The Relationship Between Perceived Ease of Use, Perceived Usefulness and Perceived Loss of Control with User Satisfaction in Mandatory Setting

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Abstract—**The Indonesia's Tax Reforms have mandated the use of information technology system to enhance the tax administration system in Indonesia. During the COVID-19 pandemic, the government is accelerating the tax reforms in order to increase efficiency and achieve the tax revenue target to fund the relief efforts. In line with the tax reforms, the SISMIOP, an information system, is used to perform administration of taxes, specifically for land and building tax. However, the successful implementation of the system can be affected by the level of user acceptance. Using the Technology Acceptance Model, this study aims to examine the correlation between perceived ease of use, perceived usefulness and perceived loss of control with user satisfaction. A census-based survey involving 20 employees at Regional Revenue Agency in Malang was conducted to test the research model using the Spearman's rank correlation methods. The results show that the association between both perceived ease of use and perceived usefulness with user satisfaction are positive and significant. The relationship between perceived ease of use and user satisfaction is the strongest than other variables, indicating that the ease of using the system can strongly and positively affect the user satisfaction. However, the correlation between perceived loss of control and user satisfaction is negative, very weak and not significant.**

Keywords—SISMIOP, perceived ease of use, perceived usefulness and perceived loss of control, user satisfaction

I. INTRODUCTION

To enhance the tax administration system in Indonesia, the Government has promoted the adoption of information technology through its tax reform agenda. The Government is accelerating the tax reforms in order to increase efficiency and achieve the revenue target to fund the COVID-19 pandemic relief efforts. There have been some improvements in the regional tax administration system. One of them is the use of a computerized system for collecting and managing data of Land and Building Tax in the Rural and Urban Sector tax objects. The Tax Object Information Management System (SISMIOP) is known as an information management system used to input Land and Building Tax in the Rural and Urban Sector object data. The SISMIOP, according to Widodo [1], is an integrated system for processing information or data on land and building tax objects and subjects with the help of computers from data collection (through registration, data collection and assessment) to providing tax object identity (Tax Object Number), data recording, maintenance of databases, printing of outputs (in the form of SPPT, STTS, DHKP, etc.), monitoring of revenue and implementation of tax collection, up to service to taxpayers through One-Stop Services. The SISMIOP can be accessed by employees of the Regional Revenue Agency by logging in using their respective IDs and can only access data according to the position of the tax employee in the agency's organizational structure [2].

However, it appears that the use of SISMIOP in Malang Raya is not optimal yet. For example, according to Regional Revenue Agency in Malang, users in some areas in Malang had not entered the data in SISMIOP that resulted in the delay of tax payments. The successful implementation of SISMIOP may be affected by the level of its user acceptance. Using the Technology Acceptance Model (TAM), the users' understanding of the ease of use and the usefulness of technology are examined [3]. According to Lee and Park [4], the TAM needs to be modified to include user satisfaction and perceived loss of control so that the model can be applied in mandatory setting. As such, this study aims to examine the correlation between the perceived ease of use, the perceived usefulness and the perceived loss of control with user satisfaction in evaluating the SISMIOP users' acceptance or satisfaction. The results of this study can be used to inform the relevant stakeholders so that the level of acceptance or satisfaction of the SISMIOP or other system alike can be improved.

In the following sections, the literature review and the methodology used in this study are presented. Then, the results are discussed and finally the conclusions and recommendations for future research are provided.

II. LITERATURE REVIEW

A. Technology Acceptance Model (TAM) in Mandatory Setting

According to Davis [3], Technology Acceptance Model (TAM) is a model for understanding users' adoption and use of information technology. TAM examines the user perception of the ease of use and the usefulness of technology as the main determinants of the technology adoption and usage. However, previous research has indicated potential problems in the TAM application of the usage behavior variable in mandatory setting [2]. Mandatory use can be interpreted as users are obligated to use a particular system or technology in performing their jobs [2]. The intention to use or the actual usage are more suitable for evaluating new IT acceptance in voluntary than mandatory setting in which user satisfaction are more appropriate than actual usage to be used in assessing successful adoption of new IT under mandatory setting. In addition, the perceived loss of control is included in the model as the specific variable for mandatory setting [4]. Mandatory use can be interpreted as users are obligated to use a specific technology or system to perform their jobs [9]. Therefore, a research model of this study can be presented in the following Figure 1.
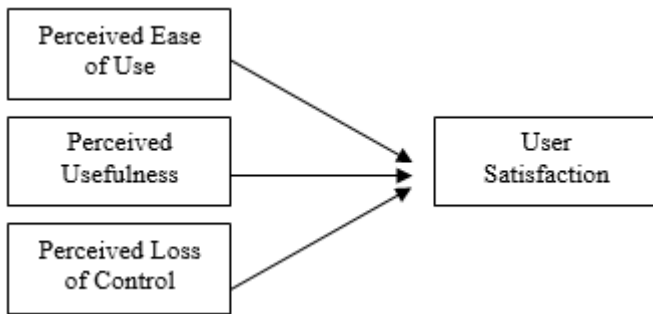

Fig. 1. Research model.

B. TAM and User Satisfaction

Based on TAM, the key variables of perceived ease of use and perceived usefulness influence the usage behavior of a particular system [3]. Perceived ease of use can be defined as the extent that technology is believed as easy to use. Perceived usefulness refers to the degree that the use of a specific system is believed to be useful in improving one's job performance [3]. As mentioned earlier, the intention to use or actual usage in TAM should be replaced by user satisfaction so that TAM can be applied in mandatory setting. According to Ives et al. [5], user satisfaction is how far users believe that their information requirements can be fulfilled by the available information system. Users can be satisfied with the new technology when they think the technology is easy to use and useful. Hence, the following hypotheses are proposed:

Hypothesis 1. There is a positive correlation between perceived ease of use and user satisfaction.

Hypothesis 2. There is a positive correlation between perceived usefulness and user satisfaction.

C. Perceived Loss of Control (PLC) and User Satisfaction

According to Lee and Park [4], in mandatory setting, the perceived loss of control should be included in the technology acceptance model. Perceived loss of control is a new factor that influences user satisfaction in the adoption of new technology in mandatory setting which measures the degree of autonomy in using the technology. When users feel that they have little control in using the new technology, the level of user satisfaction can decrease [4]. As such, the following hypothesis is suggested:

Hypothesis 3. There is a negative correlation between perceived loss of control and user satisfaction.

III. METHODOLOGY

In this study, a census-based survey involving 20 employees at Regional Revenue Agency in Malang was conducted to test the research model using the Spearman's rank correlation methods. The Spearman's Rank Correlation Coefficient, also known as rho or Spearman's 'r_s' is a measure of the degree of the relationship between two ordinal variables. The measurement scales used in this study were adapted from well-established research in IT literatures, such as, perceived ease of use and perceived usefulness [3], perceived loss of control [4] and user satisfaction [2,6]. All items used the five-point Likert scale (5=strongly agree, 4=agree, 3=neutral, 2=disagree, and 1=strongly disagree). The validity of the questionnaires was tested using SPSS 25 software to calculate the Pearson Product Moment. All items were valid in which the correlation coefficient of each item was larger than 0.444 ($r > 0.444$) and statistically significant ($p < .05$). In terms of reliability, all variables were reliable where each of them had a reliability coefficient of more than 0.6 ($\alpha > 0.6$). Based on the calculation of the Cronbach's Alpha formula, the following results were obtained in Table 1.

TABLE I.   RELIABILITY TESTS

Latent Variable	Reliability
Perceived Ease of Use	0.782
Perceived Usefulness	0.927
Perceived Loss of Control	0.726
User Satisfaction	0.658

IV. RESULTS AND DISCUSSION

Spearman's Rank Correlation Test has been conducted to predict the hypothesized relationships. As shown in Table 2, the hypotheses were confirmed except for the last hypothesis related to the perceived loss of control.

Based on the results of the Spearman's Rank Correlation Test between perceived ease of use and user satisfaction, it shows that $r_s = 0.658$ (positive sign) and a significance value of 0.001 (or $p < .05$). It can be concluded that there is a

significant positive relationship between perceived ease of use and user satisfaction which can be interpreted as more users feel the ease of using the SISMIOP, the greater the level of user satisfaction. The strength of the relationship or correlation is strong ($r_s = 0.658$). The findings of this study support the research conducted by Adamson and Shine [5] in which perceived ease of use has a significant relationship with user satisfaction. The existence of a significant relationship between perceived convenience and user satisfaction is also supported by Xu and Du's study [7].

The Spearman's Rank Correlation Test between perceived usefulness and user satisfaction also shows a significant positive relationship between perceived usefulness and user satisfaction in which $r_s = 0.402$ (positive sign) and a significance value of 0.039 ($p < .05$). It can be interpreted as the better the perceived usefulness, the greater the level of user satisfaction. The strength of the relationship or correlation is moderate ($r_s = 0.402$). The findings support the previous research [8,9] in which the perceived usefulness has a significant positive relationship with user satisfaction of a system.

As predicted, the perceived loss of control and user satisfaction has a negative correlation ($r_s = -0.079$) which can be interpreted as the higher the perception of losing control, the lower level of user satisfaction. However, the significance value is 0.740 ($p > .05$) which means not significant. In addition, the strength of the relationship or correlation is very weak ($r_s = 0.079$). This finding is not statistically significant due to the variability of data. Some respondents may still be satisfied with the system although the use of the system is mandatory, and they have little control in using the technology as long as the system is useful in improving their job performance and it is not difficult to use.

TABLE II.   OUTPUT SPEARMAN'S RANK CORRELATION TESTS

Hypothesis	Correlation Coefficient
PEU-US	0.658**
PU-US	0.402*
PLC-US	-0.079

**significant at the 0.01 level

*significant at the 0.05 level

V. CONCLUSION AND FUTURE RESEARCH

The findings of this study demonstrate that there is a significant positive relationship between both perceived ease of use and perceived usefulness with user satisfaction. The relationship between perceived ease of use and user satisfaction is the strongest than other variables, indicating that the ease of using the system can strongly and positively affect the user satisfaction. In other words, the difficulties of using the system can strongly influence the user satisfaction in a negative way. Meanwhile, perceived loss of control negatively related to user satisfaction but not significant.

This study can be used to inform the relevant stakeholders so that the level of acceptance or satisfaction of the SISMIOP or other system alike can be improved. This study also provides empirical evidence that confirms the role of perceived ease of use and perceived usefulness on user satisfaction in the modified TAM model in the mandatory setting, particularly in the context of tax administration information system in Indonesia. This study is limited in which just few variables are examined so that future research could include additional variables, such as technical user support.

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