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Shift Knowledge in Energy Transition Era

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Abstract

This study proposes a strategy for managing knowledge shifting processes when a company's vision and mission evolve in tandem with the expansion of its strategy, business processes, and organizational architecture in response to environmental challenges and legislation. This paper is based on a case study of Pertamina, an Indonesia energy company. This paper used survey-based quantitative research. The findings revealed that companies must transfer their knowledge in order to successfully expand their business reach. The process of knowledge transfer will contribute to the success of the new business. Information shifting procedures can be accomplished by developing new knowledge that differs from existing business knowledge. Managing existing employees with new knowledge and managing new employees with new information are the two components of the knowledge transfer process. The elements of shift mentality, willingness to learn, teamwork, and age have a role in guiding existing employees to acquire new skills. In managing the new employee, the organization is able to hire new employees with new knowledge and select new employees with diverse educational backgrounds and experiences that match the expanded business scope. This research examined the process of knowledge transfer via the lens of Knowledge-Based View (KBV) theory.

Keywords: Knowledge Shifting Process, Knowledge Based View, Strategy, Bussines Knowledge, Energy Sector Company.

1. Introduction

The current moment will be remembered as one of the most challenging, unexpected, and promising in the petroleum industry's history [1]. However, price volatility is not the primary source of excitement and anxiety [2]. The recognition that tectonic upheavals in global economies, technologies, environmental factors, and consumers are altering the global energy map [3]. The trend on the energy map is shifting from fossil fuels to new and renewable energy due to environmental concerns and restrictions [4]. In comparison to the current energy source, people have a greater awareness of environmental concerns and a desire for clean energy [5]. Even if governmental or regulatory risks are one of the most significant impediments to renewable energy investment in developed countries new and renewable energy should be developed as a future energy source [6].

New forces are transforming the structure, organization, and markets of the energy industry, propelling it toward a future that will be substantially different from its past [7]. Not only in industrialized nations, but also in emerging nations, many oil and gas companies prioritize environmental concerns and laws while providing energy [8]. The green and renewable energy sources constitute the policy's first pillar [9]. Since green and clean energy sources have become the foundation, some oil and gas companies are transitioning from the oil and gas business to the energy business by modifying or expanding their business scope [10]. Some of them alter their vision and mission to the extent that they rebrand their companies [11]. When a corporation expanded its commercial scope, the competency and capability of its personnel became crucial to manage [12]. Collaboration in innovation initiatives or activities can serve to improve the knowledge management process [13]. Danish Oil and Gas Company is changing its name to Orsted as it transitions from the oil and gas sector to the energy business [14]. The Norwegian oil firm Statoil has officially changed its name to Equinor [15]. The new brand will attract young professionals who are likely to be more interested in the company's future in renewable energy than its heritage in fossil fuels [16].

Pertamina is a state-owned oil and gas company that is making a change to the energy sector, which includes oil, gas, and new and renewable energy [17]. Pertamina should change what they know in order to do well in the market for new and renewable energy [18]. The process of sharing knowledge should be a key part of the new business world. This research covers both the theoretical and practical aspects of its objective [19]. In the theoretical realm, this study has multiple objectives: Deploy a new conceptual model in the knowledge shifting process when a company's vision or mission changes [20]. Broaden the theoretical perspective of the knowledge base view theory, focusing on the knowledge shifting process.

2. Research Method

The purpose of this literature review is to construct a model for a company's knowledge shifting process when its business scope changes. The literature review of this work adopts the Knowledge-Based View (KBV) paradigm. The KBV serves as the theoretical paradigm for this investigation.

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This paper proposed a model and hypotheses as follows the Existing Employee with New Knowledge Factor Effect on The Knowledge Shifting Process. The existing employee with new knowledge becomes a point to consider in the knowledge shifting process in the energy transition process. This paper proposes the following hypothesis. H1: Existing employee with new knowledge factor positively influences the knowledge shifting process in the energy transition process.

Quantitative methodologies are employed in order to answer the research questions. Quantitative research tries to examine the validity of the study model, the relevance of the correlations among variables and factors, and the hypotheses (Saunders and Lewis, 2012). The test survey is administered to 332 respondents from a variety of Pertamina departments, including business development, business initiatives, subsidiary management, channel management, commercial management, and technology development management, among others. The obtained data is analyzed using version 3 of Partial Least Squares Structural Equation Modeling (PLS-SEM) and two phases of analytic techniques.

3. Result and Discussion

We analysis the data from 332 respondents with the results as follow our Result of the Measurement Model on Table 1.

Table 1. Result of the Measurement Model

Latent Variable	Indicators	Loadings	Composite Reliability	AVE	Discriminant Validity
Existing Employee – New Knowledge	Change Mindset	0.643	0.843	0.574	0.758
	Willingness to Learn	0.772			
	Collaboration	0.783			
	Age	0.821			
New Employee – New Knowledge	Diversified Education Background	0.869	0.882	0.892	0.845
	Diversified Experience	0.858			
Knowledge Shifting Process	New Knowledge	0.945	0.943	0.714	0.945
	New Experience	0.944			
Extending New Business Success	New Vision and Mission	0.780	0.658	0.745	0.863
	New Strategy	0.890			
	New Business Process and Organization Design	0.861			

In Table 1 it is clear the results of the Result of the Measurement Mode. Furthermore, the Results of the Structural Model are presented in table 2.

Table 2. Results of the Structural Model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t values	p Values	Significance Levels
E → K	0.490	0.487	0.065	7.517	0.000	Significant
N → K	0.670	0.668	0.047	14.220	0.000	Significant
K → S	0.234	0.235	0.065	3.606	0.000	Significant

In Table 2 Results of the Structural Model which clearly shows the results processed and then the Results of R2 Value are presented in Table 3.

Table 3. Results of R2 Value

Endogenous Latent Variables	R^2 Value	R^2 Adjusted	Description
Extending New Business Success	0.449	0.448	Moderate
Knowledge Shifting Process	0.452	0.448	Moderate

In Table 3 Results of R2 Value on Moderate. Knowledge Shifting Process R Value 0.452 and Extending New Business Success 0.449. Next, the frame of mind will be shown in Figure 1.

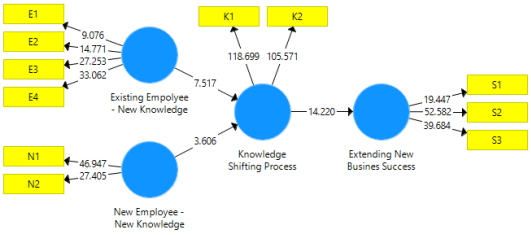

Figure 1. Thinking Framework

On Figure 1 Thinking Framework From the data, the relationships between existing employee with new knowledge and knowledge shifting process showed that the t value is 7.517, which is greater than 1.96, and the p value is 0.000, which is below 0.05; thus, hypothesis 1 (H1) is supported. This process of knowledge transfer is heavily influenced by the desire andwillingness of older workers to learn new skills and acquire new information. This new information will enhance the success of the process of transforming the vision and mission of the firm. Collaboration is an element that will enable veteran personnel to acquire fresh information. Existing employees' ability to acquire new knowledge may be hindered by their inflexible prior experience. The less rigorous the past experience, the more existing employees will acquire new information. Changing one's perspective helps lessen the rigidity of the past.

From the data in Figure 1, the relationships between the new employee with new knowledge factor effect on the knowledge shifting process showed that the t value is 14.220, which is greater than 1.96, and the p value is 0.000, which is below 0.05, so hypothesis 2 (H2) is supported. In order for the process of knowledge transfer to be effective, new employees with various educational backgrounds will generate a wide range of new information. Additionally, various experience backgrounds will provide a diversity of fresh information so that the process of knowledge transfer can function smoothly. The quality of new information created is also impacted by the cohesiveness of all new personnel.

From the data in Figure 1, the relationships between the knowledge shifting process factor mediating the

effect of the extending new business success showed a t value of 3.606, which is greater than 1.96, and a p value of 0.000, which is below 0.05, so hypothesis 3 (H3) is supported. Particularly in the oil and gas industry, some companies have expanded their business scope to include the energy industry. As a result, they must modify and adapt their knowledge in order to successfully expand their firm.

4. Conclusion

Existing employees with new knowledge and new employees with new information have a good effect on the knowledge shifting process in the energy transition process. Complementary employees also play an important role in the creation of new knowledge. The greater the level of intangible staff complementarity, the greater the level of knowledge generated. In order to improve the quality of knowledge generation, knowledge variables should have been analyzed and debated at both the organizational and individual levels. Individual-level knowledge will have an effect on the organizational-level knowledge variable. In addition to new knowledge, new experiences pertain to how well an employee acquires knowledge and expertise based on actions done, as well as how this knowledge and expertise is applied to the next project. Pertamina used the experience of a possible employee based on its previous work when selecting an employee. The exchange of experiences can improve the caliber of innovative endeavors. In conclusion, experience is a factor for evaluating new knowledge in order to facilitate the moving of knowledge. When a business expands its scope of operations, it must consider organization transfer processes. These organizational development transitions may involve modifications to the organization's systems, business processes, and organizational structure, as well as modifications to the business's operations. It is typical for them to have to adapt their business. There are new bases of rivalry, the redefinition of entire industries, and the constant reestablishment of creative techniques by the world's leading corporations. When they modify their vision and mission, they will alter their business model. Changes will be made to their strategy, business processes, and organizational structure. The primary difficulty for businesses is to build organizational structures and processes that correspond to their particular business circumstances. When a corporation matches its internal resources and competencies to external commercial prospects, there is a good strategic fit. Organizational design involves selecting structures, methods, and management styles that can implement strategies most effectively. Organization design is a company's communication architecture. However, it is not about the communication process; rather, it will cover the process of exchanging knowledge. An organization must be designed according to the process of information exchange among its members or functional teams.

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