The Analysis of Accetance of Hospital Information Management System (HIMS) using Technology Acceptance Model Method

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Keywords:
technology acceptance model, partial least square, hospital management information system, accounting management system.

ABSTRACT

The purpose of this study was to determine the acceptance of Hospital Management Information Systems related to accounting transactions using the Technology Acceptance Model (TAM) methode. Constructs in TAM used are Perceived Ease of Use, Perceived Usefulness, Behavior Intention to Use, and Actual Technology Usage. The population in this study were users of systems related to accounting transactions, with a total of 150 people. The sampling technique using the convenience non random sampling method. The data in this study were obtained by distributing questionnaires to 150 respondents. Data analysis using SEM-PLS with WarpPLS 5.0 software. The results showed that Perceived ease of use had an effect on Perceived usefulness and Behavior Intention to Use. Whereas, Perceived Usefulness influences Behavior Intention to Use, and Behavior Intention to Use has an effect on Actual Technology Usage.

INTRODUCTION

The accounting information system is one of the aspects of the business world that is most affected by the development and progress of information technology. The impact of this development can be seen significantly, especially in terms of data processing that has changed from a manual system to a computerized system. The sophistication of computerized and integrated information technology is expected to have a positive impact on the sustainability of company performance. This positive impact can be seen from the increase in value chains, revenue, customer relationship, supplier relationship, and others.

Along with the development of information technology, organizations are required to provide information that supports the company's business sustainability. The challenge in the development of information technology today is that companies must make decisions quickly and accurately. In this case, the company must be able to present information that supports the decision. Organizations need an information system that can be used to process data and produce effective, reliable, and relevant information.

Companies need reliable and relevant information as the basis for making decisions. In this case, companies usually will invest in information technology. But in practice, the investment requires a lot of funds and more likely to experience a loss if failure is found during its application. To avoid the risks that are posed, the management of the system or information technology will increase a deeper understanding of what opportunities and threats are in the use of information technology or accounting information systems. (Armanda and Hermanto, 2015).

Organizations are required to have considered in terms of the obtained benefits and use from the utilization of accounting information systems. Consideration regarding the benefits and uses will affect the behavior of users of accounting information systems. In this case, the behavior towards the use of the system or behavioral intention can be assessed by using the Technology Acceptance Model (TAM). TAM originally came from the Theory of Reasoned Action (TRA). In the TRA theory, one will accept technology if the technology provides benefits to its users. Technology users, in this case, are subjects or actors who use technology. Perceptions and attitudes of users in TRA will form a behavioral intention in using technology.

The remarkable advancement of information technology in the business, in fact, does not always provide convenience for its users. Information technology users sometimes have difficulty in operating the available system, especially for processing physical data inputted into the computer. This difficulty is usually caused by a lack of understanding and control from company management regarding user responses in using technology. After finding the problems, it is necessary to analyze how the response or behavior of real system users so that organizations can find out the real conditions of information systems implementation that have been invested. The aim is to evaluate management decisions whether the investment can be resumed or require a review of the obtained costs and benefits by organizations.

From the factors that influence the acceptance of information technology, this study took perceived ease of use, perceived usefulness, behavior intention to use, and actual technology usage as variables that affect the acceptance of information technology and information systems. Due to the result differences from previous studies, this study used the TAM theory with the final model designed by Davis and Vankatesh in 1996, namely by eliminating the construct of attitude toward using. The difference between this study and previous research is the use of constructs in different TAM and different research objects, such as system users related to accounting transactions at Salatiga Regional General Hospital. Researchers examined how the acceptance of accounting information systems in Salatiga Regional General Hospital used the Technology Acceptance Model (TAM) method which relied on the construct of perceived ease of use, perceived usefulness, behavior intention to use, and actual technology usage.

The research problems in this research are; (1) Does Perceived Ease of Use affect Perceived Usefulness? (2) Does Perceived Ease of Use affect Behavior Intension to Use? (3) Does Perceived Usefulness affect Behavior Intension to Use?, (4) Does Behavior Intension to Use effect on Actual System Usage?

The purposes of this study are; (1) Analyzing the effect of Perceived Ease of Use on Perceived

Usefulness, (2) Analyzing the Influence of Perceived Ease of Use on Behavior Intention to Use, (3) Analyzing the effect of Perceived Usefulness on Behavior Intention to Use, (4) Analyzing the Influence of Behavior Intension to Use against Actual System Usage

LITERATURE REVIEW AND HYPOTHESESDEVELOPMENT

Technology Acceptance Model is one of the information technology acceptance models used by users. Initially, Davis (1985) developed TAM based on the Theory of Reasoned Action or TRA model. TAM has several advantages such as the parsimony model, which is a simple but valid model and is good compared to the TRA model.

Fishben and Ajzen (1975) developed the Theory of Reasoned Action (TRA) model which was subsequently adopted by Davis as TAM that states a person's response and perception of a matter will determine the person's behavior and attitude. Davis used the TRA model as a basis for formulating TAM theory but did not include all TRA variables. In this case, Davis only used belief and attitude variables. Based on these two variables, the response and perception of users of information technology will affect their attitude in accepting the information technology used. Attitudes in accepting information technology are influenced by perceptions regarding the ease rate of use and the benefits of using information technology.

The TAM model that aims to explain user behavior towards the acceptance of information technology consists of several constructs, such as belief, attitude, intention and user behavior relationship. According to Davis (1989), the level of acceptance of information technology is determined by several factors: perceived ease of use, perceived usefulness, attitude toward using, behavioral intention to use, and actual technology usage.

User acceptance in using information technology is influenced by two constructs, namely: perceived ease of use and perceived usefulness. Both constructs are the distinguishing factors between TAM and TRA. Another different factors in the TAM model are the absence of subjective norm and perceived behavioral control. The TAM

model has 5 constructs, namely: (1) perceived ease of use, (2) perceived usefulness, (3) attitude toward using technology, (4) behavioral intention to use, and (5) actual technology use.

Perceived ease of use is the key determinant of the acceptance and use of information technology. Definition of Perceived ease of use according to Davis (1989) is the level of user confidence in a particular system that is easy to use by users. In TAM theory, the variable perceived ease of use affects the perceived usefulness variable, which can be explained logically that if the system is easier to use then the system will be more beneficial or useful. TAM theory also states that perceived ease of use directly or indirectly influences perceived usefulness. The easier the accounting information system is used, the more useful or beneficial it will be. Meanwhile, perceived usefulness is the level of user confidence that a particular system can improve user work performance. So it can be said that the more difficult the system, the work performance will also increase as system users get the value of the benefits of using the system. The result of research conducted by (Iqbaria, et al., 1997) also concludes that perceived ease of use is related to perceived usefulness. Perceived ease of use influences either directly or indirectly on perceived usefulness. The result is supported by research (Saputra and Misfariyan, 2016) that states that perceived ease of use positively influences perceived usefulness. Ease of use will affect the benefits of using technology because users find it easier to access technology. This gives great value to technology users. These results are also supported by research conducted by (Armanda and Hermanto, 2015) and (Supriyadi and Cholil, 2016) that shows perceived ease of use has a positive effect on perceived usefulness. So, the easier the use of a system, the more benefits users will get in using the system. So the hypothesis is formulated as follows:

H1: Perceived Ease of Use affects Perceived Usefulness

Perceived ease of use or often referred to as the key factor of the acceptance of the use of information technology is the level where the users believe that a particular system is easy to use. (Davis, 1989; Vankatesh and Davis, 2000). In TAM theory, it is stated that perceived ease of

use indirectly influences behavior intention to use through attitude toward using. In 1989, Davis found evidence that perceived ease of use positively influenced behavior intention to use. This means that the easier the use of an information system, the more likely the system is used continuously by users. So, if the users feel comfortable with a system that is easy to use, the system will be used continuously in the future time. Based on the results of research conducted by Suki and Suki (2011) concludes that perceived ease of use is related to behavior intention to use. Suki and Suki also argue that perceived ease of use influences behavior intention to use, both directly and indirectly (resolved by attitude toward using). Also, this study is supported by research conducted by (Saputra and Misfariyan, 2015) that states perceived ease of use has a positive effect on behavior intention to use. The ease of use of technology will affect one's intention or interest to continue to use the technology in the future. The results of this study are also supported by (Armanda and Hermanto, 2015) which argues that if users find the technology is easy to use then users will continue to use the technology continuously. One who believes that information technology is easy to use will be more likely to use technology continuously. This might happen because the level of use of information technology can be predicted from the users' attitude towards the technology, for example, if the technology is easy to use, technology development to support it will be more desirable, driven to continue technology use and motivate other users to remain using this easy technology. So, the easier information technology is, the higher the chance for users to use information technology continuously. So the hypothesis is formulated as follows:

H2: Perceived Ease of Use affects Behavior Intention to Use

Perceived usefulness according to Davis (1996) is a level of belief that the use of information technology will provide value for the user. Perceived usefulness affects the acceptance of information technology users because there is value in the output produced. Perceived usefulness is also one of the variables that most influences behavior intention to use. This means that a technology or system that is built should be able to provide a positive benefit for its users and increase the users' intention to

continue using information technology as a way to improve the performance of users (Davis, 1996). The higher the value of the obtained benefits by users from information technology use, the more likely information technology is used continuously. Therefore, if users are comfortable with technology, they will tend to use the system continuously in the future. The result of research conducted by Davis (1996) states that perceived usefulness influences behavior intention to use. The result of this study is supported by research (Saputra and Misfariyan, 2016) states that perceived usefulness has a positive effect on behavior intention to use, which means that the value of the benefits of information technology use will affect one's intention or interest to tend to continuously use the technology in the future. This is also under (Priyanka and Kumar, 2014) that states perceived usefulness influences behavior intention to use. This occurs as someone who receives the benefits of technology use will continue to use the technology in the future. Interest in using this technology is formed when users feel satisfied after receiving the value of the benefits of technology. So, the more value the benefits obtained from the information technology use, The more information technology will tend to be used continuously by its users. So the hypothesis is formulated as follows:

H3: Perceived Usefulness influences Behavior Intention to Use

In 1989, Davis defines behavior intention to use as a behavioral tendency to continuously use information technology. The level of information technology use can be predicted from one's attitude towards the technology, for instance, the desire to add supporting components, motivation to keep using it and the desire to motivate other users. Actual Technology Usage is a real condition of an information technology use, which can be assessed from the time duration of use and frequency of usage. One feels the satisfaction of information technology use if they believe that the technology will increase their work productivity which is reflected in real conditions. The actual condition of use can be found in the frequency of the use is higher because users tend to feel satisfied with the value of the benefits from the continued use of information technology. The results of research conducted by Saputra and Misfariyan (2016) suggest that Behavior Intention to Use affects the Actual

Technology Usage positively. Interest in information technology use will continuously reveal the actual conditions of technology use. This shows that the intention or interest of someone in using the system will affect the actual condition of the system users. In other words, system users' intention is reflected in the real condition of the real user. The result of this study is also supported by research conducted by (A'yuni, et. Al, 2018) which states behavior intention to use affects the actual technology usage. This means the actual conditions of use can be found if the level of system use is higher because users tend to feel satisfied with the value of the benefits obtained from the continued use of technology. Users feel that by using information technology, they will get the expected benefits, such as improving their performance, so users have a positive view of the information technology use. This positive attitude is proven by the behavioral intention to continuously use information technology and the desire to develop it to give more benefits to organizations. The tendency to use technology can be used to find out the real conditions of technology use. Therefore, more information technology is used and the real condition is easier to find. So the hypothesis is formulated as follows:

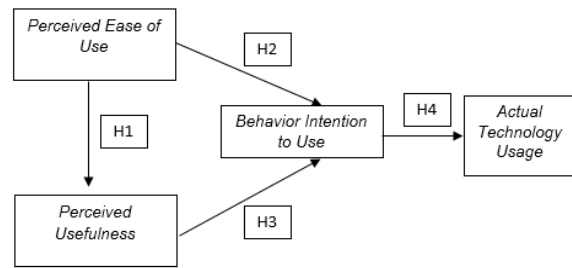**H4:** Behavior Intention to Use affects Actual Technology Usage

Figure 1 Hypothesis Framework

RESEARCH METHOD

The purpose of this study is to determine the acceptance of the hospital information management system (HIMS) focusing on accounting information systems by using the Technology Acceptance Model method that is based on the constructs of Perceived Ease of Use, Perceived Usefulness, Behavior Intention to Use, and Actual Technology Usage. The object of this study was HIMS Users related to accounting transactions at the Salatiga Regional General Hospital. The participants in this study were 100 obtained by employing non-random sampling method.

Variable	Definition	Indicator	Scale
Perceived Ease of Use (X1)	A state where one believes that the use of system or technology is easy to understand (Davis: 1989).	a. Easy to learn b. Easy to use c. Easy to understand d. Easy to remember e. Instructions availability f. Easy to access	Likert
Perceived Usefulness (X2)	A measurement in using system or technology is believed will give benefits to its users. In this case, the users believe that a system will enhance their achievement in productivity (Davis, 1989).	a. Giving accurate result b. Providing the need c. Controlling work d. Facilitating work e. Enhancing productivity f. Necessary for work	Likert
Behavioral Intention (X3)	A behavior tendency to use particular technology or system. Also, behavior can be defined as one's interest to do certain behavior.	a. Motivation to use b. Planning to use in the future c. Motivation to give advice for use d. Tendency to use e. Desire to use independently	Likert
Actual Technology Usage (Y)	A frequency measurement and time duration of system or technology use. One will feel satisfied if one believes that system is easy to use and will enhance productivity that reflects through real use of its users.	a. Honesty in use b. Compatible with procedure c. Usage satisfaction d. Usage convenience e. Usage understanding f. Satisfaction	Likert

RESULT AND DISCUSSION

Descriptive statistic

Below are the descriptive statistic of questionnaire answers from 100 participants in this study:

Descriptive Statistics					
Variable	N	Minimum	Maximum	Mean	Std. Deviation
ATU	100	3,67	4,83	4,16	0,22153302
PeoU	100	3,83	4,83	4,34	0,209718
PU	100	4	4,83	4,37	0,188889
BI	100	3,8	5	4,35	0,230686

Measurement Model Evaluation (*Outer Model*)
Indicator Reliability

Indicator loading from the constructor item is valid with all loading factor value that is resulted from >0.7 and P values <0.001

Constructs	Indicator	P value	Factor Loading	Information
X1 (PeoU)	PEoU1- PeoU6	0,001	1	Valid/ fulfill Reliabilityindicator
X2 (PU)	PU1-PU6	0,001	1	Valid/ fulfill Reliability indicator
X3 (BI)	BI1-BI5	0,001	1	Valid/ fulfill Reliability indicator
Y (ATU)	ATU1-ATU6	0,001	1	Valid/ fulfill Reliability indicator

Composite Reliability

Composite reliability value resulted from each construct is excellent that is >0.7 so it fulfilled the internal consistency reliability. Full Collinearity value VIF for each construct is also excellent with <3.3 so there was no collinearity problem in the table.

	PeoU	PU	BI	ATU	Information
Composite Reliability	1	1	1	1	Reliable
Cronbach'salpa	1	1	1	1	Reliable
Full Collinearity	1.361	1.185	1.365	1.109	noCollinearity

Convergent Validity

The AVE value for each construct is excellent with >0.5 so it fulfilled the convergent validity criteria.

	PeoU	PU	BI	ATU	Information
AVE	1	1	1	1	Fulfill the convergent validity

Discriminant Validity

The value of AVE square root for each construct is higher than the correlation between constructs and it shows that discriminant validity is good. The correlation result between constructs of the model can be seen from the table below:

	PeoU	PU	BI	ATU
PeoU	1.000	0.339	0.453	0.249
PU	0.339	1.000	0.325	0.058
BI	0.453	0.325	1.000	0.272
ATU	0.249	0.058	0.272	1.000

	PeoU	PU	BI	ATU
PeoU	1.000	<0.001	<0.001	0.013
PU	<0.001	1.000	<0.001	0.566
BI	<0.001	<0.001	1.000	0.006
ATU	0.013	0.566	0.006	1.000

Structural Model Evaluation (Inner Model)

The value resulted from ten criteria has been fulfilled, thus the model has met the **Model Fit**requirements. Therefore, the inner model evaluation that had been done is accepted.

Model Fit and quality in.	Index	p-value	Criteria	Info
Average path coefficient	0,348	p<0,001	p<0,05	Accepted
Average R-Square (ARS)	0,197	p<0,001	p<0,05	Accepted
Average Adjusted R-Squared	0,187	p<0,001	p<0,05	Accepted
Average Block Variance Inflation Factor (AVIF)	1,231	≤ 5 and the ideal ≤ 3,3		Accepted
Average Full Collonearity VIF (AFVIF)	1,255	≤ 5 and the ideal ≤ 3,3		Accepted
TenenhausGoF (GoF)	0,444	small≥0,1,medium≥0,25, large≥0,36		Large
Sympson's paradox ratio (SPR)	1,000	≥0,7 and the ideal =1		Accepted
R-Squared Contribution Ratio (RSCR)	1,000	≥0,9 and the ideal =1		Accepted
Statictical Suppression Ratio (SSR)	1,000	≥0,9		Accepted
Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	1,000	≥0,7		Accepted

Hypothesis Test

Below are the result of path analysis drawn in the following figure:

Var	Path Coefficient	P-Value	Sig	Info
PeoU	0.44	0.001	0.05	H1 accepted
PU	0.42	0.001	0.05	H2 accepted
BI	0.18	0.030	0.05	H3 accepted
ATU	0.34	0.001	0.05	H4 accepted

Based on the table above, the results of hypothesis testing show that:

1. Hypothesis 1 in this study hypothesized the influence of perceived ease of use on perceived usefulness. The result of testing hypothesis 1 using Path Analysis shows the value of the path coefficients for the variable perceived ease of use is 0.44 and the p-value is 0.001 <5%. This means that perceived ease of use affects perceived usefulness. Thus, hypothesis 1 was accepted.

2. Hypothesis 2 in this study hypothesized the influence of perceived ease of use on behavior intention to use. Hypothesis 2 test result using Path Analysis shows the value of the path coefficients for the variable perceived ease of use is 0.42 and the p-value is 0.030 <5%. This means that perceived ease of use influences behavior intention to use. Thus, Hypothesis 2 is accepted.

3. Hypothesis 3 in this study hypothesized the influence of perceived usefulness on behavior intention to use. Hypothesis 3 test result using Path Analysis shows the value of the path coefficients for the variable perceived usefulness of 0.18 and p-value of 0.001 <5%. This means that perceived usefulness

influences behavior intention to use. Thus, Hypothesis 3 is accepted.

4. Hypothesis 4 in this study hypothesized the influence of behavior intention to use on behavior intention to use. Hypothesis 4 test result using Path Analysis shows the value of the path coefficients for the behavioral intention to use variable is 0.34 and the p-value is 0.001 <5%. This means that behavior intention to use affects the actual technology usage. So, Hypothesis 4 is accepted.

CONCLUSION

Based on the results of tests that had been carried out, conclusions can be drawn as follows:

1. Perceived Ease of Use influences the Perceived Usefulness of Accounting Information System users in Salatiga Regional General Hospital.

2. Perceived Ease of Use affects Behavior Intention to Use Accounting Information System users in Salatiga Regional General Hospital.

3. Perceived Usefulness influences Behavior Intention to Use Accounting Information System users in Salatiga Regional General Hospital.

4. Behavior Intention to Use affects Actual Technology Usage of Accounting Information System users in Salatiga Regional General Hospital.

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