy will be and what operational requirements it imposes (Mike, 2006). They have to design how to organize to accomplish that change. Company then will adjust and formulate their new strategy, new business processes and new organization design (Kaihan, 2012).

Change Strategy

Strategy is about the winning. Strategy is not a detailed plan or program of instructions it is a unifying theme that gives coherence and direction to the actions and decisions of an individual or an organization (Grant, 2010). There are 3 strategy characteristics: goals that are simple, consistent, and long term; profound understanding of the competitive environment; and objective appraisal of resources (Grant, 2010). The best strategy is when that strategy can be implemented well. Without effective implementation, the best laid strategies are of little use.

When competitive environment changing, then change the strategy become very rational and important. Understanding the competitive environment is the key components of the analysis of business strategy (Lawrence, 2005). Profound understanding of the competitive environment is defined by the firm's relationships with customers, competitors, suppliers and regulators. The task of new business strategy is to determine how the company will deploy its resources within its new environment and so satisfy its long term goals, and how to organize itself to implement that strategy. It involves allocation of resources (Mike, 2006).

Change Business Process

Business process is a sequence of interlinked activities. An organization may be viewed as a set of processes such as the product development process, the manufacturing and operation process, the marketing and sales process, etc. Companies tend to combine and to design functional organization based on task and processes grouping (Ian, Richard and David, 2017). When companies develop their business process it will relate with the management information systems development (Kenneth and Jane, 2014). The management systems provide the mechanism of communication, decision making and control that allow companies to solve the problems.

Change Organization Design

When company extended their business scope then they must concern to the organization transition processes. These organizational development transitions can include changes in the organization systems, business process and organization structure, as well as changes to what the company actually does (Flamholtz and Yvonne, 2012). The critical challenge is for companies to design organization structures and systems that match the particular circumstances of their own business situations. The good strategic fit happen when company matching their internal resources and capabilities to external business opportunities. Organizational design is about selecting structures, systems and management styles that can best implement such strategies. Organization design is a communicate architecture for the company (Eisenmann and Wagonfeld, 2014). But it is not about the communication process, In my opinion it will include the knowledge sharing process. An organization has to be designed following the knowledge sharing process among members in organization or among functional teams.

3) Knowledge Shifting Process

Besides manage the organizational transition we have to manage the personal transition the knowledge of people in the organization when the business scope is extended. The new knowledge necessary to meet this challenge are the ability to recognize a market need and the ability to develop a product or service appropriate to satisfy that need (Thomas, Hans and Yue 2005). The company must concern to the variety of employee background and experiences, developing new skills, and adopting new mindset. The inability to make effective and appropriate personal and organizational transitions is a key underlying problem and in some cases fail to extended the extended business scope (Flamholtz and Yvonne, 2012).

Competencies and capabilities are factor in succeeded the extending business scope. When the knowledge is shifting, it will increase the employee competencies and organization capabilities. Competency is a skill and knowhow at the employee level to enhance a firm's core capabilities. Competence is a characteristic ability at the individual level that will enhance the company's performance. Competency is one factor that will create competitiveness and organizational change (Antonacopoulou and Fitzgerald, 1996). Capability is ability at the entity level (department, organization, system) to achieve the entity's objectives and long-term strategy, specifically in relation to its overall mission (Lin, et al., 2011). Capability is a characteristic in the organization that will enhance the company's performance (Huang and Lin, 2006).

4) Knowledge Based View

The successful of change business strategy is depends on how we can shift the knowledge. Knowledge-based view of the firm is a conception of the firm as an assemblage of knowledge assets where value is created by deploying this knowledge (Dorothy, Walter and Gavin, 2015). The knowledge-based view offers a revealing perspective on the existence of the firm, the determination of its boundaries and its design and management (Grant, 2010). Many organizations have jumped on the Knowledge Based View organization

bandwagon to harness the intellectual capital, especially the human capital in their organizations. Many organization leaders agree that their most competitive advantage is their brain ware or their human capital. Under the tight and fierce competition, companies were compelled to innovate to be successful even to survive in the global market (Nonaka and Takeuchi, 1995). Tranfieldetal. (2004) divided knowledge management into four steps: knowledge creation, knowledge diffusion, knowledge adoption and knowledge utilization. This knowledge steps can be applied when company has to change their business scope.

Knowledge is more and more regarded as a vital asset and the main source the competitive advantage of an organization(Christian, Franz, and Suliman, 2007). Consequently, how to turn the knowledge to support the new strategy, new business scope and new business become a major concern both of practical and academics. Knowledge shifting processes can be seen as the application of knowledge to produce new knowledge or extend old knowledge.The purpose of this research is to explore the mechanisms of knowledge shifting processes to support the extended current business scope.

Managing knowledge shifting process is not easy and has several difficulties. The heterogeneity and distribution of knowledge in companies and the balance between creating new knowledge and managing old knowledge become a challenge. The heterogeneity and distribution of knowledge in companies and the balance between knowledge exploration and exploitationbecome very interesting to become a topic research(Dorothy, Walter, and Gavin, 2015). Knowledge exploration related with the pursuit of new knowledge for supporting the extending business scope and business model and to find new products, services and processes. Knowledge exploitation related with the use of current knowledge, resources and capabilities for understanding of existing products, services and processes (Aspara.et.al, 2011).

IV. Methodology

This paper used a qualitative research method. Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in natural setting (Creswell, 1998). Beside to define the variables and factors this model tried to find the relationship among variables and factors. Qualitative research is more concerned about issues of the richness, texture, and feeling of raw data because their inductive approach emphasizes developing insights and generalizations out of the data collected. Data in qualitative research was collected from some methods: interviews, observations, documents, and audio-visual (Creswell, 1998). Besides that there are some methods and types of data for qualitative research as per table below (Yin, 2011).

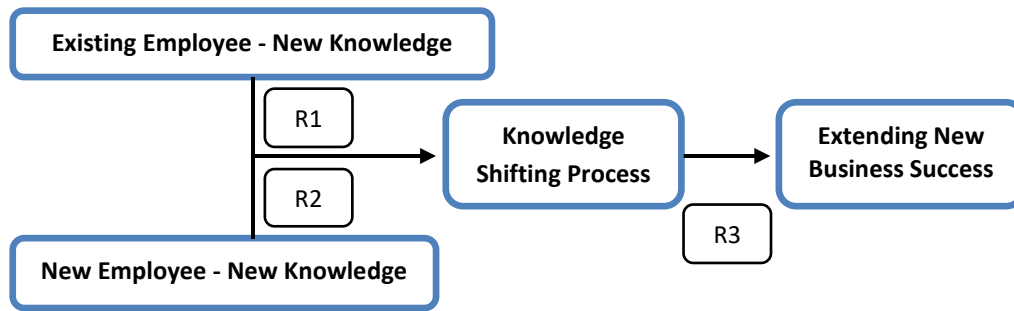
Table 1 Data Collection Methods and Types of Data for Qualitative Research

Data Collection Method	Illustrative Types of Data
Interviewing and Conversing	Language (verbal and body)
Observing	People’s gestures; social interactions; actions; scenes and the physical environment
Collecting and Examining	Contents of: personal documents, other printed materials, graphics, archival records, and physical artifacts
Feeling	Sensations

This qualitative research conducted with interviewing30 respondents in top management level and some position both structural and functional position, observe 30 respondents in top management and functional level and archival study to collect some documents and procedures. All the 3 methods used in order to increase the construct and field validity and reliability. By used triangulation a valid study can be achieved. A valid study is one that has properly collected and interpreted its data, so that the conclusions accurately reflect and represent the real world that was studied.

V. Result

From the qualitative study basically there are three relationships (R) of the study results obtained and that result become a model of knowledge shifting management in extending new business process success.



R1: Existing Employee – New Knowledge as Variables in Knowledge Shifting Process

From the results of interviews, observations and archival studies conducted. Existing employees with new knowledge will become a variable in knowledge shifting process. Knowledge shifting will occur well when existing employees in the company want to learn new knowledge. When this new knowledge can be mastered well, this knowledge shifting process will be carried out well. The Existing Employees with New Knowledge variable consists of several factors. These factors are:

1) Change Mindset

Change mindset to reduce rigid past experience should be conducted. Rigid past experience is a situation where past experience is so deeply embedded that it causes existing employees not to learn new knowledge. This rigid past experience can be a factor that will affect existing employees learning new knowledge. The lower the rigid past experience, the bigger existing employees will get new knowledge. Change mindset can reduce the rigid past experience.

2) Willingness to Learn

Willingness to learn especially for old employees is a very important factor in the process of knowledge shifting. Existing employees with work experience and knowledge in their fields today must inevitably change and learn new things when the company's vision and mission change and experience expansion. This knowledge shifting process is very much influenced by the desire and willingness of the old workers to learn new things so as to gain new knowledge

3) Collaboration

Collaboration with other parties can accelerate the process of knowledge shifting. Collaboration will be able to enhance new knowledge. This new knowledge will be able to increase the success of the process of changing the company's vision and mission. Collaboration is a factor that will make old employees master new knowledge.

4) Age

Age is one factor where old employees want to learn new knowledge. The older you will have the higher resistance in learning new knowledge and vice versa. When getting older means getting closer to retirement age so that there is no more desire to learn new things for the old employees. Age become a factor in succeeded the old employees get new knowledge.

R2: New Employee – New Knowledge as Variables in Knowledge Shifting Process

From the results of interviews, observations and archival studies conducted. New employees with new knowledge and experience will become a variable in knowledge shifting process. Knowledge shifting will occur well when new employees in the company take a new knowledge and experience. When this new knowledge and experience can be collaborated well, this knowledge shifting process will be carried out well. The New Employees with New Knowledge variable consists of several factors. These factors are:

1) Diversified Education Background

New employees with an educational background in accordance with the new vision and mission of the company and in accordance with the new business scope will be a factor in the business expanding success of the company. Diverse educational backgrounds will also create a variety of new knowledge so that the knowledge shifting process can run well.

2) Diversified Experience

New employees with a diversified experience background in accordance with the new vision and mission of the company and in accordance with the new business scope will be a factor in the business

expanding success of the company. Diverse experience backgrounds will also create a variety of new knowledge so that the knowledge shifting process can run well.

R3: Knowledge Shifting Process Resulting Success in Extending New Business

From the results of interviews, observations and archival studies conducted. Knowledge shifting will become a variable to success in extending new business. Companies that want to change or expand their business scope must be followed by a knowledge shifting process. The company must be willing to learn new knowledge in line with the changes or expansion of its business scope. The process of learning new knowledge makes the company do the knowledge shifting process. This variable consists of several factors. These factors are:

1) Knowledge Shifting

Knowledge shifting is a factor that will influence the success of extending new business. The expanded business will run well if it is done by the employees who control the new business. Mastery of the new business model is strongly influenced by the knowledge and experience of the employees who run it. Employees must master new knowledge in accordance with the new business model so that a process for knowledge shifting is needed.

2) New Vision and Mission

Business expansion always begins with changes or expansion of vision and mission. The new vision and mission will be the basis and give direction to the company where they will move. The new vision will be the basis of why this new business is present and the new mission will give direction to where the company will run its new business.

3) New Strategy

Changes or expansion of the vision and mission will be followed by an expansion or definition of strategy in achieving the vision and mission. When the organization expands its business scope, strategy will also follow the scope of the new business.

4) New Business Process and Organization Design

When there is an expansion or a change in the vision and mission as well as the business strategy that is prepared, it will result in changes or expansion of the existing business processes and organizational forms. New business process and organization design must be made to support the expansion of the business scope so that it can be successfully implemented.

VI. Conclusion

This section discusses the contributions of the study, its theoretical and managerial implications, the limitations of this research and future research directions.

Contributions of the Study

Based on a qualitative study and a review of literature, a comprehensive model for knowledge shifting when a company especially energy company extended their business scope was developed in this study. The study showed that in extending the business scope the company has to be managed the knowledge shifting process. The knowledge shifting process it's self will be success when existing and new employees have the new knowledge. The more challenge is in managing the existing employees with the existing knowledge which is different with the current business scope.

Theoretical and Managerial Implications

The review of the literature and a qualitative study revealed the need to discuss and investigate the knowledge shifting when company extended their business scope especially in energy companies when regulation and environment issues become the drivers.

- 1) Extending the business scope affected by the knowledge shifting process. When company extended their business scope began with change their vision and mission, change their business strategy and then change their business process and organization design, they must shift their knowledge to support that process.
- 2) When companies want to shift their knowledge they have to manage the existing employees with current knowledge and new employees with the new knowledge. The more challenge is in managing the existing employees with the current knowledge comparing with the new employees with the new knowledge because of the organizational inertia. Organizational inertia is the tendency of a mature organization to continue on its current trajectory.
- 3) When managing the existing employees hopefully they will have new knowledge the factors consist of change mindset, willingness to learn, collaboration and age.
- 4) When managing the new employees we can hire new employees with new knowledge and we can choose new employees with diversified educational background and diversified experiences matching the extended business scope.

From a managerial perspective, the model for shifting knowledge process provides a framework for maximizing the success in extending the business scope.

Limitations of the Research

This research exhibits a number of limitations because the model incorporated the knowledge shifting process from the knowledge based view perspectives and focused solely on companies in the energy sector. In addition, the model is based on research in energy companies in developing country; thus, future research should be conducted with other companies beyond the energy companies and also in the developed country.

Future Research Directions

Future research using this framework should be performed to increase and accelerate process in extending the business scope not only in energy sector industries but also the other sectors. Future research may also incorporate others companies in developed country in addition to the energy sector companies in developing country.

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