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# Evaluation of the Successful Implementation of Enterprise Resource Planning Based on SAP Using the DeLone & McLean Model

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***ABSTRAK***

*Sistem ERP merupakan suatu sistem terintegrasi yang diandalkan di perusahaan yang bertujuan meningkatkan efisiensi operasional dan mengoptimalkan sumber daya perusahaan. PT XYZ yang saat ini bergerak dalam bidang IT yang telah menerapkan penggunaan sistem SAP ERP. Penelitian ini bertujuan untuk melakukan evaluasi kesuksesan dari penerapan ERP di PT XYZ melalui pengujian kesuksesan sistem informasi dengan menggunakan model DeLone & McLean. Metode penelitian yang digunakan yaitu metode penelitian kuantitatif dan data dikumpulkan melalui pengisian kuesioner. Pengolahan data penelitian ini menggunakan metode SEM-PLS melalui aplikasi SmartPLS. Dalam penentuan sampel digunakan teknik non probability sampling. Terdapat 6 variabel DeLone & McLean yang digunakan, yaitu kualitas informasi, kualitas sistem, kualitas layanan, minat penggunaan, kepuasan pengguna, dan manfaat bersih. Dari hasil analisis 9 hipotesis, terdapat 5 hipotesis yang diterima lalu ada 4 hipotesis yang ditolak. Dari hasil pengujian tersebut, penerapan ERP di PT XYZ masih belum dikatakan sukses secara langsung dengan pengujian DeLone & McLean karena adanya variabel yang tidak saling berpengaruh dan berkaitan dengan minat penggunaan sistem oleh pengguna. Peningkatan pada kualitas sistem, kualitas layanan dan kualitas informasi dari sistem ERP yang digunakan akan menunjang kesuksesan penerapan teknologi ERP pada perusahaan ke depannya.*

**ABSTRACT**

ERP system is an integrated system that is relied on by companies that aim to improve operational efficiency and optimize company resources. PT XYZ, which is currently engaged in IT, has implemented the use of the SAP ERP system. This study aims to evaluate the success of the ERP implementation at PT XYZ through testing the success of information systems using the DeLone & McLean model. The research method used is quantitative research method and data is collected through filling out questionnaires. This research data processing uses the SEM-PLS method through the SmartPLS application. In determining the sample, non-probability sampling techniques were used. There are 6 DeLone & McLean variables used, namely information quality, system quality, service quality, interest in use, user satisfaction, and net benefits. From the results of the analysis of 9 hypotheses, 5 hypotheses were accepted and 4 hypotheses were rejected. From the test results, the ERP implementation at PT XYZ is still not said to be a direct success with DeLone & McLean testing because there are variables that do not affect each other and are related to interest in using the system by users. Improvements in the system quality, service quality and information quality of the ERP system used will support the successful implementation of ERP technology in the company in the future.

## 1. INTRODUCTION

Information technology that is growing rapidly today affects the development of the company's business, each sector of the company competes with each other in improving performance in achieving the company's vision and mission in business processes and activities carried out. To achieve this, a system that supports company integration is needed, namely through Enterprise Resource Planning (ERP)

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(Chofreh et al., 2020; Ivanović & Marić, 2021). This Enterprise Resource Planning system is a form of integrated information system that can accommodate various information system needs and business processes effectively and efficiently because it consists of various modules that can be used from financial modules to distribution modules (Jeyaraj, 2020; Meiryani et al., 2021). ERP can be defined as comprehensive software that is used to fully integrate business processes and their functions in an organization and the nature of ERP is complex, which combines various business models, namely sales, marketing, manufacturing, human resources, and financial management (Goundar, 2021; Tam & Oliveira, 2016). The application of this system can improve products, speed up the cycle in the work process, ensure production flexibility, monitor company finances, and manage the logistics and resources of the company. The concept of implementing an integrated system is a supporting factor for the success of a company in managing information systems used in its business processes. This success is inseparable from the system's input and output procedures, user satisfaction, and the capacity to meet business objectives and company goals (AlMuhayfith & Shaiti, 2020; Beatrix, 2022). ERP products which are one of the most widely used products by various companies today in implementing an integrated system are SAP (System, Application, and Product in Data Processing). System Application and Product in Data Processing (SAP) is a software developed in the ERP field to integrate systems and business processes that occur in companies. SAP is designed to support operational activities carried out by a company and is widely used by technology and manufacturing companies to achieve company integration goals .

PT XYZ is one of the subsidiaries of BUMN that has used SAP software as a platform for managing company data, in finance, accounting, production, sales, and so on. PT XYZ provides services in the fields of IT Services, Cloud Services, and Digital Solutions. PT XYZ has currently implemented the use of SAP ERP as a platform for data management, such as financial reporting, but it turns out that in this application there are still limitations encountered, namely limitations such as module access and expensive licenses. SAP ERP is one of the application systems that requires a large cost in its use so it is necessary to take into account the benefits that will be received by the company (Chopra et al., 2022; Koksalmis & Damar, 2022) So, the problem here is whether PT XYZ has been said to be successful in implementing ERP through the SAP system and whether is there an evaluation that shows this success. From this, it is necessary to evaluate the success of implementing ERP as an information system and its impact on company performance. Measuring the success of information technology systems using sophisticated technology is a complete but simple model. Information system success is designed simply to review the use of information systems. So that the benchmark for information system success can be reviewed from a simple model but is considered valid. Measurements need to be made so that company management knows whether the application of the system used is successful or not or whether improvements need to be made (Irawan & Syah, 2017; Roky & Meriouh, 2015). The evaluation was carried out using the DeLone & McLean (2003) information system success model. The DeLone & McLean (D&M) Information System Success Model is a framework and model for measuring complex-independent variables in information systems research, this model provides standardization for the process of comparative evaluation mechanisms in departments, systems, users, and organizations. This model includes six framework dimensions, namely system quality, information quality, service quality, user satisfaction, intention to use, and net benefits (Akram et al., 2017; Ardiaz, 2017; Bravo, 2020). Structural Equation Model (SEM) is one of the methods used in statistics to analyze problems through indicators and variables. There are three general stages carried out through SEM, namely testing validity and reliability, testing the path coefficient model, and obtaining suitable modeling for prediction through structural analysis and regression. In SEM, there are two measurement models used, namely the measurement model to assess validity and reliability and structural models related to hypothesis testing of variables and their relationships. In conducting SEM analysis, tools can be used, namely SmartPLS (Smart Partial Least Squares), which is software for conducting component-based SEM analysis that allows importing variable indicator data in the model. In addition to predicting a model and validating accepted theories, SmartPLS can be used to clarify if latent variables or variables have a relationship (Cheung et al., 2023; Hanafiah, 2020).

## 2. METHOD

This study uses a conceptual model by adopting the behavioral science and design science framework by Hevner (2004) which is a conceptual framework used to understand, execute, and evaluate IS research that combines behavioral science and design-science paradigms (Fahd et al., 2021). This conceptual model is shown in

Figure . This research is quantitative in nature using data derived from samples obtained through data collection using quantitative research instruments. In determining the sample, non-probability sampling techniques are used, namely exhaustive sampling in the form of sampling techniques when all

members of the population are used as samples (Sugiyono, 2014). In conducting this quantitative research, a model for systematic problem solving is used which is shown in Figure .

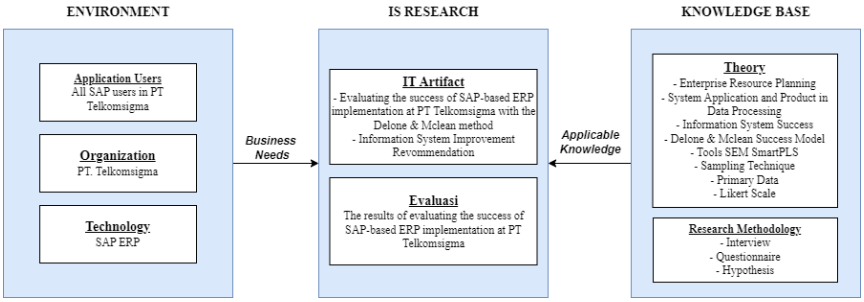


**Figure 1**. Hevner's Conceptual Model (2004)

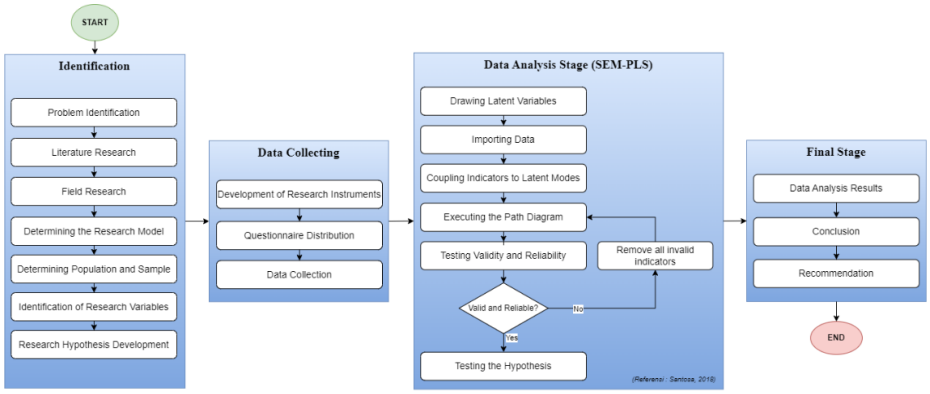


**Figure 2**. Systematization of Problem Solving

This systematics starts from the identification stage to identify problems to develop research hypotheses based on the specified variables. Based on the DeLone & McLean model, which is shown in **Figure 3**, the hypothesis employed in this study.

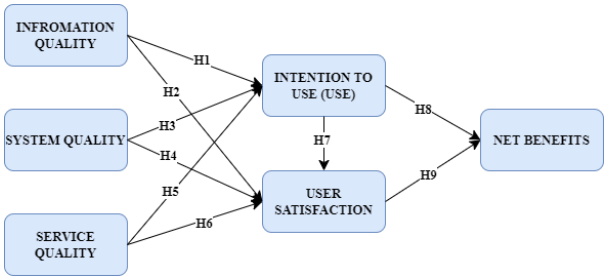


**Figure 3**. DeLone & Mclean Hypothesis Development Model

There are 9 hypotheses developed. After developing the hypothesis, data collection was carried out through a questionnaire distributed to respondents using a 5-point Likert scale. The results of the questionnaire obtained were then analyzed using the SEM-PLS (Structural Equation Modeling-Partial Least Square) method to obtain hypothesis testing. After obtaining the hypothesis, the final stage will be carried out to conclude from the results of the hypothesis test.

## 3. RESULT AND DISCUSSION

### Result

Respondent demographic data was obtained from the results of a questionnaire distributed online via Email and Google form and obtained data for 30 respondents from 33 existing samples with demographic data as in

Table ***1***.

**Table 1**. Table of Respondent Demographics

| Item | Demographics | Frequency | Percentage |
|---|---|---|---|
| **Age** | 20-29 years old | 7 | 23,3% |
| | 30-39 years old | 8 | 26,7% |
| | 40-49 years old | 7 | 23,3% |
| | ≥ 50 years | 1 | 3,3% |
| **Gender** | Male | 19 | 63,3% |
| | Female | 11 | 36,7% |
| **Last education** | S1/Bachelor's Degree | 25 | 83,3% |
| | D3/Diploma | 3 | 10% |
| | S2/Master | 2 | 6,7% |
| **Length of service** | ≤ 1 year | 3 | 10% |
| | 2-5 years | 6 | 20% |
| | 6-9 years | 6 | 20% |
| | ≥10 years | 15 | 50% |
| **Duration of SAP Usage per month** | ≥10 times | 30 | 100% |

From the results of respondent demographic data, it can be seen that all respondents frequently use SAP applications in their work time, and the majority of employees are still 30-39 years old so they are still fairly productive at work. Most respondents are also graduates of the last 6-10 years, so it is assumed that there is already more experience in using technology. This respondent's work experience can affect the respondent's answer to his experience in using the SAP ERP system at PT XYZ. In descriptive statistics, an analysis is carried out on the indicator data that has been obtained from the questionnaire results, which will be imported and then associated with the latent variable. The results of descriptive statistics can be seen in

Table ***2***.

**Table 2**. Descriptive Statistics Table

| Indicator | Mean | Standard Deviation | Indicator | Mean | Standard Deviation |
|---|---|---|---|---|---|
| IQ1 | 4,433 | 0.504 | **ITU1** | 4,167 | 0.531 |
| IQ2 | 4,433 | 0.504 | **ITU2** | 4,000 | 0.587 |
| IQ3 | 4,133 | 0.507 | **ITU3** | 4,067 | 0.450 |
| IQ4 | 4,167 | 0.648 | **ITU4** | 4,167 | 0.531 |
| IQ5 | 4,200 | 0.847 | **US1** | 4,100 | 0.548 |
| SYQ1 | 4,300 | 0.596 | **US2** | 4,200 | 0.407 |
| SYQ2 | 4,200 | 0.484 | **US3** | 3,967 | 0.556 |
| SYQ3 | 3,800 | 0.714 | **NB1** | 4,167 | 0.592 |
| SYQ4 | 3,933 | 0.583 | **NB2** | 4,133 | 0.346 |
| SYQ5 | 4,300 | 0.651 | **NB3** | 3,833 | 0.531 |
| SEQ1 | 4,267 | 0.640 | **NB4** | 4,033 | 0.556 |
| SEQ2 | 4,200 | 0.551 | **NB5** | 4,133 | 0.434 |
| SEQ3 | 3,967 | 0.718 | | | |

To conduct the test, a path diagram is drawn and connected to the latent variable and its indicators. Indicators are said to be valid and sufficient if they have a loading value of at least 0.7 (original sample) and no more than 0.95 to the latent variable, if there is a value that does not meet this standardization, it must be removed from the path diagram because it shows a poor level of validity and reliability. SmartPLS outer model diagram in Figure 4.

**Table 3.** Preliminary Results of Outer Loading Table

| Variables | Indicator | *Outer loading* | Description |
|---|---|---|---|
| Information Quality | **IQ1** | 0.859 | Valid |

| Variables | Indicator | *Outer loading* | Description |
|---|---|---|---|
| (IQ) | **IQ2** | 0.770 | Valid |
| | **IQ3** | **0.576** | Invalid |
| | **IQ4** | 0.758 | Valid |
| | **IQ5** | 0.774 | Valid |
| Intention to Use (Use) | **ITU1** | 0.895 | Valid |
| (ITU) | **ITU2** | 0.751 | Valid |
| | **ITU3** | 0.913 | Valid |
| | **ITU4** | **0.132** | Invalid |
| Net Benefits | **NB1** | 0.744 | Valid |
| (NB) | **NB2** | 0.704 | Valid |
| | **NB3** | **0.530** | Invalid |
| | **NB4** | 0.799 | Valid |
| | **NB5** | 0.789 | Valid |
| Service Quality | **SEQ1** | 0.811 | Valid |
| (SEQ) | **SEQ2** | 0.806 | Valid |
| | **SEQ3** | 0.829 | Valid |
| System Quality | **SYQ1** | 0.866 | Valid |
| (SYQ) | **SYQ2** | **0.664** | Invalid |
| | **SYQ3** | 0.760 | Valid |
| | **SYQ4** | 0.729 | Valid |
| | **SYQ5** | **0.576** | Invalid |
| User Satisfaction | **US1** | 0.815 | Valid |
| (US) | **US2** | 0.920 | Valid |
| | **US3** | 0.825 | Valid |

From Figure 4, it can be seen that five indicators do not meet the standard outer loading value or are below 0.7, namely the IQ3 indicator (0.576), ITU4 (0.132), NB3 (0.530), SYQ2 (0.664), and SYQ5 (0.576) which can be described in detail in Table 3. The five invalid indicators must be eliminated from the path diagram and recalculated in the PLS-SEM algorithm until all valid indicators are obtained. After deletion and recalculation, the final results of the path diagram of the outer model can be seen in Figure .

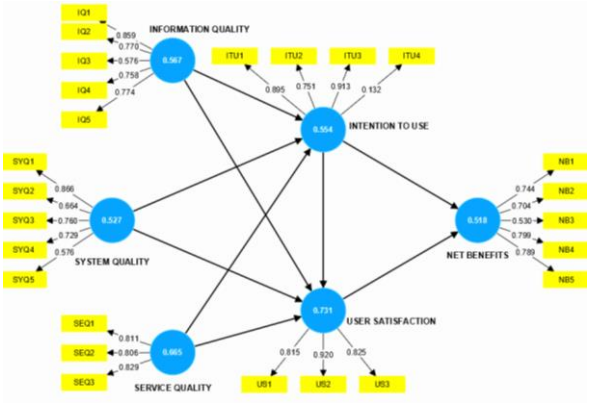


**Figure 4**. SmartPLS outer model diagram

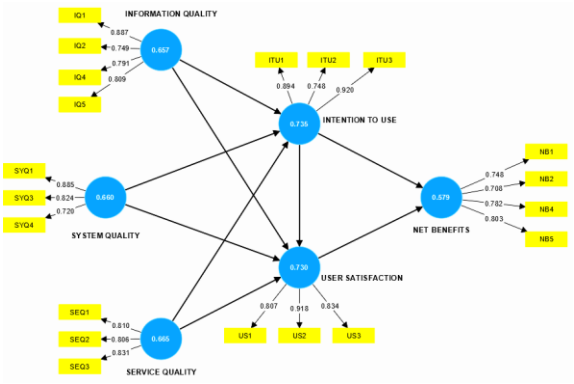


**Figure 5**. Outer Model Diagram After Indicator Elimination

The results of the outer model diagram after being eliminated and getting the results of all indicators are valid because they have a value of more than 0.70. the indicators and their loading values can be detailed in Table 4.

**Table 4**. Table of Outer Loading Results After Indicator Elimination

| Variables | Indicator | Outer Loading | Description |
|---|---|---|---|
| Information Quality (IQ) | **IQ1** | 0.887 | Valid |
| | **IQ2** | 0.749 | Valid |
| | **IQ4** | 0.791 | Valid |
| | **IQ5** | 0.809 | Valid |
| Intention to Use (Use) (ITU) | **ITU1** | 0.894 | Valid |
| | **ITU2** | 0.748 | Valid |
| | **ITU3** | 0.920 | Valid |
| Net Benefits (NB) | **NB1** | 0.748 | Valid |
| | **NB2** | 0.708 | Valid |
| | **NB4** | 0.782 | Valid |
| | **NB5** | 0.803 | Valid |
| Service Quality (SEQ) | **SEQ1** | 0.810 | Valid |
| | **SEQ2** | 0.806 | Valid |
| | **SEQ3** | 0.831 | Valid |
| System Quality (SYQ) | **SYQ1** | 0.885 | Valid |
| | **SYQ3** | 0.824 | Valid |
| | **SYQ4** | 0.720 | Valid |
| User Satisfaction (US) | **US1** | 0.807 | Valid |
| | **US2** | 0.918 | Valid |
| | **US3** | 0.834 | Valid |

The validity of the data additionally be measured using the AVE (Average Variance Extracted) score. In this AVE score assessment, the AVE value must have a value of more than 0.5 (> 0.50). If this value is sufficient, it means that the construct or variable describes that half of the variance comes from the average of each indicator. The AVE value in **Table** 5 shows that all AVE values are valid and accepted because they are more than 0.50. For the lowest value of 0.579 in Service Quality (SEQ) and the highest value of 0.735 in System Quality (SYQ). The AVE assessment for validity has been accepted so that the next test can be carried out on the reliability test. This reliability test is carried out on Cronbach's Alpha and Composite reliability values to test whether the data obtained from the research instrument shows adequate internal consistency. The composite reliability value must be >0.70 so that a construct can be accepted as having high reliability, although a value of 0.60 is still appropriate. Then, Cronbach's Alpha value is considered to be reliable if the value is >0.70 (Yusup, 2018). The test results in Table 5 show that the Cronbach's Alpha value for each variable is > 0.70. thus indicating that each variable is reliable (trustworthy). Likewise, the composite reliability value shows a value of more than 0.70 so it is reliable.

**Table 5**. Validity and reliability test results table

| Variables | Average Variance Extracted (AVE) | Validity Description | Cronbach's Alpha | Composite reliability | Reliability Description |
|---|---|---|---|---|---|
| Information Quality | 0.657 | Accepted | 0.834 | 0.894 | Reliable |
| System Quality | 0.735 | Accepted | 0.815 | 0.823 | Reliable |
| Service Quality | 0.579 | Accepted | 0.759 | 0.770 | Reliable |
| Intention To Use | 0.665 | Accepted | 0.751 | 0.757 | Reliable |
| User Satisfaction | 0.660 | Accepted | 0.747 | 0.787 | Reliable |
| Net Benefits | 0.730 | Accepted | 0.815 | 0.837 | Reliable |

Discriminant validity is also tested at the indicator and latent variable levels. Measurement at this stage uses the cross-loading value, which will show discriminant validity at the indicator level, an indicator's loading value needs to be higher than its cross-loading value to other constructs. **Table 6** shows the outcomes of the cross-loading value-based discriminant validity test.

**Table 6**. Results of Discriminant Validity Test (cross loading)

| Variables | IQ | ITU | NB | SEQ | SYQ | US |
|---|---|---|---|---|---|---|
| IQ1 | **0.887** | 0.486 | 0.315 | 0.172 | 0.300 | 0.025 |
| IQ2 | **0.749** | 0.362 | 0.213 | 0.404 | 0.245 | -0.000 |
| IQ4 | **0.791** | 0.305 | 0.055 | 0.202 | 0.302 | -0.109 |
| IQ5 | **0.809** | 0.656 | 0.245 | 0.358 | 0.286 | 0.131 |
| ITU1 | 0.711 | **0.894** | 0.388 | 0.137 | 0.514 | 0.215 |
| ITU2 | 0.202 | **0.748** | 0.639 | 0.231 | 0.348 | 0.422 |
| ITU3 | 0.610 | **0.920** | 0.424 | 0.102 | 0.454 | 0.284 |
| NB1 | 0.225 | 0.529 | **0.748** | 0.157 | 0.360 | 0.472 |
| NB2 | 0.416 | 0.603 | **0.708** | 0.271 | 0.128 | 0.319 |
| NB4 | 0.252 | 0.307 | **0.782** | 0.573 | 0.095 | 0.439 |
| NB5 | 0.020 | 0.279 | **0.803** | 0.352 | 0.216 | 0.767 |
| SEQ1 | 0.227 | 0.068 | 0.352 | **0.810** | 0.085 | 0.337 |
| SEQ2 | 0.183 | 0.110 | 0.322 | **0.806** | 0.029 | 0.428 |
| SEQ3 | 0.483 | 0.264 | 0.383 | **0.831** | 0.148 | 0.284 |
| SYQ1 | 0.254 | 0.516 | 0.301 | 0.021 | **0.885** | 0.369 |
| SYQ3 | 0.392 | 0.390 | 0.174 | 0.316 | **0.824** | 0.462 |
| SYQ4 | 0.177 | 0.326 | 0.179 | -0.180 | **0.720** | 0.188 |
| US1 | -0.162 | 0.184 | 0.391 | 0.354 | 0.186 | **0.807** |
| US2 | 0.175 | 0.406 | 0.727 | 0.348 | 0.501 | **0.918** |
| US3 | 0.047 | 0.283 | 0.586 | 0.419 | 0.391 | **0.834** |

Furthermore, in the evaluation of the structural model (inner model) wip, -0 hich is a testing step for the path coefficient, coefficient of determination, and t-value analysis, the path diagram will be calculated again in SmartPLS by bootstrapping with a significance level of 5% or 0.05 and using a two-tailed test on 30 sample data to show whether there is a significant effect or not from the variables to be measured. The inner model diagram is shown in Figure .

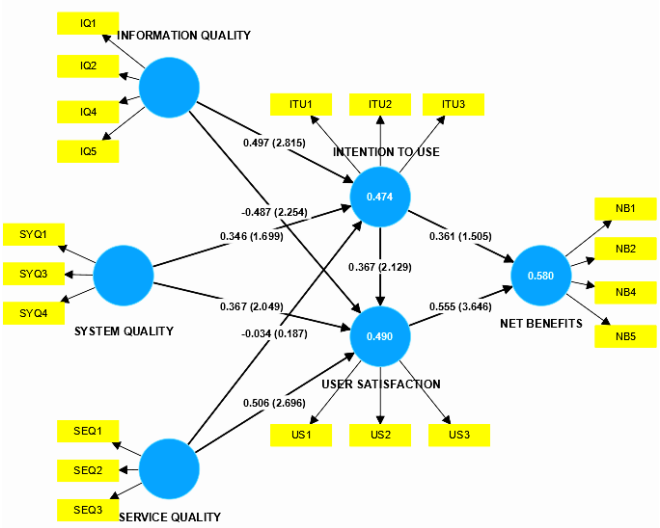


**Figure 6**. Inner Model Diagram of SmartPLS Bootstrapping

The variance of each endogenous variable is displayed by its R-Square value, also known as the coefficient of determination. A standard measurement value of at least 0.67 is regarded as strong, at least 0.33 as moderate, and less than 0.19 as weak indicates a level of variance. The results of the R-square test in this study can be seen in **Table 7**.

**Table 7**. R-Square Test Results

| Variables | Variable Indicator | Conclusion |
|---|---|---|
| Intention to use | 0.474 | Moderate |
| Net benefits | 0.580 | Moderate |
| User Satisfaction | 0.490 | Moderate |

Testing of hypotheses begins with examining the path coefficient which will show the magnitude of the relationship or influence between latent constructs expressed in the hypothesis. Hypothesis testing obtained results as in Table 8. The value of the path coefficient has a standardized value between -1 and +1. Values close to +1, represent a strong positive relationship/influence between related variables, while if the coefficient value is close to -1, it shows a very strong negative influence (Hair et al., 2014). For testing through the P-value, a significance level/error rate of 0.05 is used so that the hypothesis will have a significant effect if the P-values ≤ 0.05. Furthermore, T-statistic testing is carried out using the bootstrapping method, which uses a two-tailed test type and a significance level of (α) 5% to test the research hypothesis. For testing the t-statistics value, the hypothesis can be accepted if t-count > t-table. The t-table value is obtained from the student-t distribution table, using 30 sample data, the df value = 29, then the t-table value = 2.045. So, for this research hypothesis will be accepted if the t-statistic value > 2.045. Vice versa, if the t-statistic value < 2.045, the hypothesis is rejected.

**Table 8**. Hypothesis Test Results

| Hypothesis | Variables | Path coefficient | P-values | T-statistic | T-Table | Relationship |
|---|---|---|---|---|---|---|
| H1 | IQ→ IT | 0.497 | 0.005 | 2.815 | 2.045 | Positive, Significant (Strong) |
| H2 | IQ→ US | -0.487 | 0.025 | 2.254 | 2.045 | Negative, Significant (Weak) |
| H3 | SYQ→ ITU | 0.361 | 0.090 | 1.699 | 2.045 | Positive, *Not Significant* (Weak) |
| H4 | SYQ→ US | 0.367 | 0.041 | 2.049 | 2.045 | Positive, Significant (Strong) |

| | | | | | | |
|---|---|---|---|---|---|---|
| H5 | SEQ→ ITU | -0.034 | 0.851 | 0.187 | 2.045 | *Negative, Not Significant (Weak)* |
| H6 | SEQ→ US | 0.506 | 0.007 | 2.696 | 2.045 | Positive, Significant (Strong) |
| H7 | ITU→ US | 0.346 | 0.034 | 2.129 | 2.045 | Positive, Significant (Strong) |
| H8 | ITU→ NB | 0.367 | 0.133 | 1.505 | 2.045 | Positive, *Not Significant (Weak)* |
| H9 | US→ NB | 0.555 | 0.000 | 3.646 | 2.045 | Positive, Significant (Strong) |

**Discussion**

Based on the hypothesis testing that has been carried out, it can be described from the first hypothesis H1, namely Information Quality will have a positive and significant effect on the use of Intention to Use is **accepted** because because it is demonstrable by focusing on a path coefficient value of 0.497 which is positive, p-values of 0.005, t-statistic value 2.815 > 2.045. There is a strong influence of information quality which will positively affect the intention to use of employees or users who work for the company. The outcomes of this research are in line with the theory that information quality influences system usage (Fahd et al., 2021; Hamid & Ikbal, 2017). If a system produces quality information that is easy to understand and in accordance with user needs, it can increase interest in using the system by users. Other research also resulted in the acceptance of the influence between information quality and ERP user usage (Fahd et al., 2021; Fathurohman & Legowo, 2023). Positive experiences with the SAP ERP system or similar systems can increase employee intentions to engage in using the system. In the second hypothesis H2, namely Information Quality will have a positive and significant effect on User Satisfaction is **rejected** because it has a significant relationship, but it turns out that the correlation still has a negative effect so the relationship can still be said to be weak, as demonstrated by the path coefficient value of -0.487, the P value of 0.025, and the t-statistic value of 2.254 > 2.045. So, if the quality of information in terms of complete data access, relevant information, good information security does not affect increasing user satisfaction. This is because user satisfaction is also still a subjective indicator so it can provide different opinions from each SAP ERP user at PT XYZ. In previous on measuring the success of an integrated student academic system through mobile applications, resulting in information quality that does not affect user satisfaction (Gu et al., 2021; Rabiatul & Raharso, 2020). The third hypothesis H3, namely System Quality will have a positive and significant effect on Intention to Use is **rejected** because its relationship is positive but with a path coefficient value of 0.361, the correlation is not statistically significant, then the P value of 0.090 and also the t-statistic value of 1.699> 2.045. The results of this hypothesis are also supported by research on the KAI E-ticketing system which also provides the results of the absence of influence between system quality and usage because in the context of E-ticketing, a simple system is used but it turns out that usage still increases due to necessity factors (Afnan, 2018). In addition, the evaluation of the success of the implementation of E-Invoicing in enterprises using DeLone & Mclean shows that there is no significant influence between system quality and intention to use (Amalina & Suryani, 2020; Pratiwi & Susanti, 2021). This study also mentions the reason that users use the system provided it is mandatory and regulations require it.

The fourth hypothesis H4, namely System quality will have a positive and significant effect on User Satisfaction is **accepted** because it is demonstrable by focusing on a number of crucially connected values such as path coefficient of 0.367, p-values of 0.037, t-statistic value 2.008> 1.699. The outcomes of this research are in line with research on system quality affecting user satisfaction from the ERP system at PTPN VI (Alzoubi & Snider, 2020; Putri et al., 2022). In addition, research on the E-filing system, states that information quality affects user satisfaction because system quality is formed from aspects of accessibility, and user convenience which can affect user satisfaction using the system. Other research also shows a significant influence between system quality and user satisfaction and assumes that even though the system is mandatory, users can still find satisfaction from the results and quality of the system used at that time, thus affecting the level of satisfaction of users (Akrong et al., 2022; Yosevine et al., 2021). The fifth hypothesis H5, namely Service quality will have a positive and significant effect on Intention to Use is **rejected**, because the correlation has a negative effect, namely the path coefficient value of -0.034 and the correlation is not significant, namely the p-values are 0.851 > 0.05 and the t-statistic value is 0.187 < 2.045. This shows that service quality does not affect increasing the interest in use from users, namely employees in the company. This can be influenced by factors in the form of users who use the SAP ERP system, for example, employees continue to use the system because of the obligation to use it at work, but the response service provided by SAP at PT XYZ can still cause errors or long load times so this still needs improvement. Research conducted on the evaluation of Ms. Dynamics 365 at PT Metindo Erasakti also results in service quality that does not affect user satisfaction because the system is still wrong in responding to those executed by users. Research on the E-Ticketing system in the company has no

mutually significant effect, this is assumed because the use of the service is only due to obligation (Hammad et al., 2024; Sari et al., 2020).

The sixth hypothesis H6, namely Service Quality will have a positive and significant effect on User Satisfaction is **accepted** because it is demonstrable by focusing on a number of crucially connected values such as path coefficient of 0.506, p-values of 0.007, t-statistic value of 2.696 > 2.045. This shows that service quality is a variable that plays an important and influential role in determining User Satisfaction in implementing an ERP system. The outcomes of this research are in line with the theory that user satisfaction influenced by service quality. If a system provides good service when accessed, users feel satisfied with the system's performance. In service quality affecting user satisfaction because privacy and security increase, and customer satisfaction also increases (Ardiaz, 2017; Irfan et al., 2019).

In the seventh hypothesis H7, namely Intention to Use will possess a positive and significant effect on User Satisfaction is **accepted** because it is demonstrable by focusing on a number of crucially connected values such as path coefficient of 0.346, p-values of 0.034, t-statistic value 2.129 > 2.045. Thus, the higher the interest in using the system or the level of use of employees of SAP ERP in the company, the higher the level of user satisfaction with the existing ERP implementation. The outcomes of this research are in line with the theory that usage influences user satisfaction. If the use by the user is increasing and is interested in using without encouragement from anyone, then user satisfaction also means higher (Akram et al., 2017; Prasetyo et al., 2021). The eighth hypothesis H8, namely Intention to Use will have a positive and significant effect on Net Benefits is **rejected** which is seen by the coefficient value of 0.367, which satisfies the positive conditions; however, the t-statistic value, at 1.505 < 2.045, is smaller than the t-table, and the p-value is 0.133 > 0.05. If the interest in using the system by users has a large value, it cannot be proven that the net benefits will also increase. There was no influence between usage and net results obtained, which shows how often usage and the number of daily transactions carried out by users were not enough to show an influence on the net benefits of using E-Inovice (Enggarwati, 2017; Khrais, 2020). In the last hypothesis, H9, namely User Satisfaction will have a positive and significant effect on Net Benefits because it is demonstrable by focusing on a number of crucially connected values such as the path coefficient of 0.555, p-values of 0.000. t-statistic value of 3.646 > 2.045. So, this hypothesis is **accepted**. This shows that the higher the user satisfaction with the ERP implementation implemented in the company, the higher the net benefits of implementing ERP in the company. Other research was also conducted on the use of Ms. Dynamics 365 at PT Metindo Trisakti that if user satisfaction increases, then net benefits will also increase, a positive and significant influence between user satisfaction and net benefits (Wahyudi, 2016; Zainol et al., 2017). By applying the DeLone & McLean Model to evaluate SAP-based ERP implementations, organizations can gain insight into success factors and areas that need improvement, so they can better utilize and optimize the system to achieve organizational goals. The overall benefits obtained from implementing SAP ERP, such as increased efficiency, productivity, cost savings, and improved decision making. part from that, the costs incurred in implementing and maintaining SAP ERP are related to the benefits felt by the organization.

## 4. CONCLUSION

The implementation of the SAP ERP system cannot be said to be a direct success in its application at PT XYZ. The information quality variable shows a significant effect on intention to use, but system quality and service quality have no significant effect on intention to use. Then the system quality, service quality, and intention to use variables affect user satisfaction, but the system quality does not have a significant effect on user satisfaction. There are independent variables that are not significant with the intention to use, the intention to use variable does not have a significant effect on net benefits for ERP system implementation. Users who have a high level of use can be due to job demands and obligations, so the number of users who use the application or system in large numbers does not necessarily result in good work effectiveness and the same ability to use. Furthermore, the user satisfaction variable has a substantial impact on net benefits, meaning that how well the SAP ERP system is applied within the organization will depend on how satisfied users are with the system's ability to deliver the intended results and enhance performance.

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