



## Generating Employee Competitive Advantage in the Port and Maritime Industry: Knowledge Management and Learning Organization Role

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### **Abstract**

Human resources are one of the essential factors in creating a competitive advantage. Through HR strategies, companies can maintain and develop intellectual capital through knowledge management and make a learning organization increase its competitive advantage. The objective of this research was to determine the effect of knowledge management and learning organization on the employee's competitive advantage. This study uses a quantitative approach, data collection using questionnaires, and SEM-PLS data analysis. This research was conducted at P.T. Pelindo I (Persero) with a sample of 197 employees through the purposive sampling technique. The results of this study indicate that (1) there is a significant positive direct effect of the knowledge management on the employee competitive advantage; (2) there is a significant positive direct effect of the learning organization on the employee's competitive advantage; and (3) there is a significant positive direct effect of the knowledge management on the learning organization. The research findings confirm that knowledge management and organizational learning are essential factors in increasing the employee's competitive advantage, positively impacting organizational or company performance.

**Keywords:** *Employee Competitive Advantage; Learning Organization; Knowledge Management*

### **Introduction**

P.T. Pelindo I (Persero) is one of the companies under the Ministry of State-Owned Enterprises (BUMN). Primary business services of PT. Pelindo I (Persero) includes terminal operators, marine services, and logistics services. These business activities operate in four regional areas, namely North Sumatra, Nangroe Aceh Darussalam, Riau, and Riau Islands Province (Ningrum et al., 2022). The strategic environment develops rapidly and dynamically, and the business environment becomes more volatile, uncertain, complex, and ambiguous. In such a challenging business environment, human resources at various levels within the organization must continuously change and improve their capabilities under the demands of the changes. Theoretically, the success of an organization in facing

competition is determined by how far the organization has a competitive advantage (Setiawan et al., 2021). McShane and Glinow (2018) stated that if a business has a fundamental law, the competitive advantage is the law.

Research conducted by Ceglinski (2017) explains that the concept of competitive advantage is generally used to analyze the average results of companies in a competitive market (Aningsih et al., 2022). However, recent changes in the organizational environment make competitive advantage more complex, and the relationship between the sources of advantage and the results of activities is increasingly invisible (in evident) (Sari et al., 2022). To achieve a competitive advantage, the right strategy is needed. This means that human resources that can create advantages are needed to win the competition (Azmy et al., 2022).

In practice, many organizations face problems in achieving a competitive advantage. The causal factors can be traced to internal factors or the management of intangible resources such as ideas, innovations, expertise, skills, trust, reputation, good name, ability to collaborate with others, and perceptions of product quality (Sinyanyuri et al., 2022). For these internal factors to contribute to the company's performance or output, they need to be directed and managed correctly (Auliaty et al., 2021). So it is for this reason, knowledge management and learning organization factors are significant factors (Sudrajat, Soleh, et al., 2021). This is supported by various studies on the ability of companies to manage knowledge (Davila et al., 2019; Apenko & Romanenko, 2019; Abbas et al., 2020; Shaher & Ali, 2020) and their success in making companies a learning organization (Khunsoonthornkit & Panjakajornsak, 2018). These two factors are critical in creating a conducive work environment and organizational culture to the emergence of ideas, innovation, and creativity, resulting in employee and company competitive advantages (Wahyudiana et al., 2021).

Companies will not have an all-time advantage because competitors are not only from existing competitors, but the presence of new competitors who bring new value ideas, offer better prices, product specifications, and services, and so on (Irawan & Iasha, 2021). Improving the competitiveness of companies has become a challenge that business managers in various industries must face (Sudrajat, Meiliana Lovienica, et al., 2021). Companies or organizations with people inside will continue to expand their capacity to create the results they want. New and broad thinking patterns continue to be fostered, where collective aspirations are liberated, people continue to learn together (Senge, 1990). In an economic climate, one particular thing is uncertainty, so it is a matter of importance for knowledge is the only source of lasting competitive advantage. Knowledge is one of the most critical assets of an organization to create value and is therefore needed for a sustainable competitive advantage (Nonaka, 1998).

The role of human resource management is very crucial in achieving a competitive advantage. Human resources in the context of human capital are physically present and present in the organization by bringing skills, knowledge, and attitudes (Nurjanah et al., 2021). The skills to manage the various knowledge of employees is known as knowledge management (Setiawan et al., 2020). Successful knowledge management is essential because it transforms tacit knowledge internalized into explicit codified knowledge (systematic or technical) to be shared and for individuals and groups to internalize and codify personally meaningful knowledge (Nonaka & Takeuchi, 1995a). The company's goal of implementing knowledge management is to provide or prepare the proper knowledge for its employees at the right time and in the right place or the correct position, establishing the organization as a learning organization (Pramana et al., 2020). The speed of organizational learning can be the only source of sustainable competitive advantage in the future (Senge, 1990).

Learning organizations collect data, interpret it, and enter the information obtained back into their systems to improve their processes continuously (Iasha et al., 2021). This is in line with the definition presented by Garvin (2006) that learning organizations are organizations that are skilled in creating,

acquiring, and transferring knowledge and modifying their behavior to reflect new knowledge and insights. Furthermore (Robbins, 2013) states that learning organizations are needed to develop organizational capacity on an ongoing basis to adapt and make changes. In learning organizations, employees are constantly creating, acquiring, and transferring knowledge and helping companies to adapt to unexpected situations faster than competitors (Xie, 2020). Such an organization requires a highly agile (ambidextrous) management structure to enhance its competitive advantage, innovation, and effectiveness (O'Reilly & Tushman, 2013). The goal of a learning organization is to find a reality that makes it possible to learn, accept or maintain it. When this reality is found, the learning process becomes possible so that the organization continuously expands its capacity to create maximum results (Asci et al., 2016).

The purpose of this study is to develop a theory of competitive advantage from the point of view of human resources by looking at the factors that are thought to influence it, namely knowledge management and learning organization.

## ***Literature Review***

### **Employee Competitive Advantage**

Globalization has opened up various opportunities and puts enormous pressure on building a competitive advantage. Petrakis et al. (2015) said, "Firm's competitive advantage, economic performance, and prosperity arise through interdependencies across complementary activities it includes the availability of initial resources, sharing of common technology, specific knowledge, input and output across industrial sectors" (Sharma, 2017). The dynamic business environment conditions companies that it must ensure the right source of competitive advantage. Mukhopadhyay and Kekre (2002) suggest that "competitive advantage can only be acquired by having an effective business operation and the right set of long term strategies." (Tarofder et al., 2019).

Competitive advantage can be achieved through the Resource-Based View (RBV) approach developed by Barney (1991) in his work "Firm Resources and Sustained Competitive Advantage," in which to create a sustainable competitive advantage, the company must be able to manage the unique resources and capabilities of the company into their competitive environment, namely resources that are valuable, rare, expensive or difficult to imitate (in-imitate), and then exploit these resources through their organization (organized to capture value) or VRIO. The approach was then developed by screening at the factors that shape competitive advantage in terms of resources, capabilities, and competencies to become a source of competitive advantage (Barney & Hesterly, 2010).

Grant (2010) classifies resources into three: 1) tangible resources, namely the company's financial and physical assets; 2) intangible resources, namely technology, reputation, and culture owned by the organization; and 3) human resources which include skills, knowledge, capacity for communication and collaboration, and motivation within the company. In a highly competitive modern business and rapidly changing environment, the companies will be more challenging to achieve sustainable competitive advantage. For this reason, companies are required to do two main things in building their business models, namely creating value and capturing value. In order to be able to create value and capture value, companies must have quality human resources, and these quality human resources can only be owned if the knowledge needed by the company is managed correctly, in a company environment that encourages and facilitates employees to continue learning by the demands of knowledge needed by the company. Thus, the human resource factor is the main driving force behind a sustainable competitive advantage.

### **Knowledge Management**

Knowledge management is an innovation in organizations that have been known for more than two decades. Knowledge management has become an essential factor that organizations constantly realize that a sustainable competitive advantage depends on managing their vast and diverse knowledge

assets efficiently. Knowledge management is defined as "The process of capturing, describing, organizing, and systematically sharing knowledge – making it useful, usable, adaptable and reusable" (Shaher & Ali, 2020).

Building an innovative environment requires strategies, practices, and policies related to individuals and jobs. Effective knowledge management is oriented to organizational memory, knowledge absorption, knowledge sharing, and knowledge acceptance to increase organizational competence in building new goods, services, and management structures and lead to better results. (Ullah et al., 2019).

Furthermore, knowledge management encourages the creation and sharing of knowledge to produce more innovative products. Knowledge management approaches revolve around knowledge acquisition, sharing, translation/ transformation, and dissemination (Lee & Chan, 2019). Knowledge management involves acquiring knowledge, integrating and sharing knowledge, and reconfiguring knowledge. In practice, the ability of employees to create new ideas and knowledge can increase organizational innovation and motivate employees to solve problems. (Sayyadi, 2019)

### **Learning Organization**

The term 'learning organization' is the product of two completely different developmental processes. First, the term learning organization is used for "organized learning." This developmental approach is implied in education, pedagogy, training, and learning. Other development processes apply to organizations where learning takes place. (Anjaria, 2020) Building a learning organization should be a strategy for a development organization and should be the leader's responsibility; it is not an option. The leader is the one who must take the first action to support the learning organization. In learning organizations, individuals who cannot improve the quality of their services either through formal, informal, or non-formal learning will not contribute to organizational excellence (Ishak, 2020).

Learning organizations have become the organizational "panacea" in the twenty-first century. Learning organizations are organizations that encourage continuous learning and continually adapt to a changing environment. A learning organization is defined as an organization that demonstrates adaptability, learns from mistakes, explores situations for development, and optimizes the contribution of its personnel (Gagnon et al., 2015). Learning organizations contain activities that foster learning at the individual or organizational level. Learning organizations have three fundamental elements: a supportive learning environment, a concrete learning process and practices, and leadership that reinforces learning (Garvin et al., 2008). This creates continuous learning (Hosseini & Haghghi Shirazi, 2021). Thus, a learning organization is a place where employees excel in creating, acquiring, and transferring knowledge to learn continuously and change themselves.

### **Research Method**

The method used in this study is a quantitative approach and analytical techniques using the SEM-PLS approach. Hypothesis testing uses two-stage factor analysis: first-order confirmatory factor analysis and second-order confirmatory factor analysis. This study involves one independent variable, namely knowledge management, one intervening variable, namely learning organization, and one dependent variable, namely employee's competitive advantage.

This research was conducted at PT Pelindo I (Persero) with a sample of 197 employees selected through purposive sampling technique, namely employees who occupy positions at the level of the board of directors-1 (BOD-1) to BOD-4, with a minimum service period of 2 years. The research instrument was adopted from the opinion of Barney & Hesterley (2010), Pesic, Milic & Stankovic (2013), Devenport et al. (1998), Gold et al. (2001), and Garvin et al. (2008).

## Result

### First Order Confirmatory Factor Analysis

The first-order analysis is intended to test whether the indicators can confirm the research construct or variable. The first-order analysis is done by summarizing the information in the initial (original) variables into a new set of factors or dimensions through data reduction or elimination of indicators with a loading factor value  $< 0.7$ . The results can be seen in Table 1 below.

**Tabel 1.** Loading Factor

Knowledge Management		Learning Organization		Employee Competitive Advantage	
MP1	0.840	OP1	0.879	KK1	0.919
MP2	0.882	OP2	0.790	KK2	0.882
MP3	0.865	OP3	0.838	KK3	0.904
MP4	0.876				

From Table 1, it can be seen that all the selected indicators have a loading factor  $> 0.7$ . From the data analysis, we found that all selected indicators had Cronbach's alpha values  $> 0.7$  and composite reliability  $> 0.6$ , meaning that the reliability of the indicator blocks had met the requirements, as well as the average variance extracted (AVE) value  $> 0.5$ , meaning convergent validity have qualified.

### Second-Order Confirmatory Factor Analysis

The second-order analysis is intended to find out to what extent each variable can be explained by its dimensions. Using first-order data, algorithm analysis was carried out to see convergent validity, discriminant validity, and composite reliability with the following results.

**Tabel 2.** Construct Reliability and Validity

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Knowledge Management	0.889	0.923	0.750
Learning Organization	0.785	0.875	0.700
Employee Competitive Advantage	0.885	0.946	0.814

From Table 2, it can be seen that all research variables have a value of Cronbach's alpha  $> 0.7$  and composite reliability  $> 0.6$ , meaning that the reliability is very good (very reliable). Likewise, the AVE value  $> 0.5$  means that convergent validity has met the requirements. The results of the Fornell-Larcker calculation also  $> 0.7$  means that discriminant validity has met the requirements. From these results, it can be concluded that the construct has good reliability test results or the questionnaire used is reliable or consistent.

After all the requirements are met, bootstrapping is done to test the research hypothesis with the following results.

**Tabel 3.** Path Coeficient

	Sample Mean	Standard Deviation	T Statistics (O/STDEV)	P- Values
Knowledge Management → Employee Competitive Advantage	0.419	0.080	5.239	0.000
Learning Organization → Employee Competitive Advantage	0.263	0,075	3,498	0.001
Knowledge Management → Learning Organization	0.602	0,059	10,164	0.000

From Table 3 it can be interpreted as follows: (1) knowledge management ( $X_1$ ) has a direct positive effect on employee's competitive advantage ( $Y$ ), indicated by the path coefficient  $p_{y1}$  is 0.419 with t-statistics of  $5.24 > 1.96$ , and a p-value of  $0.000 \geq 0.000$ , then  $H_0$  rejected. The results of testing this hypothesis show a positive direct effect of knowledge management ( $X_1$ ) on employees' competitive advantage ( $Y$ ). (2) learning organization ( $X_2$ ) has a direct positive effect on competitive advantage ( $Y$ ), indicated by the path coefficient  $p_{y2}$  is 0.263 with t- statistics of  $3.498 > 1.96$ , and p-value of  $0.001 \geq 0.000$ , then  $H_0$  rejected. The results of testing this hypothesis show a direct positive effect of learning organizations ( $X_2$ ) on employees' competitive advantage ( $Y$ ). (3) knowledge management ( $X_1$ ) has a direct positive effect on learning organizations ( $X_2$ ), indicated by the path coefficient  $p_{12}$  is 0.602 with t-statistics of  $10.16 > 1.96$ , and p-value of  $0.000 \geq 0.000$ , then  $H_0$  rejected. The results of testing this hypothesis show a positive direct effect of knowledge management ( $X_1$ ) on learning organizations ( $X_2$ ).

## Discussion

### Direct Effect of Knowledge Management on Employee Competitive Advantage

The results of empirical data analysis obtained the original sample value, or path coefficient is 0.419 and t- statistics is  $5.24 > 1.96$ ; thus, the hypothesis proposed in this study was proven ( $H_0$  rejected). This shows that good knowledge management will increase the employee's competitive advantage.

Competitive advantage results from the company's resources and capabilities with the characteristics of value, scarcity, difficulty to imitate, and substitute. Research conducted by Kusuma and Devie (2013) concluded that the application of good knowledge management would be able to improve the company's performance, both financial performance, and operational performance; in other words, the application of knowledge management in a good company will be able to increase the employee's competitive advantage and finally increase company's competitive advantage. Thus, it can be said that knowledge management has a significant influence on competitive advantage.

This is consistent with the research results that knowledge management strategies are the primary vehicle for organizations to achieve their goals, compete, and perform well (Zaied, 2012). Companies that effectively acquire knowledge will create and maintain a competitive advantage in a knowledge-based economy (Khan, 2012). While Mahdi, Nassar, and Almsafir (2019) say that to achieve a better sustainable competitive advantage, organizations must generate knowledge, store knowledge, share knowledge and apply knowledge supported by identifying knowledge and formulating goals in all aspects of the



organization. This underlines the importance that knowledge management application is necessary to realize the competitive advantage of employees and companies.

### **Direct Effect of Learning Organization on Employee Competitive Advantage**

The results of empirical data analysis, the hypothesis proposed in this study is proven ( $H_0$  rejected), indicated by the original sample value or path coefficient is 0.263 and t-statistics is  $3.498 > 1.96$ . This explains that various changes in learning organizations will affect the employee's competitive advantage.

A study conducted by Kadhim, Mohammed, and Gremikh (2018) found that organizational learning and empowerment strategies contribute to competitive advantage. The study results also show that organizational learning acts as a bridge between empowerment strategy and learning organization. Learning organizations provide knowledge to companies and assist companies in developing and integrating resources to realize a sustainable competitive advantage.

Ince et al. (2015) said that learning is an important and essential resource for organizations to gain a sustainable competitive advantage. At the same time, Liao et al. (2017), who investigated the relationship between organizational learning and competitive advantage, found that the practice of collaborative culture directly or indirectly produces a significant effect on competitive advantage through improving aspects of organizational learning. Organizational readiness to face change can stimulate the development of innovations and processes to generate employees and competitive advantages. Thus, in a learning organization, employees have a place and opportunity to increase their competitive advantage to realize the company's competitive advantage.

### **Direct Effect of Knowledge Management on Learning Organization**

The results of empirical data analysis prove that knowledge management has a positive effect on learning organizations, indicated by the original sample value or path coefficient is 0.602, and t-statistics is  $10.16 > 1.96$ , which means that the hypothesis proposed in this study is proven ( $H_0$  rejected). These results indicate that good knowledge management will improve learning organization.

The results of this study are in line with Singh & Sharma (2011), who say that knowledge management affects the occurrence of learning organizations. Knowledge management can develop in learning organizations (Jain & Moreno, 2015). The results of Perdana's research (2014) confirm the relationship that knowledge management is a former part of learning organizations. In other words, knowledge management is the cause of the realization of learning organizations.

Knowledge is an essential resource for an organization and serves as a fundamental source of competitive advantage (Alsabbagh and Al Khalil, 2017). Gunawan (2011) says that knowledge management has a strong and positive influence on learning organizations, which means that the greater the knowledge management in an organization, the greater the learning organization in the organization. Empirically found that the application of knowledge management will positively impact organizational innovation when organizations make learning organizations part of their strategic plans.

### **Indirect Effect of Knowledge Management on Employee Competitive Advantage through Learning Organization**

Data analysis on the indirect relationship between knowledge management and employees' competitive advantage through learning organizations shows that the original sample value or path coefficient is 0.158, t-statistics are  $3.309 > 1.96$ , and the p-value is  $0.001 \geq 0.000$ . Thus,  $H_0$  was rejected, which means a significant indirect influence of knowledge management on the employee's competitive advantage through learning organizations.

Liao and Wu (2009) stated that knowledge management is an antecedent of organizational learning, and more knowledge management abilities will lead to more organizational learning abilities. Meanwhile, Kusuma (2013) said that knowledge management is the last part of organizational learning; in other words, it can be said that knowledge management is the cause of organizational learning. On the other hand, organizations that continue to learn and develop will have competitiveness in several priority activities and obtain the best company performance (Kamya et al., 2011). Learning organizations will increase competitive advantage (Makabila et al. 2017). Thus, statistical tests can prove the role of learning organizations as a partial mediation variable between knowledge management and employees' competitive advantage.

### **Conclusion**

From the results of data analysis (statistical tests), it is shown that: (1) knowledge management has a significant positive direct effect on employees competitive advantage; (2) learning organization has a significant positive direct effect on employees competitive advantage, (3) knowledge management has a significant positive direct effect on learning organization, and (4) learning organization acts as an intervening variable the influence of knowledge management on employees competitive advantage. Thus, in this study, it is proven that knowledge management and learning organization are important factors to increase the employee's competitive advantage, which will positively impact the company's competitive advantage.

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