



# The Impact of Knowledge Sharing on Knowledge Management Implementation in Improving Employee Performance (A Case Study at the Maintenance 3 Department of PT Petrokimia Gresik)

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**Abstract.** PT Petrokimia Gresik is a complete fertilizer factory in Indonesia, which is also one of the subsidiaries of PT Pupuk Indonesia (Persero). To meet fertilizer needs in order to maintain national food security, in its development Petrokimia Gresik has developed new products by increasing production capacity through the expansion of new plants, innovating with superior products in the form of compound fertilizers, phosphate-based fertilizers, non-fertilizer products, and innovating with organic products, biological, rice seeds, probiotics, and other agricultural products. For Petrokima Gresik, especially in the Maintenance Department, organizational knowledge is an essential requirement to maintain the sustainability of the plant's production. This research is limited to the maintenance department because it is directly related to the performance of the plant's production. The Maintenance Department has its uniqueness. One of them is that the maintenance staffs need to be on standby if there are any failures at the plants and have to solve problems as soon as possible. Technical maintenance of plant equipment and a different working environment culture causes employees working in the Maintenance Department to have competencies and knowledge about equipment troubleshooting and decision-making compared to other departments. This research is limited to the Maintenance 3 Department at PT Petrokimia Gresik, as well as to find out how effective knowledge sharing is on employee performance. This research aims to assist management in formulating policies to maintain and even increase productivity, even though there has been a reduction in experienced employees due to retirement through a planned and measurable knowledge management system. The conclusion suggests that tacit knowledge has a favorable and significant effect on worker performance, just as explicit knowledge and tacit knowledge each have a favorable and significant effect on knowledge sharing.

**Keywords:** Knowledge sharing · Knowledge Management · Employee Performance

## 1 Introduction

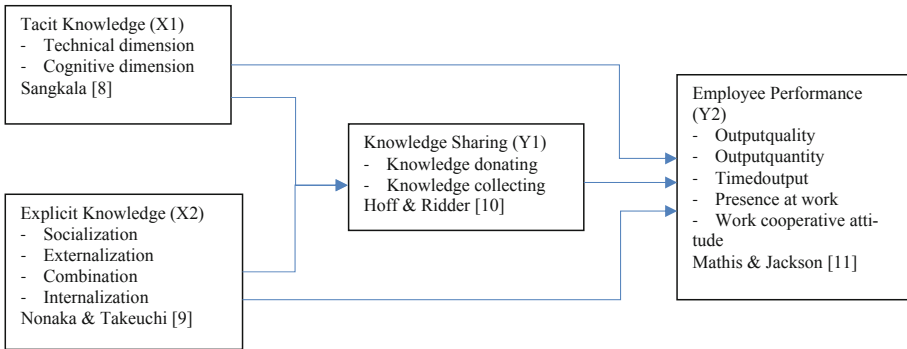
The development of quality Human Resources (HR) is significant. One aspect of HR development that must be considered is employees' knowledge about their work. Knowledge Management can improve employee HR performance. Kosasih and Budiani's [1] research revealed that Knowledge Management indirectly affects employee performance. This research demonstrated a critical impact between individual information on work procedures, and the foremost prevailing figure influencing worker execution is innovation. With the usage of excellent information sharing within the company, it is trusted that other workers will be able to memorize and apply it to align with company objectives.

In PT Petrokima Gresik, especially in the Maintenance 3 Department, organizational knowledge is an essential requirement to maintain the sustainability of the plant's operation. This research is limited to the maintenance department because it is directly related to the performance of the plant's production. The Maintenance Department has its uniqueness. One of them is that the maintenance staff needs to be on standby if there are any failures at the plants and have to solve problems as soon as possible. Technical maintenance of plant equipment and a different working environment culture causes employees working in the Maintenance Department to have competencies and knowledge about equipment troubleshooting and decision-making compared to other departments. Meanwhile, PT Petrokima Gresik's Maintenance 3 Department saw a massive decline in staff members as a result of the retirement of senior workers. This has more or less affected the loss of organizational knowledge, which has the potential to disrupt the performance of the Maintenance 3 Department and have a direct impact on the achievement of the plant's production performance in the following years. The age gap between young and senior employees needs to be addressed in knowledge transfer.

The ability to share knowledge is influenced by two elements, according to Noor and Salim [2]. The first is a technical component (technology) and non-technical factors (including individual factors, organizational culture, and organizational structure). Education, professional experience, and position within the business all impact the two characteristics mentioned above.

Therefore, effective knowledge management becomes essential to maintain the company's sustainability based on the aging workforce phenomenon. Based on the author's observations, every employee in the Maintenance Department has the same opportunity to get basic training on equipment and plant processes, as well as gain functional skills based on experience and discussions with peers. The higher the working experience gained, the higher the added value to the expertise, so knowledge management activities play a critical role.

This research is limited to the Maintenance 3 Department to determine how effective knowledge sharing is on employee performance. This research aims to assist management in formulating policies to maintain and even increase productivity, even though there has been a reduction in experienced employees due to retirement through a planned and measurable knowledge management system.



**Fig. 1.** Research Framework

## 2 Literature Review

Knowledge is a basic need for companies to proceed with the outlive and compete in the market. Each movement inside the company will be based on existing knowledge within the company so that its capacity to manage its knowledge and deliver quality knowledge can be a strong pillar for the company to outlive and compete. There are two types of knowledge, namely tacit knowledge (information stored in the human brain) and explicit knowledge (information contained in documents or other storage places) [3].

Knowledge Management is a process carried out by an organization that aims to explore and bring out the value of intellectual assets and knowledge owned by the company so that it becomes an added value for the company to increase competitiveness.

Tobing [4] defined knowledge sharing as a systematic process of transmitting, disseminating, and exchanging knowledge in a multidimensional setting amongst people or organizations using various techniques or media. The organization has a vital role in focusing on knowledge sharing for its employees because knowledge may be distributed, implemented, and increased through adopting knowledge sharing.

Employee performance is essential in various aspects of a company, such as increasing employee productivity and company productivity. Rivai [5] explained that a corporation utilizes performance evaluation or performance appraisal as well as performance rating, performance assessment, employee evaluation, merit rating, efficiency rating, and service rating to evaluate employee performance.

According to Wening [6], increasing knowledge-sharing activities will have an impact on improving individual performance. Aulia [7] made a similar claim, revealing a link between information sharing and improved employee performance. Furthermore, the performance of employees is significantly influenced by knowledge sharing (Fig. 1).

## 3 Research Methodology

### 3.1 Quantitative Method

The study applied quantitative survey research because the researcher asked the respondents questions through a questionnaire. The data collection methods used are, first, the author employed a survey method with instruments in the form of questionnaires to

gather primary research data. Second, literature study from books, journals, and previous research. Third, Data processing, the information obtained from the questionnaire was then processed using IBM SPSS Statistics 26 to produce output to meet the objectives of this study. Hypothesis testing in this study used simple regression analysis and R square test.

### 3.2 Data Analysis Technique

The questionnaire is valid if the questions reveal something that will be measured. This study measures the validity test using the Pearson correlation method with SPSS software, which is the correlation between item scores and total scores. The technique for measuring the validity of the questionnaire is to calculate the relationship between information in each articulation and the entire score.

A questionnaire is reliable if the questions in it can be answered stably or consistently by the respondents. The author used SPSS software because it can facilitate reliability testing with Cronbach's Alpha test, so a questionnaire can be said to be of good reliability if Cronbach's Alpha  $> 0.8$ .

Limitations in this study include the scope of the research being limited to the Knowledge Management competence of the Maintenance department at PT Petrokimia Gresik, which is used as a sample for research analysis.

## 4 Data Analysis and Results

The two variables used in this research were knowledge sharing (Y1), which was affected by tacit knowledge (X1) and explicit knowledge (X2), employee performance (Y2), which was affected by tacit knowledge (X1) and explicit knowledge (X2), and knowledge sharing (Y1).

The knowledge-sharing variable's adjusted R-square value is 0.773, while the value for the employee performance variable is 0.721, as seen in Table 1.

These findings suggest that the tacit knowledge variable can affect 72.1% of the knowledge-sharing variable (Y1) (X1). The tacit knowledge variable (X1), explicit knowledge (X2), and knowledge sharing all have an impact on explicit knowledge (X2), which makes up 72.1% of the employee performance variable (Y2) (Y1).

Additionally, tacit knowledge, explicit knowledge, and knowledge sharing all have a positive and substantial impact on knowledge sharing, which in turn has a positive and significant impact on knowledge sharing and employee performance.

**Table 1.** Adjusted R Square Values

Adjusted R Square			
Variable	R-Square	F-Statistic	P-Value
Knowledge-sharing	0.773	8.150	0
Employee performance	0.721	9.235	0

**Table 2.** The Results of the Hypothesis Testing

<b>Hypothesis Test</b>				
	Original Sample	Sample Mean	T-Statistics (IO/STDEVI)	P-Value
Tacit knowledge on knowledge sharing	0.371	0.394	2.790	0.006
Explicit knowledge on knowledge sharing	0.542	0.525	3.320	0.001
Tacit knowledge on employee performance	0.348	0.363	1.970	0.048
Explicit knowledge on employee performance	0.218	0.236	0.821	0.417
Knowledge sharing on employee performance	0.362	0.343	1.625	0.106

Table 2 shows that tacit knowledge has a positive effect on knowledge sharing with a value of 0.371, explicit knowledge has a positive value of 0.542, tacit knowledge has a positive value of 0.348, explicit knowledge has a positive value of 0.218, and knowledge sharing has a positive value of 0.362 on employee performance. It can be concluded that the effect of tacit knowledge on employee performance has a more significant influence than the effect of explicit knowledge on employee performance since the effect of tacit knowledge on employee performance is 0.363 while the effect of explicit knowledge on employee performance is 0.236.

The T-Statistics value indicates that the two variables, explicit knowledge, and knowledge sharing, have T-Statistics values  $< 1.96$  and P-Values  $> 0.05$ . As a result, concluding the relationship between explicit knowledge, knowledge sharing, and employee performance is difficult.

In contrast, the three other variables, tacit knowledge, explicit knowledge of knowledge-sharing, and employee performance, each have a t-Statistics value  $> 1.96$  and a P-Value  $< 0.05$ . This implies that tacit knowledge has a positive and significant impact on employee performance, just as explicit knowledge and tacit knowledge both positively and significantly impact knowledge sharing.

## 5 Conclusion

This study is anticipated to serve as a resource or add to existing knowledge in the Maintenance Department of PT Petrokimia Gresik regarding human resources, particularly related to the impact of knowledge management, either directly on employee performance or indirectly through knowledge sharing. The study's findings show how vital knowledge management (implicit and explicit) is in improving employee performance.

The results of this study can be used by the management of PT Petrokimia Gresik's Maintenance Department to enhance worker productivity and knowledge exchange.

The study's results show that implicit and explicit knowledge management considerably impacts employee performance.

Therefore, by encouraging continuous knowledge sharing within the workplace, good knowledge management can improve employee performance.

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