THE EFFECT SAP APPLICATION SYSTEM QUALITY AND THE QUALITY OF INFORMATION ON INDIVIDUAL PERFORMANCE DIMEDIATE USER SATISFACTION
(At PT. PLN (Persero) Central Java And D.I.Yogyakarta Distribution Main Units)

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Abstract : *This research aims to analyze and find empirical evidence about SAP application system quality and the quality of information on individual performance dimediate user satisfaction. The populations of this research were employees at PT PLN (Persero) Main Distribution Unit for Central Java and DIYogyakarta. The samples in this research were 60 respondents. The data are collected by distributing questionnaires. The sampling technique in this research used the Slovin formula and the data were processed using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach with the help of the WarpPLS 6.0 program and a significance level of 10%. The results showed that (1) system quality had a positive and insignificant effect on user satisfaction with a path coefficient of 0.12 and p-values of 0.17 so that (0.17 > 0.10), (2) the quality of information had a positive and significant effect. on user satisfaction because it produces a path coefficient of 0.45 with p-values <0.0001 or (0.0001 < 0.10), (3) the quality of the system has a positive and significant effect on individual performance with a path coefficient of 0.26 and p- values 0.02 or (0.02 < 0.10), (4) the quality of information has a positive and significant effect on individual performance with a path coefficient value of 0.16 with a p-value of 0.09 so that (0.09 < 0, 10), (5) user satisfaction has a positive and significant effect on individual performance because the resulting path coefficient is 0.34 with p-values < 0.0001 or (0.0001 < 0.10). The Adjusted R-Squared value for user satisfaction (Y_1) is 0.229 which means that the percentage of the influence of system quality (X_1) and information quality (X_2) on user satisfaction is 22.9% and for individual performance (Y_2) is 0.305 which means that the percentage The magnitude of the influence of system quality (X_1) and information quality (X_2) is 30.5%, then the remaining 77.1% and 69.5% are explained by other variables not examined in this research.*

Keywords: *SAP application system quality, information quality, satisfaction of user and individual performance.*

1. Introduction

One of the factors that influence the success rate of an organization is the performance of its employees. Employee performance is an action taken by employees in carrying out the work given by the company. There are several factors that describe the success of employee performance, including system quality and information quality. The quality of the system shows the quality of the production and the quality of the information shows the quality of the products produced.

At present, the development of the world of information technology is increasingly making changes to the way each individual and organization works, which was originally manual becoming more sophisticated. Technology is always developing to meet human needs from time to time.

Management Information System (MIS) is a system that performs functions to provide all information that affects all organizational operations. According to Frederick H. Wu in Jogiyanto (2007), management information systems are collections of systems that provide information to support management. One of the functions of the information system is to provide important information to help managers control their activities, as well as reduce environmental uncertainty, so that it is hoped that it can help the company achieve its goals successfully.

The success of a company's information system depends on how the system is run, the convenience of the system for its users, and the use of technology used. The quality of the system and the quality of management information system information can be used as a measure of the success of an information system. It is a very important decision for a business entity in choosing an information system to be used in business and business interests. Errors in the selection of information systems can have an impact on losses in various forms for the business entity, obstruction of business processes, and inaccurate data obtained.

The development of information technology has an effect on economic growth, which can help increase the efficiency and effectiveness of workers in carrying out business processes in the company. According to Haag and Keen (1996) in Kadir (2007) information technology is a set of tools that help human work and perform tasks related to information processing.

In order to compete with business competition, it is necessary to make efforts to improve individual performance in the company. By utilizing technological advances, company management can seek optimization in business management in order to increase the company's competitive advantage by applying the latest information systems. Information Systems (SI) are a set of legal procedures where data collected is processed into information and distributed to users (Hall, 2011: 780). Meanwhile, according to Laudon (2008) an information system is a set of interconnected components, collects data (or obtains), processes, stores and distributes information to support decision making and supervision in the organization. It can be concluded that the information system is a resource in management decision making.

Today, information systems have undergone many changes. The management of the company uses a computer-based information system to simplify work and improve performance. Most of the major companies in the world have implemented an Enterprise Resource Planning (ERP) system. The concept of ERP according to Yasin (2013), ERP is a system where on the inside there is software that has interrelated functions and is easy for users because of standardization which only uses one integrated system in a company and there is one and the same database for storage main data. ERP software supports the efficient operation of the business process by integrating the activities of the

entire business including sales, marketing, manufacturing, logistics, accounting, and staffing (Winarno, 2010). ERP has various types of software, one of which is System Application and Product Data Processing or commonly abbreviated as SAP. SAP comes from Germany introduced in 1972 which means Syteme, Anwendungen, and Produkte in derdatenverarbeitung. SAP has the ability to integrate company business processes.

Implementation of SAP (System Application and Product in Data Processing) at PT. PLN (Persero) is an interesting thing to research and test how much influences the factors of system quality and information quality on the satisfaction of using SAP applications and their impact on individual performance at PT. PLN (Persero).

Based on the background of the problem above, there is a gap, namely a research gap or differences from previous studies that have been conducted.

Different research results also indicate a research gap regarding the effect of system quality and information quality on user satisfaction on individual performance. Doll and Torkzadeh (1998) used a survey of 618 respondents to examine user satisfaction by modifying instruments and factor analyzes. His research resulted in 12 items of measurement instruments for user satisfaction on the quality of systems and information, which were obtained from end users of information systems. The resulting twelve items are divided into five components, namely content, accuracy, format, ease of use, and timeliness. Doll and Torkzadeh (1998) have proven the validity and reliability of these instruments. McGill, Hobbs, and Klobas (2003), conducted an empirical test of all dimensions in the information system success model from DeLone and McLean (1992). Their testing is carried out in a user environment who is also a system developer. Their test results indicate that the end user satisfaction of an information system plays a significant role in determining the use of the application system.

Indra's (2013) research results, regarding the effect of information quality on individual performance: user satisfaction as an intervening variable, the data used are primary data and the sample used is employees who use the RPPS system at the Muhammadiyah University of Surakarta. The t test results show that the variable information quality with individual performance with user satisfaction as a mediation does not have a mediating effect, while the information quality variable with user satisfaction has a significant effect and the information quality variable with individual performance has a significant effect. There is a significant influence on the information quality variable of 5.952, there is a significant effect on the individual performance variable of 5.853, and there is no significant influence on the user satisfaction variable which is mediated by the individual performance variable of-2.953.

Research in Indonesia on information system satisfaction instruments has also been conducted by Istianingsih (2007), Istianingsih and Wijanto (2008), and Istianingsih and Utami (2009), using variables of service quality, system quality, information quality, user satisfaction and individual performance. The results of this research are service quality, system quality, information quality have a positive and significant effect on user satisfaction, while information system user satisfaction has a positive effect on individual performance.

These considerations encourage researchers to focus on how much influence system quality and information quality have on SAP application user satisfaction, so that an organization can test how much influence SAP user satisfaction has on individual performance. This research uses the research object of PT. PLN (Persero) Distribution of Central Java and DI Yogyakarta, this is because almost all

organizational activities currently have been entered by the application and automation of SI technology using the System Application Product (SAP). System Application Product (SAP) is an Enterprise Resource Planning (ERP) software product that has the ability to integrate various kinds of business applications, in which each application represents a specific business area. This is done so that PT. PLN (Persero) is more effective and efficient in processing data such as managing health bill data, employee pph data, and even checking employee bio data, which can directly access and go online about employee bill data and be able to connect with the head office.

This research aims to explain how far the success rate of SAP application implementation is by the variable quality of the information system currently used in SAP (System Application and Product in data Processing), and the quality of information in the form of output produced by SAP applications (System Application and Product in data processing) has an effect on user satisfaction in increasing the individual performance of SAP users at the PT. PLN (Persero) Central Java and D.I.Yogyakarta Distribution Main Units.

2.   Literature Review
2.1 Individual Performance

Organizations or companies invest heavily to improve individual or organizational performance related to the implementation of technology in an information system (Salman Jumaili, 2005). Simamora (2003) states that employee performance is the level at which employees achieve job requirements. Meanwhile, according to Mangkunegara (2007) employee performance (work performance) is the quality and quantity of work achieved by an employee in carrying out his duties in accordance with the responsibilities assigned to him.

This performance measurement looks at the impact of the system on the effectiveness of task services. Performance in this research is related to the achievement of a series of tasks by employees. Increasingly higher performance involves a combination of increased efficiency, increased effectiveness, increased productivity and increased quality. Better performance will be achieved if individuals can meet individual needs in carrying out and completing tasks (Jin, 2003). There are six indicators to measure individual employee performance according to Robbins (2006), namely (1) Quality (2) Quantity (3) Timeliness (4) Effectiveness (5) Independence (6) Work Commitment

2.2 SAP Application System Quality

According to DeLone and McLean (2003) in Istianingsih and Utami, (2009), the quality of information systems is a characteristic of the inherent information about the system itself. Another argument that expresses the same definition is Chen (2010: 310) says that system quality is a measure of the processing of the information system itself. DeLone and McLean in Livari (2005) provide an assumption that system quality and information quality individually and collectively affect user satisfaction and use. According to DeLone and McLean (1992) in Istianingsih and Utami, (2009) characterizes the quality of the system according to the characteristics of the information system itself, and the quality of the information that matches the desired characteristics of the information product.

According to McGill, Hobbs and Klobas in Istianingsing and Utami, (2009) explained that there are six indicators to measure system quality, namely: (1) Usefulness (2) Ease of Use (3) Ease of learning (4) Assistance Facilities (5) System Reliability (6) Flexibility.

2.2   Information Quality

According to DeLone and McLean (1992) the quality of information is a measure of the output generated by the information system. Falgenti and Pahlevi (2013) argue that information quality refers to the characteristics of information an information system wants to produce. Seddon (1997) describes the quality of information produced by technology-based information systems that are used to help the operational work of a company/organization.

DeLone & McLean (1992) in Wirautama (2011) explain that the quality of information systems must meet reliability so that it can satisfy users. The behavior of users of information systems will affect the use of technology.

According to McGill, Hobbs and Klobas in Istianingsih and Utami, (2009) there are several indicators to measure the quality of information, namely:(1) Accuracy (2) Timeliness (3) Relevance (4) Informative (5) Competitiveness.
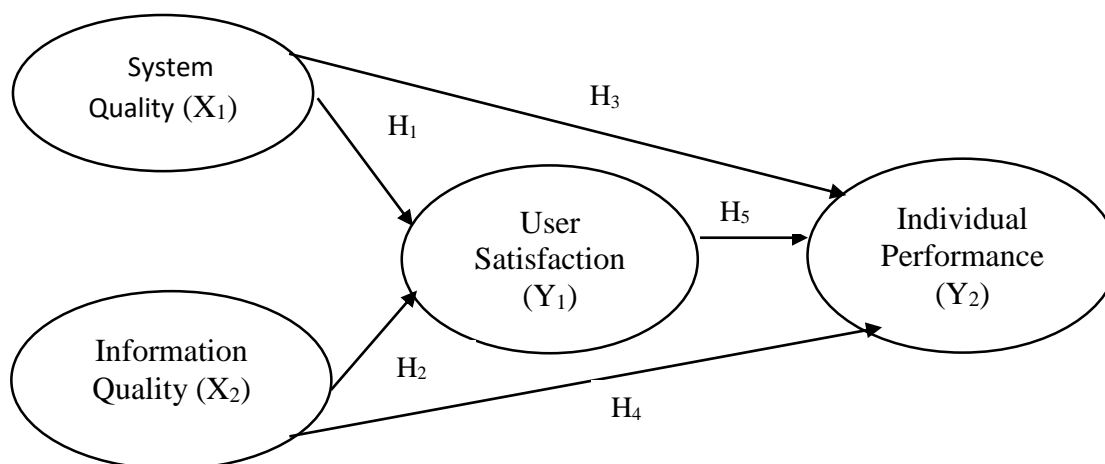
2.3   User Satisfaction

According to Guinmares, Staples, and Mckeen in Iranto (2013) argues that user satisfaction with an information system is how users perceive information systems in real terms, but not on the quality of the system technically.

Meanwhile, according to Kotler (2002), user satisfaction can be defined as a level of feelings of a user as a result of a comparison between the user's expectations for a product with the real results the user gets from the product. If the performance of the product meets the expectations of consumers, the level of customer satisfaction is high, whereas if the performance of the product cannot meet consumer expectations, the level of customer satisfaction will be low. If the results obtained exceed expectations, of course the user will feel very satisfied (highly satisfied).

Doll and Torkzadeh in Istianingsih and Utami, (2013) describe indicators to measure user satisfaction, namely: (1) Content (2) Accuracy (3) Format (4) Ease of Use (5) Punctuality of Time.

3.   Research Conceptual Model

According to the previous literature review, the variables in this research can be connected and presented with Figure 1.In this model, Individual Performance (Y2) is the dependent variable, System Quality (X1) and Information Quality (X2) are independent variables, and User Satisfaction (Y2) is an intervening variable.

4. Hypothesis

4.1. SAP Application System Quality and User Satisfaction

Research results Livari (2005), Istianingsih and Utami (2009), Tri Wahyu Widodo et al. (2013) provide empirical evidence that system quality is proven to have a significant positive relationship with user satisfaction. It can be interpreted that employees will feel satisfied if the quality of the system within the company provides good quality, provides ease of use, is easy to learn, and has a high level of security so as to provide comfort to its users.

Ha1: The quality of the SAP application system has a positive effect on user satisfaction

4.2. Information Quality and User Satisfaction

Livari (2005), Istianingsih and Utami (2009), and Iranto (2013) conducted research on the quality of information on user satisfaction. The results of their research provide empirical evidence that information quality has a positive effect on user satisfaction. It can be interpreted that users will feel satisfied when the information system is able to produce good, accurate, available when needed, timely and relevant information.

Ha2: Information Quality *has a positive effect on User Satisfaction*

4.3. System Quality and Individual Performance

Mangkunegara (2007) employee performance (work performance) is the quality and quantity of work achieved by an employee in carrying out his duties in accordance with the responsibilities assigned to him. Wixon BH and Watson HJ (2001) have conducted research on the direct effect of system quality and individual impact and found that system quality has a significant effect on individual impacts.

Ha3: The quality of the SAP application system has a positive effect on individual performance

4.4. Information Quality and Individual Performance

Seddon, PB and Kiew M Y (1994), Wixon BH and Watson HJ (2001) and Tri Wahyu Widodo et al (2013) have tested the relationship between information quality and individual impact resulting in a significant effect.

Ha4: Information quality has a positive *effect on individual performance*

4.5. SAP Application User Satisfaction and Individual Performance

The results of the research of Istianingsih and Utami (2009) provide empirical evidence that system quality and information quality have a positive effect on individual performance. Where it can be interpreted that the respondents feel their performance has increased if the respondents feel satisfaction with the information system used, in accordance with the aspects of system quality and quality of information owned by the system.

H5: User Satisfaction *has a positive effect on Individual Performance*

5. Method

The sample in this research amounted to 60 respondents from all employees of PT PLN (Persero) Main Unit Distribution Central Java and D.I.Yogyakarta, the sampling technique used the Slovin formula. Data were collected and collected using a questionnaire distributed to employees as many as 100 questionnaires, but the questionnaires returned were 60 questionnaires. The statistical test tool used in this research was WarpPLS 6.0 with SEM analysis. The number of questionnaires in this research are as follows:

a. System quality is measured using 6 indicator items from McGill and Klobas (in Istianingsih, 2009).
b. Information quality is measured using 5 indicator items from McGill and Klobas (in Istianingsih, 2009).
c. User satisfaction is measured using 5 indicator items from Doll and Torkzadeh (quoted in Istianingsih and Utami, 2013).
d. Employee performance is measured using 6 indicator items from Robbins 2006

The scale used is the Likert Scale (1- 5), namely (1: strongly disagree; 2: disagree; 3: quite agree; 4: agree; 5: strongly agree) is used to measure all items in this research.

6. Result
6.1. Descriptive Data

Descriptive data describes the state and condition of the respondents in this research as additional information to understand the results of the research. Descriptive data can be seen through the characteristics of the respondents in Table 1 below:

Table 1. Characteristics of Respondents

Characteristics	Total

Gender	
1. Men	12
2. Women	48
Total	60
Age	
1. less than 25 years old	3
2. 25-35 years old	25
3. 36-45 years old	15
4. 46-55 years old	17
5. Lebimore than 55 years old	0
Total	60
Level of education	
1. Senior high school	8
2. D3	18
3. S1	34
4. S2	0
5. S3	0
Total	60
Length of work	
1. 1-5 years	10
2. 6-10 years	13
3. 11-15 years	27
4. More than 15 years	10
Total	60

Source: Processed data, 2020

The general description of the profiles of all respondents based on gender in this research was predominantly female by 48 people while male was 12 people. Based on the age of the respondents, dominated by employees aged 25-35 years, as many as 25 people, 3 people < 25 years old, 15 people aged 36-45 years, 17 people aged 46-55 years, while there were no respondents with over age. than 55 years. Based on education, the latest education is undergraduate (S1) as many as 34 people, Senior high school/equivalent as many as 8 people, while Diploma (D3) as many as 18 people. Based on the

length of work, it was dominated by the length of work between 11-15 years, namely 27 people, 10 people working 1-5 years, 13 people working 6-10 years, while 10 people working more than 15 years.

6.2. Influence Between Variables

Figure 2 describes the relationship between variables to determine the extent to which the relationship between these variables is interrelated and to determine whether the proposed hypothesis is accepted or not.
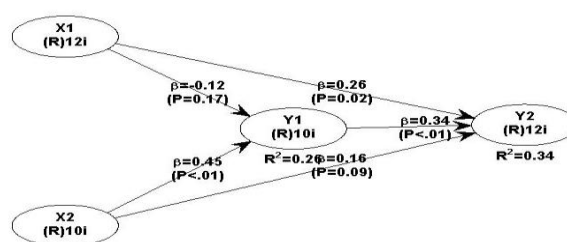

Figure 2. Influence Between Variables

Source: Output WarpPLS 6.0 (Data Processed, 2020)

From Figure 2 it can be concluded that the hypothesis H2, H3, H4 and H5 are accepted and show a significant relationship. This can be seen from the P-Value which states that the P-Value < 0.10. Meanwhile, the rejected H1 hypothesis indicates that the relationship is not significant, it can be seen from the P-Value which states that the P-Value > 0.10.

6.3. Indirect Effect

2 describes the indirect effect between variables to determine the extent to which the indirect effects are related.

Table 2. *Indirect Effect*

ndirect effects for paths with 2 segments

	X1	X2	Y1	Y2
X1				
X2				
Y1				
Y2	-0.041	0.153		

P values of indirect effects for paths with 2 segments

	X1	X2	Y1	Y2
X1				
X2				
Y1				
Y2	0.327	0.041		

Source: Output WarpPLS 6.0 (Data Processed, 2020)

Based on the table above, it shows the results of the indirect relationship of system quality to user satisfaction, then to individual performance of -0.041 and p-values of 0.327> 0.10, which means that the relationship between system quality through user satisfaction on individual performance has a negative and insignificant relationship. So it can be concluded that user satisfaction cannot be used as a mediating or intervening variable. Likewise, the result of an indirect relationship of information quality to user satisfaction, then to individual performance, is 0.153 and p-values 0.041 <0.10. This means that the relationship of information quality through user satisfaction on individual performance has a positive and significant relationship. So it can be concluded that user satisfaction can be used as a mediating or intervening variable.

7. Discussion

The results of testing the effect of system quality (X_1) on user satisfaction (Y_1) using the WarpPLS 6.0 software resulted in a path coefficient of 0.12 with a p-value of 0.17 (0.17 > 0.10). These results indicate that system quality has a positive and insignificant effect on user satisfaction. In this case, the performance of the system reflects how well the hardware and software capabilities of the SAP application are. Ease of use of the system and system flexibility in meeting user needs provide feedback or respond to the attitude of system users. System quality does not have a significant effect on user satisfaction, the use of the SAP application system for employees are mandatory. Ease of use and ease of learning have not shown the widespread use of the system. The results of hypothesis testing indicate that the use of the SAP application system is not related to the comfort or quality of the system but rather due to the obligation to use it. This research is not in line with research Livari (2005), Istianingsih and Utami (2009), and Tri Wahyu Widodo (2013) who examined the effect of system quality on user satisfaction and each found that system quality had a significant effect on user satisfaction.

Then the results of testing the effect of information quality (x_2) on user satisfaction (Y_1) using the WarpPLS 6.0 software resulted in a path coefficient of 0.45 with a p-value of 0.0001 (0.0001 <

0.10). These results indicate that the quality of information has a positive and significant effect on user satisfaction. Information quality is defined as the output produced by SAP software or applications. The acceptance of hypothesis 2 shows a positive direction of relationship, meaning that the value of the quality of SAP application information is higher; the more user satisfaction of SAP applications is increasing. The results of this research support the research conducted by Livari (2005), Istianingsih and Utami (2009) and Iranto (2013) which show that the quality of information has a positive effect on user satisfaction.

After that, the results of testing the effect of system quality (X_1) on individual performance (Y_2) using the WarpPLS 6.0 software resulted in a path coefficient of 0.26 with a p-value of 0.02 (0.02 < 0.10). These results indicate that system quality has a positive and significant effect on individual performance. A high quality SAP application system will affect user confidence that with the quality of the system the tasks that are carried out will be completed more accurately and more efficiently. In this case, the quality of the SAP application system can meet the desires of users because it is reliable, so as to increase individual confidence in work. The results of this research are the same and are in line with the research of Seddon, PB and Kiew MY (1994), Goodhue, DL and Thomson RL (1995), Ezadi-Amoli and Farhoomand (1996) and Wixon BH and Watson HJ (2001) who examined the direct effect between quality system (system quality) with an individual impact (individual impact) and each found that the quality of the system has a significant effect on the individual impact.

Meanwhile, the results of testing the effect of information quality (X_2) on individual performance (Y_2) using the WarpPLS 6.0 software resulted in a path coefficient of 0.16 with a p-value of 0.09 (0.09 < 0.10). These results indicate that the quality of information has a positive and significant effect on individual performance. This shows that the accuracy of information, timeliness, and completeness of information and format of information presentation can have an influence on individual performance. This research is in line with the research of Wixon BH and Watson HJ (2001) and Widodo et al. (2013) who have examined the relationship between information quality and individual performance showing that there is a significant effect.

Finally, the results of testing the effect of user satisfaction (Y_1) on individual performance (Y_2) using the WarpPLS 6.0 software resulted in a path coefficient of 0.34 with a p-value of 0.0001 (0.0001 < 0.10). These results indicate that user satisfaction has a positive and significant effect on individual performance. Information system user satisfaction is used to measure the level of user satisfaction with the information system system and the resulting output. In Istianingsih and Utami (2009) individual performance variables are used to measure the extent of the impact of using System Application Products in Data Processing (SAP) in improving user performance. The results of this research support the research model developed by DeLone and McLean (2003) and research conducted by Istianingsih and Utami (2009) which shows that user satisfaction has a positive effect on individual performance.

8. Conclusion and Suggestion

Based on the results of data analysis, it can be concluded that the quality of the SAP application system has a positive and insignificant effect on user satisfaction, the quality of information has a significant positive effect on user satisfaction, the quality of the SAP application system has a

significant positive effect on individual performance, the quality of information has a significant positive effect on individual performance, and user satisfaction has a significant positive effect on individual performance.

In this research, the researchers suggested several things for the company including 1) In system quality, the company must be able to provide solutions in increasing the capabilities and skills of human resources in using information systems such as providing regular education and training. 2) On the quality of information, the company must be able to provide the best solution in improving the quality of output produced by the information system, for example updating or updating the information system to the latest version which has the expected level of timeliness as expected. 3) On user satisfaction, companies should pay attention to SAP user satisfaction if they want an increase in individual performance that comes from the information system investment. Ease of use is an important indicator in determining user satisfaction, because if users of information systems find it difficult to use the system it will reduce the level of satisfaction which has an impact on individual performance, the recommended solution is to provide material understanding to users in order to be able to best understand the process of use. the SAP application.

Suggestions for further research can use or add other variables to test information system user satisfaction. In addition, further research can be carried out on other objects that have different information systems, so that further research can compare SAP software or applications with other software or system applications. Subsequent research using the same object, namely PT. PLN (Persero) Central Java and Yogyakarta Yogyakarta Main Distribution Unit is expected to be able to research information systems in all departments in the company with a greater number of respondents, and can use different research methods. Future research is expected to be able to explore more about the indirect effect of the effect of system quality and information quality on individual performance mediated by user satisfaction.

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