Conference paper

ANALYSIS OF SUCCESS FACTORS IN THE IMPLEMENTATION OF THE DIRECTORATE GENERAL OF TAXES INFORMATION SYSTEM DEVELOPMENT (SIDJP) USING THE DELONE AND MCLEAN MODEL

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Abstract.
In this era of globalization, information technology has developed rapidly along with the increasing human needs. The traffic of goods, services, and information can be accessed through internet services and communication media without any limitation of time and place. User satisfaction is the overall evaluation of the user experience in using the information system and the potential impact of the information system. The purpose of this study was to analyze the effect of system quality, information quality, and service quality on SIDJP user satisfaction at KPP Pratama Padang. The number of samples in this study were 72 respondents. In collecting data using a questionnaire. The data analysis method used in this research is multiple linear regression. Based on the results of the study indicate that the quality of the system, the quality of information, and the quality of services have a positive and significant effect on the satisfaction of SIDJP users.

Keywords: User satisfaction, SIDJP, system quality, information quality, service quality

1. INTRODUCTION

In this era of globalization, information technology has developed rapidly along with the increasing human needs. The traffic of goods, services, and information can be accessed through internet services and communication media without any limitation of time and place. This progress increases the competition of companies that are increasingly competitive, especially for companies operating in the same sector. In carrying out its operational activities, companies are required to run effectively and efficiently so that an information system is needed to achieve company goals. The use of a well-directed and well-integrated computer-based accounting information system is absolutely necessary for companies to obtain accurate and reliable information in the decision-making process (Rukmiyati & Budiartha, 2016).
The establishment of an information system requires a good understanding of the organizational structure in order to facilitate the division of responsibilities based on their expertise and clarity of relationships between organizational roles. The results of an information system will be widely used by users, namely employees. The establishment of SOP (Standard Operating Procedure) can be used as a guideline for employees in carrying out their work. SOP is one element of the information system, so it can be said that to build an information system it is necessary to pay attention to the existing SOPs in the organization concerned (Lestari et al., 2013)

Quality is one of the important issues in industry (manufacturing, health, education, and government) in recent years and to increase competitive advantage focusing on the issue of “how to develop their quality” (Saha et al., 2012). From the customer’s point of view, quality can be achieved when customer expectations are met for a given product or service. Many companies spend their funds to improve the quality of information systems to increase the competitiveness of companies. In this study, employees are customers of an information system service.

The Directorate General of Taxes Information System is an information system that was introduced in 2015 and is used at the Padang Pratama Tax Service Office. SiDJP can provide information that can facilitate the work of employees to support the decision-making process to support effectiveness and efficiency in collecting tax revenues. The development of information technology is used to improve the quality of services in tax administration. The higher the quality of the available information, it is hoped that there will be improvements in administrative management, increased process speed, efficiency in the implementation of tasks and functions, as well as increased productivity and capabilities of human resources in the field of information systems and tax management.

In fact, the implementation of new systems often experiences obstacles such as employees who have difficulty using IT applications and information systems that are less integrated. There needs to be training to synergize interactions between employees and new technology. The use of technology into work procedures and methods can improve work results and provide satisfaction to employees. Au & Cheng (2012) say that ensuring that end users can and want to use advanced information systems is very important for organizations because it can increase efficiency and user satisfaction.

The success of an information system is measured by its ability to meet the needs of the company in solving problems and the level of user satisfaction. One of the models developed by information systems experts to measure information system user satisfaction is the Delone & Mclean (2003) information system success model. Measurement of
information system user satisfaction is to assess the desired characteristics of a system (system quality), the desired characteristics of the system output (information quality), and the quality of support received from system users (service quality). Based on the description above, the researcher is interested in measuring SIDJP user satisfaction by using the Delone & Mclean (2003) information system success model.

1.1. Information Systems

The system is a collection or group consisting of two or more interconnected components or subsystems to achieve the same goal. A system consists of several parts that have the same characteristics as its parent, this part is called a subsystem. Subsystems have different components, processes and goals from the parent system, but these goals must be coordinated with the main goals in order to achieve goal alignment. Information is processed data where the information is determined by its effect on the user, not by its physical form (Hall, 2011).

An information system is a man-made system that generally consists of an integrated set of computer-based components and an array of manual components to collect, store, and manage data and to provide information results to users (Gelinas & Dull, 2012). An information system is a man-made system consisting of brainware, hardware, software, communication networks and data resources that are integrated with each other in processing data into information.

1.2. Directorate General of Taxes Information System (SIDJP)

The definition of SIDJP according to the Regulation of the Directorate General of Taxes Number PER-160/PJ/2006 dated November 6, 2006 is as follows:

"The Directorate General of Taxes Information System is an information system in tax administration in the modern office environment of the Directorate General of Taxes using hardware and software that is connected to a network at the Head Office."

Meanwhile, according to SE-19/PJ/2007 dated April 13, 2017:

"The Directorate General of Taxes Information System is an Information System application of the Directorate General of Taxes that combines all existing tax applications at DGT, namely SIP, SAPT, SISMIOP, SIG, and SIDJP in the current version."

Saputra et al. (2014) said that the Directorate General of Taxes Information System (SIDJP) is a tax administration information system in the Directorate General of Taxes with the help of hardware and software that is connected by a computer network so
that it can be connected from the Head Office of the Directorate General of Taxes to Regional Offices, Offices of Middle Tax Service and Tax Service Office Primary throughout Indonesia. SIDJP has four main components, namely the core system, case generator, workflow system and taxpayer profile.

The basic concept of implementing the Directorate General of Taxes Information System (SIDJP) is the existence of a processing of various Taxpayer input transaction data in the form of registration, reporting and tax payments that are integrated by using the main modules of tax administration and the Tax Service Office database that is in the system. that information.

The Directorate General of Taxes Information System provides supporting facilities for the creation of accurate taxpayer data with the active participation of each section in monitoring taxpayer data. The system produces reports that can be accessed by KPP, Regional Offices and DGT Head Office. The system is used by all employees within the Directorate General of Taxes.

1.3. Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) is a theory developed by Fishbein and Ajzen (1975) in Sheppard et al. (1988) known as behavior as the basis. TRA is the best known model of social psychology behavior by incorporating external factors (normative beliefs) on the intention to adopt overt behavior (Prager, 2012). TRA uses the intention to perform a certain behavior as the basis for actual behavior. Based on the definition of the theory of reasoned action, it can be concluded that attitudes Individuals in acting are influenced by rational actions in using available information. TRA is intended for substantive individual behavior and has been applied in various fields to increase positive behavior and theoretically to determine human behavior with respect to the fundamental factors that determine behavior to engage or not to take certain actions (Lujja et al., 2016). From this, three determinants of human behavior are formed, namely behavioral intentions and the factors are attitudes towards behavioral norms and subjectivity.

1.4. Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was introduced by Davis & Davis (1989) which was developed from Theory Reasoned Action (TRA) and became a technology acceptance model based on the user environment of information systems. The TAM model explains
how information technology users accept the technology used and understand user behavior towards new technology acceptance by analyzing the relationship between reasoning and affective perspectives and technology users (Cheng, 2013).

Ease of use (ease of use) and usefulness (usefulness) are the main indicators that have an impact on user behavior and intention to use. User-friendliness is defined as “the degree to which individuals believe in using the system effort-free” and use is defined as “the degree to which individuals believe in using systems that help their job performance become “better” “good” (Davis & Davis, 1989). The purpose of this TAM model is to explain individual attitudes towards technology use by describing the level of technology use.

1.5. DeLone and M Lean

DeLone & McLean (1992) developed a parsimony model, namely the D&M success model. The D&M success model is based on a causal relationship process from six dimensions, namely system quality, information quality, usage, user satisfaction, individual impact and organizational impact. This model does not independently measure these dimensions by measuring them as a whole. System quality and quality independently and jointly affect the use and but rather information user satisfaction. Usage and user satisfaction affect individual impact and individual impact affects organizational impact.

DeLone & McLean (1992) say that information as a result of information systems or messages in communication systems that can be measured at various levels, namely technical level, semantic level, and level of effectiveness. Shannon and Weaver (1949) in (DeLone & McLean, 1992) describe the technical level as the level of accuracy and efficiency of the system in generating information, the semantic level as the success of information in conveying the meaning of the information, and the level of effectiveness as the impact of information on the recipient. In the D&M IS Success Model, system quality measures technical success, information quality measures semantic success, and usability, user satisfaction, individual and organizational impact measure effectiveness.

The process of these six dimensions of success suggests an interrelated rather than independent relationship. This has an important influence on the measurement, analysis and reporting of information system success. Meanwhile the process model shows that the first IS created contains various features, which can be characterized in various levels of system quality and information quality. Managers and users experience the privileges of using the system and being satisfied or dissatisfied with the system or the
information it produces whole. In contrast to the process model, the causal model studies the dimensions of success in determining whether there is a causal relationship between variables. For example, higher system quality is expected to result in satisfaction and use, also positively impacting individual productivity, resulting in increased productivity in the organization. The purpose of combining taxonomic success with model success is to assist in understanding the possible interrelationships between dimensions success and to provide a more detailed parsimony relationship.

Seddon & Kiew (1996) tested four of the six variables of the D&M success model, namely, system quality, information quality, user satisfaction and usage. In the model of Seddon & Kiew (1996) the variable of use is changed to usefulness. This model also adds a system importance variable to provide an explanation for user perceptions of user usability and satisfaction. The causality relationship between use and user satisfaction is replaced by a one-way causality relationship, namely usability leads to user satisfaction.

Seddon (1997) tested the D&M (1992) success model. Seddon (1997) considers that the model process and causality process cannot be combined in one model. This will result in ambiguity and overlap between the process and the interpretation of the variants. The merging of two variant models, namely the partial behavioral model of the use of information systems and the D&M success model into a new model that can clarify the ambiguity in the D&M success model (1992).

DeLone and McLean reviewed various studies, one of which was the criticism of Seddon (1997) and created a new information system model. The D&M model (2003) is a development of the D&M model by adding service quality variables, replacing individual impact variables and organizational impacts into net benefits and adding an intention of use dimension as an alternative to the usage dimension.

The service quality variable is the response of the D&M model to the development of information technology systems. DeLone and McLean assume that information technology systems are not only information providers, but also service providers. To measure the services of service providers, Delone & Mclean (2003) add service quality variables.

Changes in individual and organizational impact variables into net benefits. Delone & Mclean (2003) assume that information systems not only have an impact on individuals and organizations, but also have an impact on user groups, between organizations, consumers, suppliers, society, and countries. The number of impacts caused by information systems, then DeLone and McLean combine all the benefits into a net benefit variable.

There are three dimensions of quality, namely system quality, information quality, and service quality. Each quality variable must be measured separately, because alone
or together can affect the use and satisfaction of users. As a result of usage and user satisfaction, certain net benefits will occur. If the information system or service is continued, it is assumed that the net profit from the perspective of the owner or supporter of the system is positive, will influence and strengthen variable usage and user satisfaction. The lack of positive benefits leads to a decrease in usage and allows the system or information systems department to shut down.

2. METHODOLOGY

Data collection was obtained by giving questionnaires or questionnaires to respondents. Questionnaires are some written questions posed by researchers to respondents to obtain empirical data that will be used in hypothesis testing. The use of questionnaires in the data collection method to obtain information on user satisfaction of the Directorate General of Taxes Information System. Respondents in this study were employees using SIDJP at KPP Pratama Padang.

2.1. Validity Test

Validity test to measure whether or not a questionnaire is valid or not. A questionnaire is said to be valid if the questionnaire questions are able to reveal something that will be measured by the questionnaire (Ghozali, 2013).

According to Ghozali (2013), measuring validity can be done by doing a correlation between the score of the questions with the total score of the construct or variable. The significance test was carried out by comparing the calculated r value with the r table for degree of freedom (df) = n-2. If r count > r table then the statement is said to be valid.

2.2. Reliability Test

Reliability test is a tool to measure a questionnaire which is an indicator of a variable or construct. A questionnaire is said to be reliable or reliable if a person’s answer to the statement is consistent or stable from time to time (Ghozali, 2013). Measurement of whether a variable is reliable or not is done by statistical tests using Cronbach Alpha. A variable or construct is said to be reliable if the Cronbach Alpha value is > 0.70.
2.3. Classical Assumption Test Normality Test

The normality test aims to see whether the residual value is normally distributed or not. A good regression model is to have a normally distributed residual value. The normality test was conducted to determine whether in the regression model, the independent variable and the dependent variable or both had a normal distribution or not (Ghozali, 2013). This test uses the Kolmogrov-Smirnov test to test the normality of the data.

**Multicollinearity Test**

The multicollinearity test aims to test whether the regression model found a correlation between independent variables (Ghozali, 2013). Multicollinearity test states the relationship between independent variables. If there is a high correlation between the independent variables, then the relationship between the independent variable and the dependent variable will be disturbed. A good regression model does not occur multicollinearity. To detect the presence or absence of multicollinearity, it is done in two ways, namely by looking at the tolerance value and its opposite, and the variance inflation factor (VIF). If the tolerance 0.10 or equal to the VIF value 10, it indicates the presence of multicollinearity, and vice versa (Ghozali, 2013).

2.4. Heteroscedasticity Test

Heteroscedasticity test is used to test whether in a regression model there is an inequality of variance and residuals from one observation to another. If the residual variance from one observation to another observation remains, it is called homoscedasticity and if it is different it is called heteroscedasticity.

In this test, the Glejser test can be carried out by regressing all independents from the regression model with the absolute value of the residual. If the independent variable significantly affects the dependent variable, it is an indication that there is a heteroscedasticity problem.

2.5. Multiple Linear Regression Analysis

Multiple linear regression analysis was conducted to examine the effect of several independent variables on one dependent variable. The analysis in this study was carried out with multiple linear analysis techniques. Tests are carried out to determine the effect of each between the independent variables (free) and the dependent variable (bound).
3. RESULTS AND DISCUSSION

3.1. Reliability Test

The following are the results of instrument reliability tests for system quality variables, information quality, service quality, and user satisfaction.

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Cronbach Alpha</th>
<th>critical value</th>
<th>description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Quality</td>
<td>0.927</td>
<td>&gt; 0,70</td>
<td>Reliable</td>
</tr>
<tr>
<td>Information Quality</td>
<td>0.931</td>
<td>&gt; 0,70</td>
<td>Reliable</td>
</tr>
<tr>
<td>Service Quality</td>
<td>0.928</td>
<td>&gt; 0,70</td>
<td>Reliable</td>
</tr>
<tr>
<td>User Satisfaction</td>
<td>0.929</td>
<td>&gt; 0,70</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

From table 1 above, it can be seen that the coefficient of Cronbach's Alpha > 0.70 so that all questions in the questionnaire on the question items on the variables of system quality, information quality, service quality, and user satisfaction are reliable.

3.2. Classic assumption test

3.2.1. Normality test

The normality test aims to test whether in the regression model the dependent variable and the independent variable have a normal distribution or not. A good regression model is to have a normal data distribution or close to normal (Ghozali, 2013). To test for normality, it can be analyzed by looking at the probability value. The basis for decision making is if the probability value is > 0.05, then the regression model meets the assumption of normality. The results of the normality test using the Kolmogorov Smirnov Test are as follows:

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Sig</th>
<th>Level of Significant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual1</td>
<td>0.820</td>
<td>0.05</td>
<td>Normal</td>
</tr>
</tbody>
</table>

Based on the results of the normality test with the Kolmogorov Smirnov Test above, it can be seen that the probability value is > 0.05, then the regression model meets the assumption of normality.
3.3. Multicollinearity Test

Multicollinearity test is a condition where one or more independent variables can be expressed as a linear combination of other independent variables. A good regression model should not have a correlation between independent variables. The detection of multicollinearity in this study was carried out using the VIF method. If the VIF is less than 10, it can be concluded that there is no multicollinearity. The results of the multicollinearity test using the VIF method are as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>Critical Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Quality (X₁)</td>
<td>3.642</td>
<td>10</td>
<td>No multicollinearity</td>
</tr>
<tr>
<td>Information Q (X₂)</td>
<td>3.490</td>
<td>10</td>
<td>No multicollinearity</td>
</tr>
<tr>
<td>Service Quality (X₃)</td>
<td>3.051</td>
<td>10</td>
<td>No multicollinearity</td>
</tr>
</tbody>
</table>

Based on the results of the multicollinearity test with the VIF method, the VIF value < 10, meaning that all independent variables do not occur multicollinearity, so it does not bias the interpretation of the results of the regression analysis.

3.4. Heteroscedasticity Test

Heteroscedasticity test is used to test whether in a regression model there is an inequality of variance and residuals from one observation to another. If the residual variance from one observation to another observation remains, it is called homoscedasticity and if it is different it is called heteroscedasticity. In this test, the Glejser test can be carried out by regressing all independents from the regression model with the absolute value of the residual. If the independent variable significantly affects the dependent variable, it is an indication that there is a heteroscedasticity problem. The trick is to look at the probability value > 0.05, so there is no heteroscedasticity (Ghozali, 2013). The results of the heteroscedasticity test with Glejser are as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sig.</th>
<th>Critical Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Quality (X₁)</td>
<td>0.565</td>
<td>0.05</td>
<td>No Heteroscedasticity</td>
</tr>
<tr>
<td>Information Q (X₂)</td>
<td>0.432</td>
<td>0.05</td>
<td>No Heteroscedasticity</td>
</tr>
<tr>
<td>Service Quality (X₃)</td>
<td>0.519</td>
<td>0.05</td>
<td>No Heteroscedasticity</td>
</tr>
</tbody>
</table>
Based on the results of the heteroscedasticity test, it can be seen that the probability value is > 0.05. This means that the estimated model is free from heteroscedasticity.

3.5. Multiple Linear Regression Analysis

The analysis in this research is Multiple Linear Regression analysis. This analysis is used to determine the effect of system quality, information quality and service quality on user satisfaction. The following are the results of multiple linear regression calculations with the SPSS program presented in table 4

<table>
<thead>
<tr>
<th>Table 5: Results of Multiple Linear Regression.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>TT_X1</td>
</tr>
<tr>
<td>TTL_X2</td>
</tr>
<tr>
<td>TTL_X3</td>
</tr>
</tbody>
</table>

Based on the results of calculations using the SPSS22 computer statistical program, the results of the Multiple Linear Regression equation are as follows:

\[ Y = 10.642 + 0.211X_1 + 0.142X_2 + 0.209X_3 \]

The equation above shows the effect of system quality, information quality, and service quality on user satisfaction.

Model Accuracy Test

<table>
<thead>
<tr>
<th>Table 6: F . Test Results.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (^3)</td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>a. Predictors: (Constant), TTL_X3, TTL_X2, TT_X1</td>
</tr>
<tr>
<td>b. Dependent Variable: TTL_Y</td>
</tr>
</tbody>
</table>

The results of the F test can be seen in the table. The F test is used to see the suitability of the regression model that has been made, the rejection area is p-value (Sig) < \(\alpha\) .
In the table above, it is known that the calculated F value is 5.423 which means it is greater than the F table value of 2.55 with a significance level of 0.000 which means it is smaller than 0.05, simultaneously has a significant effect and it can be concluded that the selected regression model is appropriate to use for this research.

3.6. Testing the Coefficient of Determination (R2)

The coefficient of determination (R2) is used to determine how much the independent variable's ability to comprehensively explain the dependent variable. The value of R2 has a range between 0-1. The larger R2 indicates the greater the ability of the independent variable in explaining the dependent variable. The following are the results of the calculation of the coefficient of determination with the SPPS program presented in table 6.

<table>
<thead>
<tr>
<th>Model Summary</th>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.636</td>
<td>.405</td>
<td>.379</td>
<td>2.558</td>
<td></td>
</tr>
<tr>
<td>a. Predictors: (Constant), TTL_X3, TTL_X2, TT_X1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Dependent Variable: TTL_Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the output in table 4.12, the R2 number is 63.6%, meaning that the variable satisfaction of SIDJP users at KPP Pratama Padang can be explained by system quality, information quality, and service quality. While the remaining 36.4% is explained by other variables outside the research model.

4. CONCLUSION

Based on the results of data analysis and hypothesis testing, the following conclusions can be drawn:

The quality of the system has a significant effect on the satisfaction of SIDJP users. The results of this analysis indicate that the quality of the system is one of the factors that affect the level of satisfaction of SIDJP users. This is because SIDJP users feel that the quality of the system used is easy and does not require much effort in using it so that the level of user satisfaction is greater. The results of the study prove that SIDJP users will be satisfied if the SIDJP system provided by the Directorate General of Taxes has a good system quality. This shows that users of the information system feel that the
quality of the system provided is easy to understand, easy to use and easy to access tax administration modules. On the other hand, when the quality of the SIDJP system is felt by users to be poor, the level of user satisfaction will decrease. A good quality system requires information system updates related to the modernization of the tax administration module within the Directorate General of Taxes.

Information quality has a significant effect on SIDJP user satisfaction. The results of this analysis indicate that the quality of information is one of the factors that affect the level of satisfaction of SIDJP users. This is because SIDJP users feel that the quality of the information provided is good, accurate and adequate to carry out the work being done.

The results of the study prove that SIDJP users will be satisfied if the quality of information provided by the Directorate General of Taxes is quality and useful. This shows that the quality of information produced by an information system is adequate in the work, providing timely and accurate information. Conversely, when the quality of the information provided is not good, user satisfaction will be lower. Good quality information requires an information system that is able to process input data quickly into good, accurate, and relevant information.

Service quality has a significant effect on SIDJP user satisfaction. The results of this analysis indicate that service quality is one of the factors that affect the level of satisfaction of SIDJP users. This is because SIDJP users feel that the quality of services provided can improve performance so that effectiveness and efficiency in achieving goals can be achieved. The results of the study prove that SIDJP users will be satisfied if the quality of services provided is able to meet the expectations of users of information systems. This shows that the quality of services provided by SIDJP homogenizes and improves tax administration modules. On the other hand, when the quality of services provided by DGT is deemed to be poor, user satisfaction will decrease. Good service quality is when application developers are able to improve the services provided.

References


