

# Technology Acceptance Model in a Performance Management System

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**Abstract**— PT NK is a State-Owned Enterprise Company (BUMN) that engages in the General Contractor sector. PT NK has over 500 employees across Work/Business Units. The Human Capital Department at PT NK is in charge of managing employees as well as monitoring and evaluating employee performance. Employee performance has a significant impact on a company's success. Therefore, companies must be able to monitor and know what their employees are doing, as well as how their performance processes are aligned with company goals. Performance Management Systems (PMS) are systems that are used to consistently and measurably monitor employee performance. In the Human Capital Department, a PMS application currently strives to assist employees in continuing to make the best effort or performance in accomplishing company goals. This system is extremely helpful for employees to continue to provide consistent performance to meet the expected targets. From 2020, PT NK began PMS implementation up to the individual level. Based on data computations in the Human Capital Department, the average achievement of Key Performance Indicators (KPI) from the Company's eighteen Work/Business Units in 2020 was 68.90%, 85.50% in 2021, and 95.00% in 2022. As a result, for the last three years, the average KPI attainment of all divisions in PT NK has been 83.13% of the target of 100.00%. Based on the results of this data, the utilization of PMS is still not felt by the Human Capital Department. Therefore, it is required to identify from these indicators what is causing the problem of not maximizing the PMS Application.

**Keywords**— Performance Management Systems, Key Performance Indicator, Departement Human Capital, Nindya Karya, Structural Equation Model.

## INTRODUCTION

The impact of technological development is so rapid that each organization now realizes the importance of information systems for business continuity. Information Systems (IS) are a set of formal processes that collect, process, and disseminate information to users. The usage of information systems in the company, directly and indirectly, influences company performance and individual performance within the company. The usage of information systems in a company can affect the performance of its employees, both positively and negatively. Effectiveness also refers to the suitability of the information system implemented with the tasks, needs, and skills of the people in the organization. When implementing information systems in organizations, individual tasks, needs, and skills must be considered.

According to Nindya, Vice President of Human Capital Planning at PT Nindya Karya, the successful implementation of the Application is influenced by many factors, one of which is the understanding of employees in the preparation of Key Performance Indicators (KPI) using information technology by end users of the PMS Application. According to TAM, four

individual beliefs, including perceived ease of use, perceived usefulness, perceived attitude of use, and behavior to continue using, are the most important determinants of adoption behavior and, ultimately, the use of technology. Furthermore, this research used TAM as a basic model for measuring the success of PMS application implementation in KPI creation. Successful system implementation does not only depend on technical management, but many studies show that the behavioral factors of individual system users largely determine the success of the implementation.

PT NK implements PMS to fix and improve the performance of its employees on an ongoing basis so that work units and individuals can work together optimally in achieving company targets. The Performance Management System is one of the key elements in the active and efficient development of an organization's Human Resources. Performance management is closely related to the organization's needs through a proper and appropriate process. Based on this description, we can see that the complexity of Human Resource Management in an organization, particularly the Performance Management System, remains significant and interest to discuss.

In general, the purpose of this research is to analyze the employee performance management system at PT NK to manage the performance of its human resources.

### LITERATURE REVIEW

In general, the purpose of this research is to analyze the employee performance management system at PT NK to manage the performance of its human resources. By conducting a quantitative analysis of the employee performance management system, the following aims of this research can be formulated:

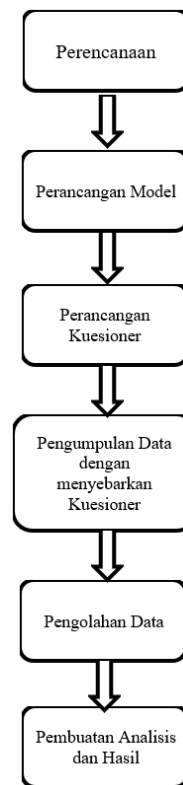
1. Empirically demonstrates the effect of perceived ease of utilization on the success of PMS application implementation.
2. Empirically demonstrate the effect of perceived ease of use on the perceived benefits of PMS to empirically prove the effect of perceived ease of use on perceived attitudes towards using PMS.
3. Empirically demonstrates the influence of user-friendliness on the attitude of PMS application users.
4. Empirically demonstrates the influence of perceived usefulness on the success of PMS application implementation.
5. Empirically demonstrates the influence of perceived user attitudes on the success of PMS application implementation.
6. Empirically demonstrates the influence of perceived usefulness to mediate the relationship between perceived user-friendliness and the success of PMS application implementation.
7. Empirically demonstrates the influence of perceived user attitudes to mediate the relationship between perceived user-friendliness and the success of PMS application implementation.

The Performance Management System is fundamentally one of the key elements in the active and efficient development of an organization's Human Resources. Performance management is strongly tied to the organization's needs through a proper and appropriate process. Based on the foregoing, we can see that the complexity of Human Resource Management in an organization, particularly the Performance Management System, remains significant and interest to discuss.

### RESEARCH METHODOLOGY

The research was conducted using the activities depicted in Figure 1. It was done in order to plan and determine the problems and objects for this research. Then proceed to design the model. The next stage is to design a

questionnaire. Then proceed with data collection and analysis of user satisfaction using the PMS application, then enter the calculation stage of each category in the ISO 25010 method. After obtaining the findings of each category, the final stage is to determine the value of the average calculation results. This research method employs a quantitative approach analysis.



**Figure 1:** Research Stages

This research aims to determine whether or not perceived user-friendliness affects the success of PMS application implementation with perceived usefulness, intervening variable user attitudes. Related to this, specifically, this research will direct the focus of the problem formulated in the questions below:

1. Does the perceived ease of use have an impact on the successful implementation of the PMS application?
2. Does the perceived ease of use have an impact on the perceived usefulness of the PMS application?
3. Does the perceived ease of use have an impact on the perceived attitude of PMS application users?
4. Does perceived usefulness have an impact on the perceived success of PMS application implementation?
5. Does the perceived attitude of users have an impact on the perceived success of PMS application implementation?

6. Does perceived usefulness mediate the relationship between perceived ease of use and the success of PMS application implementation?
7. Does perceived user attitude mediate the relationship between perceived user-friendliness and PMS application implementation success?

This research's population consists of PT NK employees from 17 work units and business units who are active users of the PMS application. The sample is a part of the population (a part or representative of the population being studied). The following are the samples used in this research:

1. BoD-1 includes: General Manager, Senior Vice President

2. BoD-2 includes: Manager, Vice President, Site Administration Manager, Site Engineering Manager, Site Operation Manager.

**Permanent Employees and Non-Permanent Employees (Central Contract) are one of the sample selection criteria.**

The survey method was used to collect data from respondents, and a questionnaire containing a number of questions about user convenience, usefulness, user attitudes, and the successful implementation of the Performance Management System (PMS). Data collection is a stage that determines the research process and outcomes. Data is obtained by distributing questionnaires by analyzing PMS applications based on Usability in Use, Flexibility in Use, and Safety.

**Table 1: Statement Indicator**

Domain	Code	Statement
Perceived Ease of Use	PEU01	This PMS Application is easy to use even for novices.
	PEU02	The menu of this PMS Application is easy for me to learn and use.
	PEU03	The look of the PMS Application's filling form is pretty appealing and easy to comprehend.
	PEU04	This PMS Application is extremely user friendly to operate.
	PEU05	This PMS Application is conveniently accessible from a variety of devices and platforms.
Perceived Usefulness	PUS01	Filling out the Key Performance Indicator (KPI) can be sped up by using the PMS Application.
	PUS02	The PMS Application generates promptly and accurate data.
	PUS03	By using the PMS Application, it simplifies the work planning process.
	PUS04	By using the PMS Application, it can increase performance productivity.
	PUS05	By using the PMS Application, it can strengthen coordination between superiors and direct subordinates regarding the work output that will be produced.
Attitude towards Using	ATU01	The PMS Application provides complete and comprehensive information.
	ATU02	I use the PMS Application regularly.
	ATU03	I like the look and design of the PMS Application used in KPI filling activities.
	ATU04	This PMS Application's implementation is a good idea.
	ATU05	This PMS Application has broadened my horizons.
Successful Implementation	KPA01	The speed of service processing provided by the PMS Application is the biggest advantage of the system.
	KPA02	Security issues were addressed while the system was running.
	KPA03	The PMS Application's look and information completely satisfy my requirements.
	KPA04	The PMS Application gives exact and excellent services in accordance with the system's goal.

Research requires data analysis and interpretation that will be used to answer research questions to reveal certain social phenomena, so data analysis is the process of simplifying data into a form that is easier to read and interpret. The research model employed in this research

is a tiered structure model, and to test the proposed hypothesis, SEM (Structural Equation Modeling) analysis techniques with PLS (Partial Least Squares) are used.

## RESULTS AND DISCUSSION (OR RESULTS AND ANALYSIS)

user satisfaction questionnaire, and the results reached the minimal sample.

### 4.1 Data analysis and characteristics

This research results obtained 151 respondents from active users of the PMS application who filled out the

1	Timestamp	Kelompok Jabatan	Aplikasi PMS ini mudah (	Saya mudah mempelajari	Tampilan form pengisian	Aplikasi PMS ini sangat (	Aplikasi PMS ini dapat di	Dengan menggunakan A	Dengan menggunakan A
2	27/03/2023 10:00:41	Staf	5	4	4	5	4	4	5
3	28/03/2023 13:27:11	Staf	4	5	3	4	5	4	5
4	28/03/2023 13:27:37	Staf	4	5	4	5	3	4	5
5	28/03/2023 13:31:16	Staf	4	5	4	4	5	4	5
6	28/03/2023 13:31:58	Staf	4	4	3	4	4	5	5
7	28/03/2023 13:32:22	Setara BOD-2	4	4	3	4	5	5	5
8	28/03/2023 13:33:03	Staf	4	5	4	4	5	4	5
9	28/03/2023 13:33:27	Staf	5	4	4	4	5	5	5
10	28/03/2023 13:33:55	Staf	4	5	3	4	5	4	5
11	28/03/2023 13:42:22	Setara BOD-1	4	5	4	5	4	4	5
12	28/03/2023 13:47:05	Staf	4	5	4	4	5	5	5
13	28/03/2023 13:47:33	Staf	4	4	5	4	4	5	4
14	28/03/2023 13:48:08	Staf	4	5	4	4	4	5	4
15	28/03/2023 13:48:34	Staf	4	5	3	5	4	5	4
16	28/03/2023 13:49:08	Staf	4	4	4	4	5	4	4
17	28/03/2023 14:08:15	Staf	4	4	4	5	4	4	4
18	28/03/2023 14:08:52	Staf	4	3	5	4	5	4	4
19	28/03/2023 14:09:15	Setara BOD-2	4	4	4	3	5	4	5
20	28/03/2023 14:09:34	Staf	4	3	4	5	5	5	4
21	28/03/2023 14:09:57	Staf	4	4	3	5	4	5	4
22	28/03/2023 14:10:17	Staf	4	4	5	5	4	4	3
23	28/03/2023 14:10:42	Staf	4	3	4	5	4	5	3

Table 1.1: Questionnaire Data

### 4.2 Characteristics of Perceived Ease of Use

According to the Figure below, 98% of users stated that the PMS application is immensely user-friendly or easy to use.

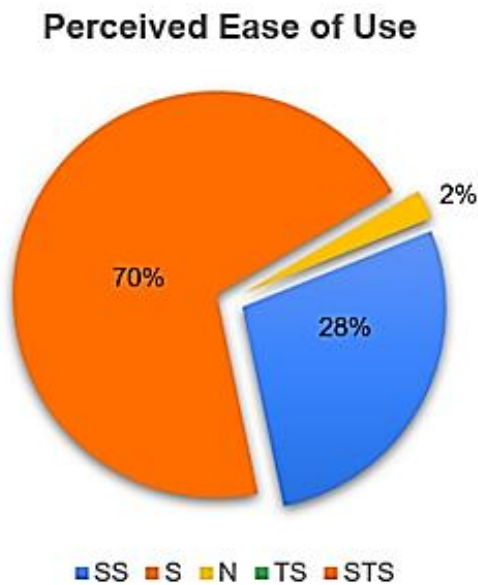


Figure 3: Percentage of One of the Perceived Ease of Use Statements

### 4.3 Characteristics of Perceived Usefulness

According to the Figure below, 99% of users stated that the PMS application could speed up the process of filling out the Key Performance Indicator (KPI).

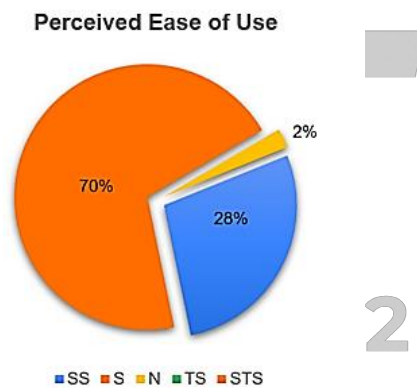


Figure 4: Percentage of One Statement of Perceived Usefulness

### 4.4 Characteristics of Attitude towards Using

According to the Figure below, 94% of users are satisfied with implementing the PMS application.

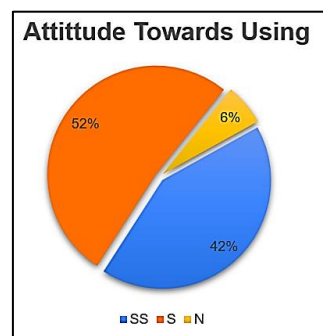
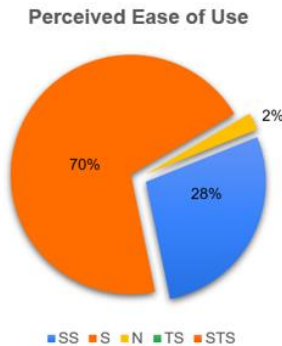


Figure 5: Percentage of One of the Attitude towards Using Statements

**4.5 Characteristics of Successful Implementation**

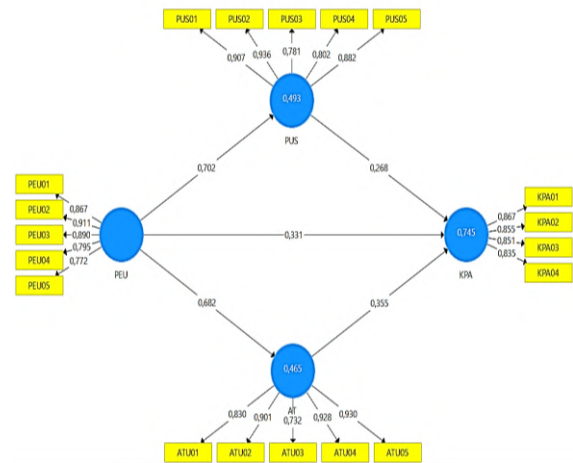
According to the Figure below, 99% of users stated that the PMS application was successfully implemented well.



**Figure 6:** Percentage of One of the Attitude towards Using Statements

**4.3 Assessment of Outer Model (Measurement Model)**

The outer model is assessed using three criteria: Convergent Validity, Discriminant Validity, and Composite Reliability (Ghozali, 2013).



**Figure 7:** Full Model Structural

**Description:**

1. Perceived Ease of Use (PEU)
2. Perceived Usefulness (PUS)
3. Attitude (ATU)
4. Successful Implementation (KPA)

**Table 2:** Data Processing Results

KODE	AT	KPA	PEU	PUS
ATU01	0.830			
ATU02	0.901			
ATU03	0.732			
ATU04	0.928			
ATU05	0.930			
KPA01		0.867		
KPA02		0.855		
KPA03		0.851		
KPA04		0.835		
PEU01			0.867	
PEU02			0.911	
PEU03			0.890	
PEU04			0.795	
PEU05			0.772	
PUS01				0.907
PUS02				0.936
PUS03				0.781
PUS04				0.802
PUS05				0.882

Following the outer model test on the implementation success, user convenience, application benefits, and user attitudes variables, such as convergent validity in Figure 9, several construction indicators are obtained that meet

the value with factor loading > 0.7, leading to the conclusion that all of the data in the diagram are valid.

**4.3 Composite Reliability**

Table 3 demonstrates that all variables in the composite reliability test are deemed reliable because the loading value is above 0.7. Due to the fact that all research variables have loading values above 0.7, it can be

concluded that the variables used in this research are reliable since they satisfy the criteria for composite reliability. The Outer Model test results are listed below with the following details:

*Table 3: Composite reliability test results*

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
<b>AT</b>	0.915	0.915	0.938	0.752
<b>KPA</b>	0.874	0.876	0.914	0.726
<b>PEU</b>	0.902	0.912	0.928	0.720
<b>PUS</b>	0.914	0.923	0.936	0.746

**4.4 Discriminant Validity**

The discriminant validity test describes the correlation between variables with the cross-loading correlation value of all indicators used in forming latent variables. A latent variable is declared valid if its cross-loading

correlation value is greater than the correlation with other latent variables. Table 4 describes the cross-loading correlation value for each variable in this research.

*Table 4: Discriminant reliability test results*

	AT	KPA	PEU	PUS
<b>AT</b>				
<b>KPA</b>	0.889			
<b>PEU</b>	0.741	0.848		
<b>PUS</b>	0.857	0.858	0.765	

According to the discriminant validity test results in Table 4, the correlation value of the construct with the measurement item is greater than the size of the other constructs, indicating that the latent construct predicted the size of the construct variable block better than the other blocks. Discriminant validity compares each construct's average variance extracted (AVE) value to

the correlation of other constructs in the model. According to Chin, in Jogiyanto (2009), if the square root of the average variance extracted (AVE) construct is greater than the correlation with all other constructs, it is considered to have good discriminant validity. The measurement value must be greater than > 0.5. The output results are as follows:

*Table 5: Discriminant Validity Test Results with Square Root AVE*

	Average Variance Extracted (AVE)
<b>AT</b>	0.752
<b>KPA</b>	0.726
<b>PEU</b>	0.720
<b>PUS</b>	0.746

**4.5 Hypothesis Test**

The following are the research results from the Successful Implementation of the PMS Application at PT Nindya Karya:

*Table 6. Research Results*

Variable	T-statistics	T-table	Description
<b>AT -&gt; KPA</b>	4.066	1.96	Significant Influence
<b>PEU -&gt; AT</b>	12.611	1.96	Significant Influence
<b>PEU -&gt; KPA</b>	3.534	1.96	Significant Influence

<b>PEU -&gt; PUS</b>	15.030	1.96	Significant Influence
<b>PUS -&gt; KPA</b>	3.011	1.96	Significant Influence
<b>PEU -&gt; AT -&gt; KPA</b>	3.534 3.011	1.96	Significant Influence
<b>PEU -&gt; PUS -&gt; KPA</b>	15.030 4.066	1.96	Significant Influence

***a. The influence of perceived ease of use on the success of PMS application implementation***

According to the results of the first hypothesis, perceived ease of use on the success of PMS application implementation. It demonstrates that ease of use is a concept that has gotten attention in the use of information systems technology. Considering the clear argument that individual effort is a finite resource so that an individual should be willing to allocate more opportunities. The conclusion is that an easy-to-use system will increase a system's success rate, so based on the author's research on user convenience in the successful implementation of the performance management system (PMS) application, it can be indicated that user convenience has a significant effect on the success of application implementation.

***b. The influence of perceived user-friendliness on perceived usefulness of PMS application***

Based on the results of the second hypothesis test, it shows the effect of perceived user convenience on the perceived usefulness of the performance management system (PMS) application. It means usefulness as a measure by which the use of technology is believed to bring benefits to the people who use it, improve work performance, make work easier, add more easily, increase productivity, and develop job performance. The benefits of information technology are expectations of the attitude towards using and the behavior of whether the information technology will continue to be used in the future.

***c. The effect of perceived ease of use on the perceived attitude of PMS application users***

According to the third hypothesis test results, perceived ease of use affects the perceived attitude of performance management system (PMS) users. It means that the user's attitude is a form of expression of a person in taking action, either in acceptance or rejection of doing a job. Attitude is a factor that determines individual behavior; a person's attitude consists of cognitive/viewpoint aspects, effective elements, and components related to behavior.

***d. The Influence of Perceived Usefulness on the Success of PMS application Implementation***

According to the results of the fourth hypothesis analysis, namely the effect of perceived usefulness on the successful implementation of the Performance Management System (PMS) application. It might be interpreted that the advantages of employing information technology can boost performance, productivity, and the work of performance and performance of those who utilize it. The benefit expected by IT users in carrying out their duties is the usefulness of information technology. Perceived benefits in implementing the PMS Application are conditions that are obtained in assisting financial managers in making KPIs. An application will be useful if the application meets the needs of the user.

***e. The influence of perceived user attitudes on the successful implementation of PMS application***

According to the results of the fifth hypothesis analysis, the influence of user perceptions on the successful implementation of the Performance Management System (PMS) application. The use attitude influences the success of the PMS Application in the corporate environment. If application users have a rejection attitude, the success of preparing PMS will not be efficient and on time, and it will encounter hurdles that will have an impact on opinions that may not be reasonable or even Disclaimer.

***f. The influence of perceived usefulness mediates the relationship between perceived ease of use on the successful implementation of PMS application***

According to the sixth hypothesis analysis results, perceived usefulness mediates the relationship between perceived ease of use and successful implementation of PMS applications. This concept describes the system's benefits to users regarding productivity, task performance, effectiveness, and task importance. If an application meets the needs of its users, it will be useful. So the level of usefulness of the PMS Application affects the success of the Application implementation. This result implies that users will easily accept systems or software that they think are easy to use and provide benefits at work. The implication for policymakers in

the field of information systems and programmers is that, in designing software, user perceptions are used as a basis for determining the format of the software to be designed. Thus, if the user's perspective or opinion is taken into account when determining the software format, it is expected that the software generated will be easier for the user to apply and run.

***g. The influence of perceived user attitude mediates the relationship between perceived user-friendliness on the success of PMS application implementation***

According to the seventh hypothesis analysis results, the effect of perceived user attitude mediates the relationship between perceived user ease on the success of PMS application implementation. Attitude is a factor that influences individual behavior. A person's attitude is made up of cognitive aspects / viewpoints, affective, and components related to behavior. In this hypothesis that user attitudes are a form of acceptance or rejection in using a system, it is shown that user attitudes support PMS applications being successfully implemented, interest in information technology can be a barrier to this success, and a lack of understanding of users is one of the reasons that contribute to the success of PMS applications. In this case, the perception of user attitudes will affect the successful implementation of the PMS application.

**CONCLUSION**

This research aims to prove the effect of perceived ease of use as an independent variable and perceived usefulness and user attitude as an intervening variable on the success of application implementation as the dependent variable. This research used 17 work and business units at PT Nindya Karya, with 151 respondents. SmartPLS ver. 03 was used for analysis.

Based on the results of this analysis, it is possible to conclude that, based on the characteristics of Perceived Ease of Use, more than 90% of users state that this PMS application is simple to use. The PMS application may also speed up the KPI filling out process, and users are satisfied with the PMS application's implementation. Users state that the PMS application has been appropriately implemented.

**REFERENCES**

[1] Ghozali, I. (2013). Aplikasi Analisis Multivariate dengan Program IBM SPSS 21, Edisi Ketujuh. Semarang: Universitas Diponegoro.

[2] Jogiyanto, H. M., & Abdillah, W. (2009). Konsep dan aplikasi pls untuk penelitian empiris. Yogyakarta: BPFE-UGM.

[3] Adhitya, W. R. (2020). Analisis faktor-faktor yang mempengaruhi kinerja pegawai terhadap prestasi kerja di PT. NK(Persero). Accumulated Journal (Accounting and Management Research Edition), 2(2), 146-161.

[4] Peters, E., & Aggrey, G. K. (2020). An ISO 25010 based quality model for ERP systems. Advances in Science, Technology and Engineering Systems Journal, 5(2), 578-583.

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