The effect of perceived usefulness, perceived ease of use, and complexity upon the acceptance of computerized audit technique (ACAT) at the Finance and Development Supervisory Agency (FDSA) Republic of Indonesia

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**Abstract.** Perceived Usefulness (PU) in matters relation of the dimensions of enhanced performance and productivity will make the auditors use the Acceptance of computerized audit technique (ACAT). Perceived Ease of Use (PEOU), through their knowledge, ease of operation, and the need for the work that is free from businesses that facilitate the use of information systems being used will make the auditors Acceptance of ACAT. Complexity is a hassle on infrastructure and the required time factor affecting the use of Acceptance of ACAT. Results of this study are carried out through the delivery of questionnaires to the auditor at the Finance and Development Supervisory Agency (FDSA), confirm that there is significant Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) against Acceptance of ACAT and Complexity makes the auditors didn’t Acceptance of ACAT.

Keywords: Perceived Usefulness, Perceived Ease of Use, Complexity, Acceptance of ACAT

**Introduction**

1. **Research Background**

The development of the Information Technology thru Computerized Audit Technique (ACAT) in auditing has been an important role at the Finance and Development Supervisory Agency (FDSA).

In order FDSA enables to execute the tasks of controlling better in quality, it requires a proper technology to do its tasks. FDSA RI is a government institution Non Department which is having the role to control the finance and the development in Indonesia. It is one of the internal government controlling institutions having an important role which has been appointed to execute the financial and development control in Indonesia. Due to the aforementioned tasks, responsibilities and authorities, FDSA RI is obliged to apply the information technology to support its productivity and performance to be more effective and efficient.

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Executing its tasks, FDSA needs the computer with an applicable technology to support the tasks of FDSA auditors to process the data received from the entities audited. Due to the development of the information technology, FDSA is obliged to execute its controlling to be better in quality using such the technology.

According to the Indonesian Accountant Association (IAI) (2011), executing an auditing, the auditor has to evaluate various big alternative information to meet the standard of the job requirement at place which is a sufficient proof of competent audit that has been getting thru the inspection, supervision, recommendation, and confirmation as the fundamental declaration that such the financial report is acceptable.

Based on the result of the survey, it is declared that the auditors should have applied ACAT obviously. By having the supporting program or computer assisted audit techniques (CAAT), it will help the auditors executing the audit procedures to be more efficient and effective and to make the auditing easier.

The implementation of Computerized Audit Technique (ACAT) has provided better result and has made the auditing process more rapid. Nevertheless, the application of ACAT is expected to be able to improve the performance of FDSA RI auditors in auditing which is it is more effective and efficient.

Referred to the opinion of Nani Norilin (2009), ACAT is the instrument to check the financial report using computer technology. Using ACAT is very important for the auditors because more companies have been applying the computer to record and to process their business transactions, nevertheless, ACAT is able to improve the efficacy and efficiency of the auditors doing the audit procedure accordingly.

Model of the acceptance of technology was developed by David et al (1989) based on TRA model. TRA model is applicable due to the decision made by the individual to accept a technology of information system is explainable and predictable. TAM model was developed by Fred D. Davis (1989) is a model being used more often in the TI research since this model is simple and easy to be applied. (in the article of Ratih Wijayanti, 2009)

In general, the research about the acceptance of the information technology is based on the Technology Acceptance Model (TAM) describing that an individual acceptance upon the computer technology is based on two kind of beliefs; a) Perceived Usefulness (PU) which is the extent to which a person believes that using a certain system will improve his job performance; b) Perceived Ease of Use (PEOU) which is the extent to which a person believes that using a certain technology will only need a little effort (Davis, 1989)

TAM has added two main constructions into TRA model. Those two constructions are perceived usefulness and perceived ease of use. TAM has argued that the individual acceptance upon the system of information technology is due to those two constructions.

Both Perceived Usefulness and Perceived Ease of Use have influenced the acceptance of IT. Users of the technology will accept to use the technology (acceptance of IT) if they realize that such the technology system is usefull and easy to be used. Suppose someone has realized that the system is easy to operate and has given him or her a benefit to improve his/her performance and the information technology has made him/her easy to perform his tasks and responsibilities.

This research has applied the Technology Acceptance Model (TAM) by using 3 main constructs; user perception upon the ease of using ACAT (perceived ease of use); user perception upon ACAT usefulness (perceived usefulness) and user acceptance upon the Computerized Audit Technique (ACAT). The writer has included the additional variable adapted from the research done by Igbaria et
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2. Definition and Operational Variable.
   a. Perceived Usefulness

   Perceived usefulness as variable X1 is defined as the extent to which a person believes that using a technology will improve her or his performance. Based on the definition above, it explains that perceived usefulness is such a belief about the process of decision making. Therefore, when a person believes that the information system is useful, he or she will surely use it. But, when a person does not believe that the information system is not useful, he or she will never use it. (Jogiyanto 2008: 114).

   b. Perceived Ease of Use

   Perceived ease of use as the variable of X2 is defined as the extent to which a person believes that using a technology will be free of effort. Refers to the definition above, it explains that the construct of perceived ease of use is a belief about the process of decision making. When a person believes that such an information system is easy to use, he or she will surely use it. But, when a person believes that such an information system is difficult to use, he or she will never use it. (Jogiyanto, 2008:115).

   c. Complexity

   Complexity as Variable X3 is defined as the extent to which the difficulty of computer technology is easy to be understood and applied by the user Davis (1989) and Igbaria et al. (1996) have measured the complexity of time consumed to execute the tasks, to integrate the computer result with the jobs being done. (Jogiyanto, 2008: 117).

   d. The Acceptance of Computerized Audit Technique (ACAT)

   ACAT is defined as the instrument and technology being used to examine either directly or indirectly the internal logic of a computer application to process the data. Perceived ACAT is a kind of acceptance to use the information technology as the supporting tool in auditing. Suryana (2013).

   ACAT is the tool how to examine the financial report using computer technology. Using ACAT has been the most important requirement for an auditor, since many companies have been using computer to record and to process their business transaction. However, ACAT can improve the auditors' efficiency and effectiveness to execute audit procedure. (Nani Novrilin, 2009).

3. Measuring the Variables

   The instrument which has been used to measure the variable is Likert Scale, it has 5 levels of answering method; absolutely disagree, disagree, a little bit disagree, agree, absolutely agree.

4. Population and Sample

   The population of this research is covering the Area of the Finance and Development Supervisory Agency (FDSA) consisting of 150 persons. The population has been dedicated only for the auditors, qualified auditors, supervisory auditors, primary auditors, young auditors and medium auditors using the technique of census sampling which is all the population as the sample.
5. Analysis Method
   
a. Descriptive Analysis of the research variables
      
      Data collected of this research are tabulated according to the requirement of analysis that will be done. There are 3 exogen variables, Perceived Usefulness, Perceive Ease of Use and Complexity. Endogen variable is Computerized Audit Technique (ACAT). Result of SPSS of the descriptive of research variable will be analyzed to see the range of theory and its actual refers to its deviation.

b. Test of Data Quality
      
      Data collection that will be used in this research have to get thru the validity test, reliability test, and normality test. The aims of the test above is to recognize the availability of the related data which could be used for further research. (Renyowijoyo, 2005).

c. Classical Assumption Test
      
      Executing a multiple regression analysis, classical assumption test has to be done due to the requirement of analysis to ensure the data are beneficial and useful. Classical assumption test has covered normality test, multicolinearity test and heteroscedasticity test.

   1) Normality Test Data
      
      Data of normality test can be done by using 3 methods; Kolmogorof-Smirnov (K-S test), histogram graph and P-Plot scattering curve.

   2) Multicolinearity Test
      
      Is to test whether the regression model has found out the correlation among the independent variables.

   3) Heteroscedasticity Test
      
      Is to test whether the regression model has found out the variance differences between one residual observation to another one is fixed or homoscedasticity.

   4) Descriptive Statistics Test.
      
      Descriptive statistics has provided the criteria data descriptions of means value, standard deviation, variant, maximum, minimum, sum, range, curtosis, and scewness.

   5) Multiple Regression Test.
      
      Using the following equation:
      
      \[ Y = \alpha + Bx + e \]
      
      \[ Y = \text{Acceptance of Computerized Audit Technique (ACAT)}. \]
      
      \[ b = b_1, b_2, b_3 = \text{Coefficient of regression distribution / parameter value} \]
      
      \[ X = \text{Perception usefulness (Perceived Usefulness) / Perceived Ease of Use) / Complexity}. \]
      
      \[ \alpha = \text{constant (intercept)} \]
      
      \[ e = \text{residual or prediction error}. \]

6. Hypothesis Test
   
a. Hypothesis test of correlation coefficient with t test.
      
      Testing each variable of Perceived Usefulness, Perceived Ease of Use, and Complexity against the Acceptance of Computerized Audit Technique (ACAT).
b. Determinant Coefficient \( (R^2) \).

Indicating the percentage of the varied independent variables that could be explained by the regression equation obtained. Determinant Coefficient \( (R^2) \) is an exact measurement or suitable regression distribution obtained from the prediction result against the data result of the research.

Result and Description

1. The Effect of the dimensions of Perceived Usefulness (X1), Perceived Ease of Use (X2), Complexity (X3) upon the Acceptance of ACAT Auditor (Y)

a. Regression Coefficient

Regression coefficient of the effect of the dimension of Perceived Usefulness (X1), Perceived Ease of Use (X2), Complexity (X3) upon the Acceptance of ACAT (Y) is described in the following table.

Table 1 Regression coefficient of Dimensions X1, X2, X3 upon Y.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>35.148</td>
<td>5.508</td>
<td></td>
<td>3.640</td>
</tr>
<tr>
<td>Performance Improvement dimension</td>
<td>.752</td>
<td>.172</td>
<td>.358</td>
<td>5.876</td>
</tr>
<tr>
<td>Productivity dimension</td>
<td>.383</td>
<td>.142</td>
<td>.353</td>
<td>4.248</td>
</tr>
<tr>
<td>Knowledge dimension</td>
<td>.812</td>
<td>.154</td>
<td>.462</td>
<td>4.248</td>
</tr>
<tr>
<td>Operation dimension</td>
<td>.821</td>
<td>.135</td>
<td>.314</td>
<td>2.817</td>
</tr>
<tr>
<td>Effort/work dimension</td>
<td>.627</td>
<td>.251</td>
<td>.231</td>
<td>3.160</td>
</tr>
<tr>
<td>Time dimension</td>
<td>- .352</td>
<td>.165</td>
<td>- .218</td>
<td>- 1.775</td>
</tr>
<tr>
<td>Infrastructure and Facility dimension</td>
<td>- .347</td>
<td>.158</td>
<td>- .215</td>
<td>- 1.851</td>
</tr>
</tbody>
</table>

Resource: enclosure of each dimension of the Research Variable

The calculation of multiple regression analysis on the variable data of Acceptance of ACAT upon the Perceived Usefulness, the Perceived Ease of Use, the Complexity has gained the regression \( b_{X1.1} \) which is the Performance Improvement dimension of 0.752 and regression \( b_{X1.2} \) which is the Productivity dimension of 0.383, regression \( b_{X2.1} \) which is the Knowledge dimension of 0.812, and regression \( b_{X2.2} \) which is the Operation dimension of 0.821, and regression \( b_{X3.1} \) which is the effort/work dimension of 0.627, regression \( b_{X3.2} \) which is Time dimension of -0.352 and regression \( b_{X3.2} \) which is the Infrastructure and Facility dimension of -0.347. Therefore, the correlation dimension between independent variables and dependent variable could be described by the following multiple regression equation:

\[
Y = 35.148 + 0.752 X_{1.1} + 0.383 X_{1.2} + 0.812 X_{2.1} + 0.821 X_{2.2} + 0.627 X_{3.1} - 0.352 X_{3.2} - 0.347 X_{3.2}
\]
Result of Multiple Linear Regression Test.

1) Coefficient constant a is 35.148 describing that the dimensions of variables Perceived Usefulness, Perceived Ease of Use, Complexity are constant at 0 (null), and Y is 35.148.

2) Regression coefficient of the dimensions of independent variables of the research has explained that a positive effect of the variables of Perceived Usefulness and Perceived Ease of Use upon the ACAT has happened and a negative effect of the Complexity variable upon the ACAT has happened. The regression coefficient value of Perceived Ease of Use will be meaningful if the related dimension is increased 1 unit, then the value of ACAT (Y) will be increased according to each regression coefficient obviously. The independent variable of Complexity has proven that a negative effect of its dimension upon the ACAT has occurred. The regression coefficient value of the Complexity dimension will be meaningful if the dimension of Complexity variable is increased 1 unit, and the value of ACAT (Y) will be decreased, it explains that the existence of Complexity will decrease the acceptance decision of ACAT or tends to reject to use the ACAT.

b. Correlation Coefficient

The strong effect of the dimension of Perceived Usefulness (X₁) which consists of Performance Improvement dimension and Productivity dimension upon the Acceptance of ACAT (Y) is indicated by its correlation coefficient. The result of the calculation has gained R = 0.527 as mentioned on the following table.

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.583a</td>
<td>.339</td>
<td>.228</td>
<td>4.26321</td>
</tr>
</tbody>
</table>

Source: Enclosures of Research Variable per each dimensions

However, the guideline of the interpretation about the correlation coefficient referred to Sugiyono’s opinion as follows:

<table>
<thead>
<tr>
<th>Coefficient Interval</th>
<th>Degree of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00 – 0.199</td>
<td>The weakest</td>
</tr>
<tr>
<td>0.20 – 0.399</td>
<td>Weak</td>
</tr>
<tr>
<td>0.40 – 0.599</td>
<td>Quite strong</td>
</tr>
<tr>
<td>0.60 – 0.799</td>
<td>Strong</td>
</tr>
<tr>
<td>0.80 – 1.000</td>
<td>The strongest</td>
</tr>
</tbody>
</table>

Source: Sugiyono (2007)

Based on the interpretation guideline on the table above, it has explained that the effect of the dimensions of Perceived Usefulness, Perceived Ease of Use and Complexity upon the Acceptance of ACAT is quite strong. Therefore, it can be defined that a sufficient strong effect of the dimensions of Perceived Usefulness, Perceived Ease of Use, Complexity upon the Acceptance of ACAT has happened.

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c. **Determinant Coefficient**

Determinant coefficient is quadratic correlation coefficient ($R^2$) between the dimension of variables X1, X2, X3 and Y variable which is 0.339 indicating that the dimensions of Perceived Usefulness, Perceived Ease of Use, Complexity have contributed 33.9% for the Acceptance of ACAT.

d. **Significance Test**

Furthermore, t-test analysis has to be done. The Analysis result has gained t-count as mentioned on table 1 above indicating that the dimension of Perceived Usefulness which consists of Performance Improvement dimension and Productivity one has obtained t-count of 5.876 and 4.248 which are bigger than t-table ($n=150; \alpha = 0.05$) = 1.960 and t-sign 0.000 < 0.05, the variable of Perceived Ease of Use has gained the value of of t-count of Knowledge dimension of 4.284, Operational one of 3.160 and effort/work one of 2.817, and Complexity variable that consists of the Time dimension required has obtained t-count of -1.775, and Infrastructure and Facility dimension has obtained t-count of -1.851 which is lower than t-table ($n=150; \alpha =0.05$) = 1.960 but each t-sign value of 0.053 and 0.051 > 0.05. Nevertheless, it can be said that there is not any significant effect of Complexity upon the increasing of Acceptance of ACAT happened.

2. **Description**

a. **There is a positive and significant effect of Perceived Usefulness upon the Acceptance of ACAT Auditor happened.**

Perceived Usefulness is defined to what extent a person believes that using the information system can improve his job performance. The definition above has explained that Perceived Usefulness is a belief about the process of decision making. If a person believes that the system is useful, he or she will use it, but if a person believes that the information system is not useful then he or she will never use it. This kind of concept has described that the usefulness of the system for the user is related to the productivity, job performance or effectiveness, importance to job, and overall usefulness.

b. **A positive and significant effect of Perceived Ease of Use upon the Acceptance of ACAT Auditor has happened.**

Perceived Ease of Use (PEOU) is a perception about using the thing easily which is to what extent a person believes that using a certain system does not need much effort. Though, each person has varied effort to spend, but in general usually in order to avoid any rejection of using the system, it must be user friendly which is free of effort.

The concept of perceived ease of use has indicated the extent to which a person believes that using the information system is easy to operate and free of effort. This concept has covered a clear description how to use the information system easily, so that it is meeting the user’s expectation.

Therefore, the auditors at the Finance and Development Supervisory Agency (FDSA) R.I. would have accepted to use the system since it is easy to operate.

c. **There is a Negative Effect of Complexity upon the Acceptance of ACAT Auditor.**

Complexity is people perception about computer technology which is it is difficult to be understood and to be operated. The more complex a technology is innovated, the less people use it.

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Complexity of a technology has affected the auditors at FDSA RI using it. The technology system owned by FDSA RI has made the auditors difficult to do their tasks and responsibility. The more complexity of the technology system has caused the auditors difficult to accept it. Because the auditors need quite the time to finish their job. A sophisticated development and innovation of the technology has made the auditors facing the problem to operate it and they are not in the position to accept such a technology. However, nowadays the expertise of auditors has not been able to get along with such a modern technology yet. Nevertheless, this research can be an input for the auditors to improve their expertise particularly related to the technology development which is it could be done by following the training and development for the auditors.

**Conclusion, Implication and Suggestion**

1. **Conclusion**
   
   There is a positive effect of Perceived Usefulness and Perceived Ease of Use happened upon the Acceptance of ACAT auditors at the Finance and Development Supervisory Agency (FDSA) R.I. There is a negative effect of Complexity happened upon the Acceptance of ACAT, it means that the existence of complexity has decreased the auditors’ Acceptance of ACAT at FDSA R.I.

2. **The Research Limitation**
   
   This research is only able to be used as an analysis for a limited research objects which is the professional auditors at the Finance and Development Supervisory Agency (FDSA) Republic of Indonesia which have depicted the expertise of the auditors refers to the acceptance of ACAT zone only. However, it cannot generalize all the auditors in Indonesia.
   
   This research has had the limitation of time to perform the field survey. It is quite difficult to get back the questionnaires which already distributed to the auditors as the respondents. It has happened due to they have big responsibilities and tasks to be performed and they do not have enough time to answer the questions offered.

3. **Suggestions**
   
   It is suggested that further research can add some factors affecting the auditor recruitment and enlarge the area to be researched if possible. Besides that, the researcher has suggested the FDSA RI to improve the skills and ability of the auditors to be able to accept easily the technology supporting their tasks and responsibilities. Having the education and training particularly related to the technology development with modern work facilities can give the auditors a certain skill which can reduce the problems and tasks complexity at work. Training and education session will make the auditors having more knowledge and skills, so that they can accept the technology that can support and make their task easily and rapidly.
   
   Further research can be done by other researchers related to the Acceptance of ACAT refers to the auditors more properly by adding the study about other factors that could make auditors at FDSA RI accept the ACAT accordingly and properly.

4. **Implication**
   
   a. Technology acceptance or Acceptance of ACAT can be an evaluation of the implementation of the information technology system at the office of the Institution Finance and Development Control (FDSA) Republic Indonesia, however, there are still some improvement to be done related to the

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implementation of the information technology system due to the human resources quality regarding how to use the information technology system. Therefore, the management of FDSA RI should have provided some programs to improve the people who are using the information technology system thru the training session to evolve the auditors' job performance. Finally an increasing of the acceptance of information technology system will happen.

b. Perceived Usefulness is required for the auditor who believes that technology application will be as an auditing process. It is such the technology system can improve the auditors' job performance and productivity accordingly.

c. The improvement of Perceived Ease of Use for the auditors is required, because by improving the knowledge and skills of the auditors about such the technology system, it could help them to do their job more properly. Nevertheless, the auditors will trust and decide to use it.

d. Complexity is a big problem for the auditors to do their job. So that auditors need to manage their time schedule and to use the facilities and infrastructures that can help them finish their tasks properly. Therefore the difficulties of tasks can be minimized or even eliminated.

References


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