Analysis of Using E-Filing with the Implementation of Planned Behavior Theory

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Abstract
This study aims to examine the impact of taxpayer’s intention toward using e-filing on actual e-filing usage. This research model based on theory of planned behavior that analyze behavioral attitude, subjective norm and perceived behavioral control as factors that affect taxpayer’s intention toward using e-filling and its impact on actual e-filing usage. Analysis of data uses Partial Least Square of Structural Equation Modeling (PLS SEM). Unit of analysis in this research are accounting lecturers from several universities in Indonesia. A total of 211 lecturers as an individual taxpayer responded to the survey using questionnaires. The result findings prove that attitude toward using e-filing, subjective norm, and perceived behavioral control significantly influence taxpayer’s intention to use e-filing and in the end, it will give an impact on actual e-filing usage.

Keywords: theory of planned behavior, intention toward using e-filing, subjective norm, perceived behavioral control, actual e-filing usage.

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1. INTRODUCTION

The Directorate General of Taxes has made various efforts to optimize revenue since it is the main contributor to the state budget. Therefore, the rapid development of technology requires various reforms in all aspects which include tax. The modernization in tax administration is one of the reforms carried to provide
convenience for taxpayers. This is carried out by launching electronic tax systems such as e-registration, e-filing, e-form, e-billing, etc.

The e-filing is an example of electronic tax reporting systems. This is a solution for taxpayers to obtain convenience while submitting an annual tax report. During this pandemic, the use of online systems is unavoidable. Therefore, the greatest challenge is changing people's perceptions as taxpayers to switch from manual to an electronic system.

This study analyzes the factors that determine the taxpayers' intention to use e-filing as a means of tax reporting. The theory of planned behavior approach was implemented in the development of this study model. This was carried out by analyzing behavioral attitudes, subjective norms, and perceived behavioral control as factors that ultimately influence taxpayers while using e-filing.

2. LITERATURE REVIEW

According to the experts, an information system can be defined as an arrangement of people, data, processing, and information technology interacting with each other in the collection, processing, storing, and presentation of information for organizational benefit (Whitten & Bentley, 2007; Laudon & Laudon, 2014; Stair & Reynolds, 2016). Furthermore, Bodnar & Hopwood (2010) stated that an information system is a collection of resources, which include people and equipment designed to transform financial and other data into information.

The theory of planned behavior (TPB) is one of the various theories that have developed to test the intention in using or adopting an information system. This was developed from the Theory of Reasoned Action (TRA) proposed by Fishbein & Ajzen (1975). Furthermore, the TPB is used as the main theory in explaining the use of the e-filing system. It is a theory related to belief and behavior.

The basic difference between the TPB and TRA models is the addition of one element, namely Perceived Behavioral Control. Therefore, three factors influence intention which includes attitude, subjective norm, and perceived behavioral control.

According to TPB, behavioral attitudes, subjective norm, and perceived behavioral control affect the Intention in using a system with an impact on the actual use of the system. Furthermore, behavioral intention measures the strength of a person's desire to act. Intention and behavior are two different things. An intention is a desire to behave in a certain manner, while behavior is real action taken. Furthermore, attitude is an evaluation of belief either positive or negative feelings from a person provided that they behave following what is determined (Jogiyanto, 2007).

In TPB, it is explained that attitude is a factor that determines behavioral intention. It leads to a person's response to something extrinsic and consists of three components which include cognition, affect, and behavior. Furthermore, the subjective norm is defined as a person's perception of others' beliefs with an effect on the intention to behave in a certain manner (Jogiyanto, 2007). Subjective norm
depends on the perceptions of others which later influence a person's intention in behaving. It is similar to the perceived behavioral control.

Based on the phenomenon supported by previous empirical studies, it proved that there is an influence of external factors on intention in using an information system. This will ultimately have an impact on the actual use of the system. Therefore, the development form of this study is the implementation of the theory of planned behavior as an approach in assessing the electronic tax reporting system (e-filing). Furthermore, this theory is mostly implemented to assess the use of electronic systems in various sectors such as the internet, banking systems, and others. The problems identified are as follows:

1. The factors that significantly affect the intention to use e-filing with an impact on the actual e-filing usage.
2. The influence of external factors such as attitude, subjective norm, and perceived behavioral control on behavioral intention to use e-filing.
3. The impact of behavioral intention to use e-filing on actual e-filing usage.

This study aims to evaluate the influence of attitude, subjective norms, and perceived behavioral control towards taxpayer intention to use e-filing. Also, it examines the impact of these factors on actual e-filing usage as described in the study framework model below:

![Figure 1. Framework](image)

Based on the framework above, the hypotheses proposed were as follows:
H1: Attitude toward using e-filing, influences behavioral intention to use e-filing.
H2: Subjective Norm influences behavioral intention to use e-filing.
H3: Perceived Behavioral control indirectly influences actual e-filing usage through behavioral intention to use e-filing.
H4: Perceived Behavioral Control influences actual e-filing usage.
H5: Behavioral Intention to Use e-filing influences actual e-filing usage.

3. METHODOLOGY

This study object was defined as a variable studied. It can be a concept from ordinary experience or something abstract, or a variable that will be observed (Cooper & Schindler, 2013). For example, the object of this study is the use of the e-filing system. Furthermore, the population was taxpayers of accounting lecturers from various universities in Indonesia.

Sekaran & Bougie (2013), Kothari (2004), and Cooper and Schindler (2014) defined a population as a total set of elements that will be examined. Therefore, the population in this study was all taxpayers of accounting lecturers from various universities in Indonesia. Furthermore, according to Suriasumantri (2010) and Kothari (2004), the scientific method can be implemented in a study. Each study has its method according to the objectives.

This study used primary and secondary data. According to Sekaran and Bougie (2013), the methods of data collection include (1) interviews, (2) observation, and (3) questionnaires. In this study, primary data was obtained using a questionnaire sent by post to related parties. Meanwhile, secondary data is obtained from the Directorate General of Taxes (DGT).

Furthermore, a validity test was carried out to determine the appropriateness of the instrument developed to measure certain concepts according to the size in question (Sekaran & Bougie, 2013; Bryman, 2012). According to Kaplan & Saccuzzo (2005), a statement item is valid and measures the variable, provided that the coefficient value is > 0.30.

Afterward, a reliability test was carried out, which refers to the consistency of the concept size (Bryman, 2012). The consistency was tested through internal consistency and split-half reliability tests. The Cronbach Alpha is a popular test tool widely used to test internal consistency and split-half reliability (Sekaran & Bougie, 2013). Kaplan & Saccuzzo (2005) stated that the instrument reliability is achieved provided that the coefficient is > 0.70. Meanwhile, Sekaran & Bougie (2013) stated that an instrument is reliable provided that the Cronbach alpha coefficient is > 0.60. Furthermore, the assessment of instrument reliability is based on the Cronbach alpha coefficient with categories of poor (< 0.60), acceptable (0.70), and good (> 0.8).

After the validity and reliability tests are completed, the next stage is data analysis. There are two types namely descriptive and inferential analysis (Kothari, 2004). Furthermore, Kothari explained that descriptive analysis is related to the variable distribution. Therefore, it provides an overview of the company, workgroup, person, or other subjects based on characteristics such as size, efficiency, etc. According to Sugiyono (2003), the descriptive analysis includes data presentation through tables, graphs, pie charts, pictograms, calculation of modes, medians, mean. It also includes the calculation of tensile, percentiles, and
data distribution through average and standard deviation as well as calculations. Regarding the significance test, inferential analysis was carried out to test the hypotheses to determine valid data and draw conclusions (Kothari, 2004). In addition, Sugiyono (2003) explains that inferential statistics is a statistical technique implemented to analyze sample data and the results are applied to the population.

According to Hair et al. (2014), structural equation modeling methods are classified into Covariance Based SEM (CB-SEM) and Partial Least Square SEM (PLS-SEM). The CB-SEM is mainly used to confirm or reject theories. Meanwhile, the PLS-SEM (also called PLS Path Modeling) is mainly used to build theory in an exploratory study by explaining the variance of the dependent variable while testing the model. In connection with the study aim to confirm this theory, the SEM method implemented was the Covariant Based SEM (CB SEM). Furthermore, the PLS-SEM is a good methodological alternative for theory testing, provided that the assumptions of CB SEM concerning distribution normality, minimal sample size, and model complexity cannot be satisfied (Hair et al., 2014). This study cannot satisfy the minimum sample size because it has limitations in terms of time, cost, and effort, as well as a formative measurement model.

In addition, Hair et al. (2014) and Ghozali (2006) expresses a similar opinion. This stated that the PLS method contains latent variables with the following characteristics:

1. The reflective model, namely the indicator is influenced by the latent variable. Changes in an indicator bring about changes in other indicators in the same direction.
2. The formative model, namely the indicator is influencing the latent variable. Changes in an indicator do not have to be followed by changes in other indicators in one construct, however, will result in changes in the latent variable.

4. RESULT AND DISCUSSION

4.1 Respondent Profile

The respondents were taxpayers of accounting lecturers from various universities in Indonesia. The total sample was 211 people of which 73.5% are female. Furthermore, 90.5% of the respondents have been taxpayers for more than 4 years. However, 36% have used e-filing for more than 3 years in tax reporting.

4.2 Descriptive Analysis

The descriptive analysis aims to enhance the discussion. According to Cooper & Schindler (2014), it can be carried out through measures of central symptoms and variability. Furthermore, the measures of central symptoms include mean, median, and mode, while variability includes a range of scores and standard deviations. In this study, the mean and standard deviation were used to describe the condition of each variable. The mean and standard deviation of respondents'
answer scores were useful for providing a comprehensive view of Attitude Toward Using e-filing, Subjective Norm, Perceived Behavioral Control, Behavioral Intention To Use e-Filing, and Actual e-Filing Usage.

**Table 1** Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Max.</th>
<th>Min.</th>
<th>&gt; Mean</th>
<th>&lt; Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATU</td>
<td>4,14</td>
<td>0,70</td>
<td>5</td>
<td>1</td>
<td>84</td>
<td>127</td>
</tr>
<tr>
<td>SN</td>
<td>4,00</td>
<td>0,70</td>
<td>5</td>
<td>1</td>
<td>57</td>
<td>47</td>
</tr>
<tr>
<td>PBC</td>
<td>3,43</td>
<td>0,93</td>
<td>5</td>
<td>1</td>
<td>120</td>
<td>91</td>
</tr>
<tr>
<td>BIT</td>
<td>4,06</td>
<td>0,79</td>
<td>5</td>
<td>1</td>
<td>77</td>
<td>134</td>
</tr>
<tr>
<td>AU</td>
<td>3,61</td>
<td>1,08</td>
<td>5</td>
<td>1,5</td>
<td>112</td>
<td>99</td>
</tr>
</tbody>
</table>

The measurement of Attitude toward using e-filing (ATU) uses 3 indicators. The responses of 211 respondents obtained a mean score of 4.14. This implies that most taxpayers, of the accounting lecturers from various universities in Indonesia, like to use e-filing in tax reporting. Furthermore, the number of taxpayers with a score above the mean was less compared to those below the mean.

The Subjective norm (SN) measurement uses 2 indicators. The responses of all respondents obtained a mean score of 4.0. This implies that most taxpayers received support from their leaders and friends/colleagues to use e-filing in tax reporting. Furthermore, the number of taxpayers with a score above the mean was higher compared to those below the mean.

The measurement of Perceived behavioral control (PBC) uses 2 indicators. The responses of all respondents obtained a mean score of 3.61. This implies that most taxpayers have sufficient knowledge and skill in operating e-filing. Furthermore, the number of taxpayers with a score above the mean was higher compared to those below the mean.

The measurement of Behavioral intention to use e-filing (BIT) uses 2 indicators. The responses of all respondents obtained a mean score of 4.06. This implies that most taxpayers were interested in continuing the usage of e-filing in tax reporting in the future. Furthermore, the number of taxpayers with a score above the mean was less compared to those below the mean.

The actual e-filing usage (AU) measurement uses 2 indicators. The responses of all respondents obtain a mean score of 3.43. This implies that most taxpayers use e-filing more often compared to manuals in tax reporting. Furthermore, the number of taxpayers with a score above the mean was higher compared to those below the mean.

In addition, this study aims to test the Planned Behavior Model related to the use of e-filing by using structural equation modeling (SEM) as well as measurement and structural models.
4.3 The Goodness of Fit Test

The goodness of fit test was carried out to determine the model appropriateness in describing the relationship between the variables studied, therefore, it can be categorized as a good model (Hair et. al, 2014). The results of the goodness of fit test are presented in the following table.

<table>
<thead>
<tr>
<th>Size of Goodness of Fit</th>
<th>The score of Estimation Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>61.9 (p-value 0.005)</td>
<td>Not Fit</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.059*</td>
<td>Fit</td>
</tr>
<tr>
<td>GFI</td>
<td>0.949*</td>
<td>Fit</td>
</tr>
<tr>
<td>NFI</td>
<td>0.984*</td>
<td>Fit</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.990*</td>
<td>Fit</td>
</tr>
<tr>
<td>RFI</td>
<td>0.976*</td>
<td>Fit</td>
</tr>
<tr>
<td>CFI</td>
<td>0.993*</td>
<td>Fit</td>
</tr>
</tbody>
</table>

*Meet the criteria of a good model

The goodness of fit test using test 2 (chi-square) showed a value of 61.9 with a p-value of 0.005. Furthermore, Hair et al, (2014) stated that in SEM, the p-value should not be below 0.05. The data in table 2 shows that the overall model obtained does satisfy the criteria for a good model. Various goodness of fit measures was developed due to the difficulty of obtaining a p-value > 0.05 in test 2 (Hair et al, 2014).

The goodness of fit measure that still has a relationship with test 2 is the Root Mean Square Error of Approximation. Furthermore, according to Hair et al, (2014), the model is acceptable provided that the RMSEA value < 0.08. From the data in table 2, the RMSEA value = 0.059 (< 0.08), indicating that the model has satisfied the criteria for a good model. Similarly, provided the value of the Goodness of Fit Index (GFI), Normed Fit Index (NFI), Relative Fit Index (RFI), and Comparative Fit Index (NFI) is> 0.9, it implies that they have satisfied the criteria for a good model. That is, the empirical model obtained is following the theoretical model.

4.4 Measurement Model Evaluation

The measurement model is used to determine the dominant indicator in reflecting the latent variable. According to Hair et al. (2014), provided the manifest variable has a factor loading value of <0.50, it should be removed from the model. Furthermore, there are 5 latent and 11 manifest variables in this study. The attitude toward using e-filing, subjective norm, perceived behavioral control, behavioral intention to use e-filing, and actual e-filing usage consists of 3, 2, 2, 2, and 2 manifest variables, respectively.

Based on the goodness of fit test, it was proven that the model can be used to test the hypothesis of this study. Based on the test results through the implementation of the robust maximum likelihood estimation method, a full path
diagram of the factors model influencing the use of e-Filing is obtained as shown in Figure 2.

**Figure 2 Standardization Coefficient of Full Structural Equation Model**

Figure 2 shows the latent variable of attitude toward using e-filing (ATU), through the factor weights. ATU3 (use of e-filing wise decisions) was the strongest indicator in reflecting ATU, while ATU2 (likes to use e-filing for tax reporting) was the weakest. Furthermore, in the latent variable of the subjective norm (SN), the SN1 indicator (friends/colleagues support the usage of e-filing in reporting taxes) reflects the SN more strongly than the SN2 (the leader supports me using e-filing in reporting taxes).

In the perceived behavioral control (PBC), the PBC1 indicator (having knowledge and ability to operate e-filing) was stronger in reflecting the PBC latent variable compared to the PBC2 (skilled in operating e-filing). Furthermore, in the behavioral intention to use e-filing (BIT), the BIT2 indicator (interested in continuing to use e-filing in tax reporting in the future) was stronger in reflecting the BIT latent variable compared to the BIT1 (using e-filing in reporting tax due to convenience and expediency).

Lastly, in the latent variable of actual e-filing usage (AU), the AU1 indicator (the frequency of using e-filing compared to manual) was stronger in reflecting AU compared to the AU2 (reporting Annual Notification Letter using the manual method). Furthermore, to discover whether the indicators used to measure the 7 latent variables have a high degree of conformity, construct reliability (CR) and average variance extracted (AVE) calculations were carried out. Table 3 shows the results of the CR and AVE calculations for each latent variable indicator.
According to Hair et al. (2014) the composite reliability (CR) value > 0.70 and the average variance extracted (AVE) > 0.50 is considered as satisfactory. In the latent variable of attitude toward using e-filing (ATU), the CR and AVE value was 0.912 (> 0.70) and 0.776 (> 0.50), respectively. This implies that 77.6% of the information contained in each indicator can be represented through the ATU latent variable. In subjective norm (SN), the CR and AVE value was 0.849 (> 0.70) and 0.737 (> 0.50), respectively. This implies that 73.7% of the information contained in each indicator can be represented through the latent variable SN. In the perceived behavioral control (PBC), the CR and AVE value was 0.918 (> 0.70) and 0.849 (> 0.50), respectively. This implies that 84.9% of the information contained in each indicator can be represented through the PBC latent variable. In the behavioral intention to use e-filing (BIT), the CR and AVE value was 0.932 (> 0.70) and 0.873 (> 0.50), respectively. This implies that 87.3% of the information contained in each indicator can be represented through the BIT latent variable.

Finally, in the actual e-filing usage (AU), the CR and AVE value was 0.886 (> 0.70) and 0.797 (> 0.50), respectively. This implies that 79.7% of the information contained in each indicator can be represented through the latent variable AU.

4.5 Structural Model Evaluation

A Structural model was described after the measurement model for each latent variable has been described. This model examines the influence of the exogenous latent variable on the endogenous ones. Based on the data processing, structural equations are obtained as presented in table 4.
Table 4. Structural model of factors influencing the use of the e-filing system by taxpayers in reporting taxes

<table>
<thead>
<tr>
<th>Endogenous Constructs</th>
<th>Exogenous Constructs</th>
<th>R-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIT</td>
<td>ATU 0.416 SN 0.281 PBC 0.291 BIT -</td>
<td>0.760</td>
</tr>
<tr>
<td>AU</td>
<td>- - 0.331 0.459</td>
<td>0.534</td>
</tr>
</tbody>
</table>

Description: the number in brackets is the value of t-statistic

From the R-square value in table 4, it can be seen that attitude toward using e-filing (ATU), subjective norm (SN), and perceived behavioral control (PBC) had an influence of 76.0% on behavioral intention to use e-filing (BIT). Furthermore, perceived behavioral control (PBC) and behavioral intention to use e-filing (BIT) had an influence of 53.4% on actual e-filing usage (AU).

The Influence of Attitude Toward Using e-Filing on Behavioral Intention To Use e-Filing

H₀₁ : γ₁.₁ = Attitude toward using e-filing does not influence behavioral intention to use e-filing.
Hₐ₁ : γ₁.₁ ≠ Attitude toward using e-filing influences behavioral intention to use e-filing.

From the data in Table 4, the t-statistic value for the variable attitude toward using e-filing (ATU) on behavioral intention to use e-filing (BIT) was 5.068 from t_critical of 1.96. Because t_statistic > t_critical, at an error rate of 5%, it was decided to reject H₀, therefore Hₐ is accepted. Consequently, it was concluded that attitude toward using e-filing influences behavioral intention to use e-filing.

Influence of Subjective Norm on Behavioral Intention to Use e-Filing

H₀₂ : γ₁.₂ = Subjective norm does not influence behavioral intention to use e-filing.
Hₐ₂ : γ₁.₂ ≠ Subjective norm influences behavioral intention to use e-filing.

From the data in Table 4, the t-statistic value for the subjective norm (SN) variable on behavioral intention to use e-filing (BIT) was 3.398 from t_critical of 1.96. Because t_statistic > t_critical, at an error rate of 5%, H₀ was rejected, therefore Hₐ was accepted. Therefore, it can be concluded that subjective norms influence behavioral intention to use e-filing.
Influence of Perceived Behavioral Control on Behavioral Intention to Use e-filing

\[ H_{03} : \gamma_{1.3} = 0 \quad \text{Perceived behavioral control does not influence behavioral intention to use e-filing.} \]
\[ H_{a3} : \gamma_{1.3} \neq 0 \quad \text{Perceived behavioral control influences behavioral intention to use e-filing.} \]

From the data in Table 4, the \( t_{\text{statistic}} \) value for the perceived behavioral control (PBC) variable on behavioral intention to use e-filing (BIT) was 5.218 from \( t_{\text{critical}} \) of 1.96. Because \( t_{\text{statistic}} > t_{\text{critical}} \), at an error rate of 5%, Ho was rejected, and Ha was accepted. Therefore, it can be concluded that perceived behavioral control influences behavioral intention to use e-filing.

Influence of Perceived Behavioral Control on Actual e-Filing Usage

\[ H_{04} : \gamma_{2.3} = 0 \quad \text{Perceived behavioral does not influence actual e-filing usage.} \]
\[ H_{a4} : \gamma_{2.3} \neq 0 \quad \text{Perceived behavioral control influences actual e-filing usage.} \]

From the data in Table 4, the \( t_{\text{statistic}} \) value for the perceived behavioral control (PBC) variable on the actual e-filing usage (AU) was 4.213 from \( t_{\text{critical}} \) of 1.96. Because \( t_{\text{statistic}} > t_{\text{critical}} \), at an error rate of 5%, Ho was rejected, and Ha was accepted. Therefore, it can be concluded that perceived behavioral control influences actual e-filing usage.

Influence of Behavioral Intention to Use e-filing on Actual e-filing Usage

\[ H_{05} : \beta_{2.1} = 0 \quad \text{Behavioral intention to use e-filing does not influence actual e-filing usage.} \]
\[ H_{a5} : \beta_{2.1} \neq 0 \quad \text{Behavioral intention to use e-filing influences actual e-filing usage.} \]

From the data in Table 4, the \( t_{\text{statistic}} \) value for the behavioral intention to use e-filing (BIT) variable on the actual e-filing usage (AU) was 6.048 from \( t_{\text{critical}} \) of 1.96. Because \( t_{\text{statistic}} > t_{\text{critical}} \), at an error rate of 5%, Ho was rejected and Ha was accepted. Therefore, it can be concluded that behavioral intention to use e-filing influences actual e-filing usage.

5. CONCLUSION

From the results of this study, it can be concluded that attitude toward using e-filing, subjective norm, and perceived behavioral control influence the behavioral intention to use e-filing. Furthermore, behavioral intention to use e-filing influences actual e-filing usage. This is in line with the results of previous studies and supports the Theory of Planned Behavior. That is, this study proved that taxpayers'
intention in using e-filing for tax reporting influence the actual use of e-filing. The intention is influenced by various factors which include the attitude of the taxpayer in assessing whether e-filing is good/appropriate to use, social assumptions about the importance of e-filing, and control in behavior to use e-filing. Therefore, the perception of taxpayers regarding e-filing is an essential factor that needs to be considered, especially by related parties, such as the Directorate General of Taxes. Furthermore, the perception of taxpayers will shape their behavior shown in the form of intention in using e-filing as a tax reporting tool.

**REFERENCE**


