THE EFFECT OF INFORMATION QUALITY ON PERCEIVED USEFULNESS AND PERCEIVED EASE OF USE

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ABSTRACT

The purpose of this study aims to empirically test the effect of information quality on perceived usefulness, the effect of information quality on perceived ease of use, and the effect of perceived ease of use on perceived usefulness. This study uses the Technology Acceptance Model (TAM) developed by Davis (1999) to evaluate perceived usefulness and perceived ease of use. The method of data analysis in this research using analysis of Structural Equation Modeling (SEM) - Partial Least Square (PLS) with PLS 3.0. The result of this study showed that (1) Quality of information positively affects perceived usefulness, (2) Quality of information positively affects perceived ease of use, and (3) Perceived ease of use positively affects perceived usefulness. The limitations of this study were as follows: (1) The inherent limitations of the data obtained through the questionnaire, due to differences in the authors' perceptions of the research respondents, (2) Limitations of the number of accounting student respondents who are following the course of Accounting Introduction Practicum, and (3) Limitations on the selection of accounting software samples used are limited only to the use of the ACCURATE software. Subsequent research suggested that (1) Consider other independent variables that may influence perceived usefulness and perceived ease of use, such as user satisfaction and user intent, and (2) Increase the sample size of respondents in this case not only students who are taking the course Practicum Introduction to Accounting, but also students who have taken the course before.

Keywords: information quality, perceived usefulness, perceived ease of use
INTRODUCTION

Information technology systems have grown very rapidly and this is followed by the development of accounting software creation. Accounting software makes it easy for users to carry out various activities, including simplification of various aspects of business activities. Information technology systems help organizations to improve performance only if organizations use information technology systems appropriately. The application of new technology in an organization affects the whole organization, especially on human resources (Kang, 1998).

The factor of a user of accounting software in the application of information technology systems is very important. This is because the level of readiness of a user has a major influence to determine the success or failure of the development or application of information technology systems. The use of accounting software gives an impact to the accounting workforce who operates it and can improve the performance of accounting workers (Istianingsih and Wijanto, 2008). The use of information technology (such as ACCURATE accounting software) and its utilization in lecture activities will become a necessity and interesting to do research. This is due to frequent problems in the use of a technology that is the low utilization and ease of use of accounting software to existing information systems.

The object of this study is accounting students who have followed the course Practicum Introduction to Accounting by using accounting software ACCURATE. The Basic consideration that accounting students learn to operate accounting software in order to have skills that can be used at work after finishing study.

The objectives of this study are to obtain empirical evidence about the influence of information quality on perceived usefulness, the effect of information quality on perceived ease of use, and the effect of perceived ease of use on perceived usefulness. This study uses the Technology Acceptance Model (TAM) developed by Davis (1999) to evaluate perceived usefulness and perceived ease of use.
This study provides benefits for the development of science, which is to contribute in the development of accounting studies on the influence of information quality on the perception of the use and perception of ease of use. It is also expected to provide input and reference in the development of similar research in the future. In addition to the development of science, this study provides benefits for universities, especially the Faculty of Economics, Department of Accounting in order to assess the extent to which the implementation of software that has been applied to accounting students while studying in universities can be accepted in the world of work.

The remainder of the paper is organized as follows. Section 2 discuss theoretical framework and hypotheses development. Section 3 describes the method and data used in this research. Section 4 presents the result and discussion the empirical models, and section 5 concludes the paper.

**LITERATURE REVIEW**

**Quality of Information**

The quality of information is the quality of output that is in the form of information generated by the information system used (Rai et al., 2002). Webber (2010) assessed the quality of information by grouping it into the following characteristics: authenticity, accuracy, completeness, uniqueness (nonredundancy), timeliness, relevance, comprehensibility, precision, conciseness, and informativeness. The more appropriate the decisions are taken if the quality of information is better. The resulting information is not qualified, hence negatively effect on user satisfaction. The quality of information used in this research includes accuracy, relevance, timeliness, and accessibility as characteristic used by Ali and Younes (2013).

**Technology Acceptance Model (TAM)**

Technology Acceptance Model (TAM) is developed from psychology theory that describes computer user behavior that is based on belief, attitude, attention and user behavior relationship (Davis et al., 1989). The purpose of the TAM model is to explain the
main factors of user behavior towards user acceptance of the technology. In more detail, TAM describes the acceptance of technological information with certain dimensions that may affect the acceptance of information technology by the user. TAM describes the causal relationship between beliefs (over the benefits of an information system and ease of use) and the behavior, purpose, and actual use of users of an information system.

**Perceived Usefulness**

Perception usefulness indicates an individual decision to use or not to use information technology systems in completing a series of tasks or activities related to work (Goodhue and Thomson, 1995). Davis et al. (1989) defined the perception of usefulness as the degree to which individuals believe that by using a particular system can improve user performance. Perception of usefulness according to Seddon and Kiew (1996) as a perception of usage about system usefulness with an effort to maximize user performance achievement.

**Perceived Ease of Use**

Davis (1988) provided an understanding of the perception of ease of use as a level of confidence that in the use of certain systems is not required a hard effort. Although the efforts made by everyone vary but in general to avoid the rejection of the system users on the system developed, the system should be easy to apply or applied by the user without spending the business that is considered burdensome in terms of time and cost.

**Conceptual Framework**

Based on the description described above, this research formulates the framework as follows:
Figure 1: Conceptual Framework

Hypotheses Development

Seddon and Kiew (1996) asserted that the quality of information is positively associated with end-user information system satisfaction. Seddon (1997) provided empirical evidence that the quality of information generated by an information system affects the perception of usefulness. According to Istianingsih and Wijayanto (2008) that the quality of information positively affects the perception of usefulness. The higher the quality of information used, the higher the perception rate of usefulness. Ali and Younes (2013) found that the quality of information positively affects the perception of ease of users.

The rationale of this study is focused on looking at the extent of the impact of information quality on perceptions of usefulness and perception of ease of use. If users feel satisfied with the quality of information generated from the information system used, then according to perceived ease of use, users tend to feel comfortable and secure during work by using the system so that users feel helpful in completing the job. So the higher the level of information quality, the higher the perception of usage and the perception of ease of use from the user’s point of view. Based on the description above, the hypothesis formulated in this study as follows:

H1 : The quality of information affects perceived usefulness.

H2 : The quality of information affects perceived ease of use.

Davis et al. (1989) found that perceptions of usefulness were stronger and consistent with the acceptance of information technology compared to other variables, such as attitudes, satisfaction, and other perceptual measures. The usefulness perception factor has been
shown to explain one’s reason for using the information system and explain that the new
system being developed is accepted by the user (Davis et al., 1989). Igbaria et al. (1995)
found that a positive influence of perceptual variables ease of use of information systems
on a perception of usefulness. Adam et al. (1992) suggested that the perception of
usefulness is a major determinant of system usage. Perceptions of usage and perception of
ease of use are important factors that influence the use of the system (Davis, 1989; Adam et
al., 1992). According to Mao and Palvia (2006) that perceptions of ease of use system
positively affect the perception of usefulness. Based on the description above, the
hypothesis formulated in this study as follows

\[ H_3 : \text{Perceived ease of use affects perceived usefulness.} \]

**METHODS**

**Data Selection and Collection**

Population in this study all students of the Faculty of Economics Majors Accounting
Perbanas Institute who have followed the course of Practicum of Introduction to
Accounting. The size of the sample is determined based on the number of respondents who
returned the questionnaire. The period of this study is the period during the spreading of
the questionnaire up to when the questionnaire that has been collected eligible to be
processed. The population in this study amounted to 120 students of the Faculty of
Economics of Accounting Department Perbanas Institute who have been and are following
the course Practicum Introduction to Accounting. A number of non-returned
questionnaires for 9 questionnaires. The number of questionnaires returned by students
was 71 questionnaires. The data collection is done for approximately two months from 01
July 2015 s.d. 30 August 2015. This research is a quantitative research so that the
questionnaire using closed questions or statements are questions or statements that have
available answers to be selected by respondents. This research data is primary data,
collected by using the questionnaire in the form of a checklist. Primary data collected
through questionnaires are data of variable quality of information, the perception of
utilization and perception of ease of use. Methods of data collection through questionnaires distributed via email, and/or given directly to students and then followed up.

**Quality of Information**

The quality of information is the user's perception of the quality of information generated by ACCURATE accounting software. This study uses quality information includes four indicators with seven questions. Items to measure the quality of information are adopted from Ali and Younes (2013). The four indicators include accuracy, relevance, timeliness and ease of access. The seven questions are measured by four Likert scales, which strongly disagree, disagree, agree and strongly agree. The higher the score of these variables, meaning the accuracy, relevance, timeliness, and ease of access using ACCURATE accounting software the higher the perception of user performance, and the lower the accuracy, relevance, timeliness, and ease of access scores by using the ACCURATE accounting software the lower perceived user performance.

**Perceived Usefulness**

Perceptions of usefulness in this study are viewed as user perceptions about the extent of the impact of the use of accounting software in an effort to improve user performance. This research uses perception indicator with four questions. Items to measure perceptions of usefulness are adopted from Ali and Younes (2013). The four questions are measured by four Likert scales, which strongly disagree, disagree, agree and strongly agree. The higher the perception score of usefulness, the higher the user's performance, and the lower the perception score of the usefulness, the lower the user's performance.

**Perceived Ease of Use**

This research uses the indicator of perceived ease of use with three questions. Items that use to measure perceptions of usefulness are adopted from Ali and Younes (2013). The three questions are measured by four Likert scales, which strongly disagree, disagree, agree and strongly agree. The higher the perception score of ease of use, the higher the user's performance, and the lower the perception score of ease of use, the lower the user's performance.
Research Instrument

This study uses three independent variables and one dependent variable. The research instruments used to consist of:

a. Instruments for measuring the variable of information quality
b. Instruments for measuring the variable of perceived of usefulness
c. Instruments for measuring the variable of perceived ease of use

Research instruments are listed in Table 1.

Table 1: Research Instruments

| Research Variable     | Indicator                                  | No. Item Instrument |
|-----------------------|--------------------------------------------|---------------------|
| Quality of information|                                            |                     |
| - Accuracy            | 1. Software accuracy                       | 1                   |
| - Relevance           | 1. Software Relevance                      | 2                   |
| - On time             | 1. Timely process                          | 3, 4, 5             |
|                       | 2. Up-date                                 |                     |
|                       | 3. Usage time                              |                     |
| Easy Access           | 1. Easily accessible                       | 6, 7                |
|                       | 2. Easy to get back                        |                     |
| Perceived of Usefulness| 1. Usefulness of software                  | 8, 9, 10, 11        |
|                       | 2. Ease of use                             |                     |
|                       | 3. Support                                 |                     |
|                       | 4. Work completion                         |                     |
| Perceived Ease of Use | 1. User friendly                           | 12, 13, 14          |
|                       | 2. Easy to learn                           |                     |
|                       | 3. Easy to use                             |                     |

Sources: Processed by Researcher

Data Analysis Method

The method of data analysis in this research using analysis of Structural Equation Modeling (SEM) - Partial Least Square (PLS) with PLS 3.0. According to its development, SEM is grouped into two types, namely covariance-based SEM (CB-SEM) or variance based SEM or partial least squares (SEM-PLS) (Sholihin and Ratmono, 2013). This study uses SEM-PLS Conceptually, SEM-PLS is similar to ordinary least squares regression analysis (OLS) because it has a goal to maximize the variances of dependent variables that can be explained in the model (Sholihin and Ratmono, 2013). So, in other words, to maximize the
R-squared value and minimize residual or prediction error. The other goal of SEM-PLS is to evaluate the quality of data based on the measurement model.

The first test conducted in this study is testing the validity and reliability in the outer model. A valid and reliable instrument is an absolute requirement to obtain valid and reliable research results. Valid means that the instrument can be used to measure what variables should be measured, whereas reliable means if the instrument is used multiple times to measure the same object will produce the same data (Sugiyono, 2008: 171).

According to Jogiyanto and Abdillah (2014), the outer model is done through a process of algorithm iteration, a parameter of measurement model (convergence validity, discriminant validity, composite reliability and Cronbach's Alpha), including $R^2$-value as predictor model prediction parameter. Test the validity by measuring the convergence validity and discriminant validity, while the reliability test by measuring composite reliability and Cronbach's Alpha.

Convergent validity is related to the principle that the measurements of a construct should be highly correlated (Jogiyanto and Abdillah 2014). Rule of thumb used for convergent validity is outer loading> 0.7 and average variance extracted (AVE)> 0.5 (Chin, 1995). Discriminant validity relates to the principle that different construct gauges should not be highly correlated (Jogiyanto and Abdillah 2014). According to Chin et al. (1995), the model has sufficient discriminant validity when the AVE root for each construct is greater than the correlation between the construct and the other constructs in the model.

Cronbach's Alpha measures the lower limit of the reliability value of a construct, while composite reliability measures the true value of a construct's reliability. According to Hair et al. (2011), the exact rule of thumb for Cronbach's Alpha and composite reliability should be greater than 0.7 although a value of 0.6 is still acceptable.

The next test is a test of the structural model or inner model, using $R^2$ for independent constructs, the path or $t$-values value of each path for the significance test between constructs in the structural model (Jogiyanto and Abdillah, 2014). The $R^2$-value is used to measure the level of variation of the independent variable changes to the dependent variable. The higher the $R^2$-value, the better the prediction model of the proposed research model. The structural model is evaluated by measuring the coefficient value of the path or inner model which indicates the level of significance in testing the
hypothesis. The path coefficient score should be > 1.96 for the two tailed hypothesis and should be > 1.64 for the one-tailed hypothesis (Hair et al., 2011).

RESULTS AND DISCUSSION

Description of Research Object

The population in this study amounted to 120 students of the Faculty of Economics of Accounting Department Perbanas Institute who have followed the course Practicum Introduction to Accounting. The 120 questionnaires sent to the respondents, the number returned was 80 questionnaires, with a response rate of 67%. From the returning amount, there are 10 questionnaires that can not be included as a sample because they do not meet the criteria for sample selection or incomplete replenishment. The number of final samples that can be tested in the test is as much as 70 respondents or 59% of the total respondents addressed.

Descriptive Statistics

Evaluation of Measurement Model (Outer Model)

Convergent validity test can be seen from the value of AVE (Table 2) and/or discriminant validity value (Table 3). The results show that the perceived usefulness variable (PMAN) and perceived ease of use (PKEM) have AVE value > 0.5. This means that the variables of PMAN and PKEM have a high correlation and have met the validity test. While the information quality variable (KUALSIS) has an AVE value of 0.321 (<0.5) which means that the probability of the QUALITY indicator goes into perceived usefulness variable (PMAN) and perceive ease of use (PKEM) are higher so that the probability of the KUALSIS indicator does not converge so it does not meet the validity test. However, when viewed from the discriminant validity value, the AVE root value for each construct (KUALSIS, PMAN and PKEM are greater than the correlation between constructs with other constructs (Table 3). This means that the construct variables KUALSIS, PMAN and PKEM are uncorrelated so have to meet the validity test.
Reliability test can be seen on composite reliability value of each value of KUALSIS, PMAN and PKEM > 0.7 (Table 2). This means that the construct variable has satisfied the reliability test. The value of Cronbach’s Alpha for PKEM and PMAN variables > 0.70, whereas a QUALITY value of 0.6 is still acceptable (Hair et al., 2006). So it can be said that the construct variables KUALSIS, PMAN and PKEM have met the reliability test.

**Evaluation of Structural Model (Inner Model)**

In this study, the structural model (inner model) is evaluated by measuring the $R^2$-value for the dependent variable i.e. the perceived ease of use (PKEM) and the perceived usefulness (PMAN), while the path coefficient ($\beta$) value for the information quality variable (KUALSIS) indicates the level of significance in the test hypothesis. The structural model of this study can be seen in Figure 2 below.
Figure 2. Output Structural Model

Sources: Processed by Researcher

From Table 4 it can be seen that the value of $R^2$ for PKEM and PMAN variables is 0.140 and 0.354 respectively, which means it belongs to the weak category. Variation of change variable of perceived ease of use and perceived of usefulness which can be explained by variable of quality of information is respectively equal to 14% and 35.4%, while the rest is explained by other variable outside the proposed model.

Table 4: $R^2$-Value

| Variable | $R^2$  \\
|---------|--------|
| PKEM    | 0.140  \\
| PMAN    | 0.354  \\

Sources: Processed by Researcher

Table 5 presents the coefficient value of the path or inner model. Based on the value of Original Sample (beta coefficient) and T-Statistics above, then the test results of each hypothesis are as follows:

**$H_1$**: That states the quality of information (KUALSIS) has a positive effect on perceived ease of use (PKEM) with beta coefficient value 0.374 and T-Statistics 3.859. This means that hypothesis 1 is accepted. The results of this study support the research
of Ali and Younes (2013) that the quality of information positively affects the perceived ease of use.

**H₂**: That states the quality of information (KUALSIS) has a positive effect on the perceived usefulness (PMAN) with beta coefficient value 0.335 and T-Statistics 2.808. This means that hypothesis 2 is accepted. The results of this study support the findings of Istianingsih and Wijayanto (2008) that the quality of information positively affects the perceived usefulness.

**H₃**: Which states perceived ease of use (PKEM) has positive effects on perceived usefulness (PMAN) with the beta coefficient value of 0.383 and T-Statistics 2.271. This means that hypothesis 3 is accepted. The results of this study support the findings of Mao and Palvia (2006) that the perceived ease of use system positively affects the perceived usefulness.

**Table 5:** Nilai Output Bootstraping

|                      | Original Sample Mean | Sample Mean | Standard Deviation | T-Statistics | P Value |
|----------------------|----------------------|-------------|--------------------|--------------|---------|
| KUALSIS - PKEM       | 0.374                | 0.409       | 0.097              | 3.859        | 0.000   |
| KUALSIS - PMAN       | 0.335                | 0.366       | 0.148              | 2.271        | 0.024   |
| PKEM - PMAN          | 0.383                | 0.376       | 0.136              | 2.808        | 0.005   |

*Sources: Processed by Researcher*

**CONCLUSION**

This study aims to empirically test the effect of information quality on perceived usefulness and perceived ease of use. Based on the previous discussion, it can be concluded that:

- Quality of information positively affects perceived usefulness.
- Quality of information positively affects perceived ease of use.
- Perceived ease of use positively affects perceived usefulness.

This study has some limitations that may affect the outcomes achieved. These limitations include:
• The inherent limitations of the data obtained through the questionnaire, due to differences in the authors’ perceptions of the research respondents.

• Limitations of the number of accounting student respondents who are following the course of Accounting Introduction Practicum.

• Limitations on the selection of accounting software samples used are limited only to the use of the ACCURATE software.

The recommendations proposed in subsequent research are:

• Consider other independent variables that may influence perceived usefulness and perceived ease of use, such as user satisfaction and user intent.

• Increase the sample size of respondents in this case not only students who are taking the course Practicum Introduction to Accounting, but also students who have taken the course before.

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