Understanding the Impact of e-Filing System Performance on Tax Compliance Using the DeLone and McLean Model

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1. Introduction

The COVID-19 pandemic requires major changes to community activities that lead to the use of information systems. In the end, online public services are improved so that people can still fulfill their obligations as citizens. The economy success depends on computer technology and internet, also for the ease of payment and tax reporting (Aryati, 2016). In line with the government’s efforts to prevent the spread of COVID-19, tax services are carried out by optimizing the use of online-based services such as on Direktorat Jenderal Pajak (or Indonesian Directorate General of Taxes/ IDGT) website, telephone, email, and chat.

In modernization era, taxpayers can easily fulfill their tax obligations by utilizing electronic facilities provided by IDGT (IDGT) (Alfarisi & Mahpudin, 2020). The Ministry of Finance Republic Indonesia in this case Indonesian Directorate General of Taxes issued the Regulation of Indonesian Directorate General of Taxes Number PER-02/PJ/2019.
concerning Procedures for Submission, Receipt, and Processing of Electronic SPT. Today's taxpayers can fulfill their online tax reporting obligations, known as e-filing. E-filing is a system designed by the government for taxpayers to facilitate tax reporting via internet on the website of IDGT and Electronic SPT Service Providers (Application Service Providers). The performance of the e-filing system can be seen from the perspective of MSMEs in Bali Province, especially in Gianyar Regency. This research was conducted on MSMEs in Gianyar Regency with the highest number in Bali Province, but there is very low in percentage of system usage. SPT reporting of MSME Taxpayers in Gianyar Regency is shown in Table 1.

### Table 1 SPT report of MSME Taxpayers in Gianyar Regency 2016-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Registered Taxpayers</th>
<th>Report by e-filing</th>
<th>Report without e-filing</th>
<th>No report</th>
<th>Percentage of e-filing users</th>
<th>Percentage of taxpayers reporting SPT</th>
<th>Percentage of taxpayers not reporting SPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>4,424</td>
<td>619</td>
<td>2,992</td>
<td>631</td>
<td>14,60%</td>
<td>85,10%</td>
<td>14,90%</td>
</tr>
<tr>
<td>2017</td>
<td>4,750</td>
<td>1,029</td>
<td>3,098</td>
<td>623</td>
<td>21,70%</td>
<td>86,80%</td>
<td>13,20%</td>
</tr>
<tr>
<td>2018</td>
<td>6,277</td>
<td>1,579</td>
<td>3,096</td>
<td>1,602</td>
<td>25,20%</td>
<td>74,50%</td>
<td>25,50%</td>
</tr>
<tr>
<td>2019</td>
<td>7,981</td>
<td>1,949</td>
<td>2,423</td>
<td>3,609</td>
<td>24,40%</td>
<td>54,80%</td>
<td>45,20%</td>
</tr>
<tr>
<td>2020</td>
<td>8,295</td>
<td>1,405</td>
<td>1,155</td>
<td>5,735</td>
<td>16,90%</td>
<td>30,90%</td>
<td>69,10%</td>
</tr>
</tbody>
</table>

Source: Pratama Tax Office of Gianyar (Kantor Pelayanan Pajak Pratama Gianyar/KPP), 2021

Table 1 shows the percentage of e-filing users has decreased in the last 3 years. The system was built to facilitate tax reporting, but its implementation still not optimal. The Indonesian government actively supports the use of technology for MSMEs. However, information technology adoption by MSMEs in Indonesia is still very low currently (Astuti & Nasution, 2014). One of the reasons for the low use of computers by MSMEs is the lack of ability to operate computers (Nugroho et al., 2017). MSMEs have an important role for the national and international economy seen from their potential to adopt and utilize the internet.

The use of tax information systems is expected to increase tax compliance and public's trust in tax administration system (Sudrajat & Ompusunggu, 2015). Tax compliance research has been done by previous researchers, especially related to information systems. Masunga & Mapesa (2020) examined the use of e-tax system in Tanzania and obtained the result that behavioral intentions to use positively affect tax compliance. Pramanita & Rasmini (2020) identified the use of e-filing and the results are positively affects taxpayer compliance. Hambali (2020) tested the success of the e-filing system in the pandemic period and found that system usage had a positive effect on net benefits.

Although main purpose of e-filing system is facilitate the public to do their tax obligations, the system must be investigated whether it has provided benefits for users especially MSMEs (Widiyanesti & Reynaldi, 2016). The e-filing system is expected to help with timely tax reporting, but in fact there are still problems found in the implementation. There is a theory that explains the success model of an information system, which is DeLone and McLean IS Success Model (W. Delone & Mclean, 2003). This model consists of system quality, information quality, service quality, use, user satisfaction, and net benefits.

Government in various countries routinely conduct surveys for public to increase government transparency and citizens' trust in the government (Grimmelikhuijzen et al., 2013). One of the public services issued by the government is to provide online-based facilities, known as e-government. Previous research suggests that successful adoption and acceptance of e-government can provide potential benefits for many parties (Gil-Garcia et al., 2014). Despite all the advantages provided by e-government services, there is still a rejection from public fear for implementing e-government. Trust is a major challenge especially for governments in developing countries to implement their e-
government projects. People in developing countries prefer to use conventional methods in carrying out their obligations as citizens, compared to use e-government services (Mahmood & Weerakkody, 2014).

The economic success of a country cannot be separated from the role of information technology and the internet, but the gap of interest and using technology in the context of gender still a community problem (Cooper, 2006). Several previous studies have examined the relationship between gender roles in information technology adoption, but most of them was conducted in developed countries and neglected in developing countries (Faqih, 2016). Users' perceptions of technology can also differ by gender (Ilie et al., 2005). There are many results from previous studies. Venkatesh et al. (2017) states that Men and women showed the same attitude towards technology. Other study has shown that women in developing countries use information technology less than men (Alozie & Akpan-obong, 2016). Previous studies have identified the effect of gender as a moderating variable on the use of information systems such as the adoption of m-commerce, m-banking, and m-payment (Glavee-Geo et al., 2015; Marinković et al., 2019). Gender moderation has been suggested on a theory known as the UTAUT (Venkatesh et al., 2003).

This study uses the DeLone & McLean model to analyze the success of e-filing system. Previous researchers have used the DeLone & McLean model to test the success of an information system (Angelina et al., 2019; Farizi et al., 2020; Hambali, 2020; Hidayatullah et al., 2020; Masunga & Mapesa, 2020), but their researches still put the main focus on the net benefits variable, especially performance as the dependent variable. This study aim to examine the use of e-filing through the DeLone & McLean model by changing the net benefits variable to a variable which is related with e-filing, namely tax compliance. Trust in e-government is an additional variable in research model. Trust is a major challenge because people in developing countries are prefer to use conventional methods in carrying out their obligations as citizens. DeLone & McLean model was also developed with moderating variables, namely gender.

2. Literature review and hypotheses development

DeLone and Mclean information system success model

The success model of information systems was first developed by DeLone and McLean in 1992 which is better known as the D&M IS Success Model. Furthermore, DeLone and McLean carried out an update and development of their information system success model in 2003. Figure 1 shows the development of an information system success model by DeLone & McLean.

![Figure 1. Updated DeLone & McLean Information System Success Model](image-url)
The use of DeLone & McLean model to analyze the success of information systems has been adopted in various sectors. Chen et al. (2015) examine the tendency of citizens to use e-government website with the context of e-filling system in Philippines. Other study identified the use of cloud-based mobile e-books through the DeLone & McLean IS Success Model (Chiu et al., 2016). Khan et al. (2020) identify antecedents of public trust in using e-government services in Pakistan. This study refers to the DeLone & McLean model with several developments shows by Figure 2, namely as follows

**Information quality and system use**

Theory of Planned Behavior explains that humans are rational individuals who use information that allows for them systematically. System usage can be indicated by good information quality which then provides convenience and benefits for users (Chen et al., 2015; Tam & Oliveira, 2016; Farizi et al., 2020). The more government services that provide update, relevant, and accurate information, more often people use the service as a facility that can help their work (Ameen et al., 2019). Good quality output of the e-filling will encourage taxpayers to continue using it, so the using intensity will increase (Hambali, 2020; Pramanita & Rasmini, 2020). Based on the description above, the research hypothesis as follows.

H1: Information quality positively affects system use.

**Information quality and user satisfaction**

Theory of Planned Behavior assumes that information is needed by individuals before deciding to behave. Users will be satisfied using the system because the information can help them to use it better (Chen et al., 2015). Good quality information will produce a useful and valuable decisions for users and leads to satisfaction. Taxpayers always want to ensure that no costs can be eliminated or deducted, so information quality is important to them. It is one of the basic factors for user satisfaction (Chen, 2010). Previous studies found that information quality has a positive effect on system user satisfaction such as Tam & Oliveira (2016), Christanti (2019), Pramanita & Rasmini (2020), and Shim & Jo (2020). Based on the description above, the research hypothesis as follows.

H2: Information quality positively affects user satisfaction.

**System quality and system use**

Perceived behavioral control as a construct in TPB describes the extent of individual beliefs regarding the availability of organizational and technical infrastructure to support a system. High
quality system will give a more comfortable, safer, and faster response to users, so it will increase the usage (Rana et al., 2015). Users will often use a system which can process data into information that is appropriate for them, because it is capable to facilitating task completion. There is a positive relationship between system quality and system usage (Tam & Oliveira, 2016; Alzahrani et al., 2017; Veeramootoo et al., 2018; Pramanita & Rasmini, 2020; Masunga & Mapesa, 2020). Based on the description above, the research hypothesis as follows.

H3: System quality positively affects system use.

System quality and user satisfaction

Theory of Planned Behavior explains that individuals use a system because it can help them to complete work faster with better results. High quality of hardware and increasing performance and provide user satisfaction (Delone & Mclean, 1992). System quality plays an important role to achieve system success related to user needs fulfillment and affects their satisfaction (Widyadinata & Toly, 2014). Several studies found that system quality has a positive effect on user satisfaction such as Chiu et al. (2016), Hambali (2020), Veeramootoo et al. (2018), and Masunga & Mapesa (2020). Based on the description above, the research hypothesis as follows.

H4: System quality positively affects user satisfaction.

Service quality and system use

Theory of Planned Behavior explains that individuals will use information systems if there are an advantages or positive reciprocities of it. Service quality is useful for evaluating the success of various systems, including e-government (Shahzad et al., 2020). High service quality can increase usage and satisfaction, as well as satisfy performance and business expectations (Weerakkody et al., 2013). Several studies found that service quality has a positive effect on system use such as Chiu et al. (2016), Tam & Oliveira (2016), Alzahrani et al. (2017), and Rahi & Ghani (2019). Based on the description above, the research hypothesis as follows.

H5: Service quality positively affects system use.

Service quality and user satisfaction

Theory of Planned Behavior explains that attitude will influence individual’s behavior through a planned decision-making process as it has a positive effect for them. The good quality services provided by system developers will refer to user satisfaction, so they intend to use the system continuously. Service quality is one of key factors for user satisfaction. System service success leads to increase user satisfaction (Trihandayani et al., 2018). Several studies found that service quality has a positive effect on user satisfaction such as DeLone & McLean (2003), Nurjaya (2017), Shim & Jo (2020), Farizi et al. (2020), Pramanita & Rasmini (2020), and Hambali (2020). Based on the description above, the research hypothesis as follows.

H6: Service quality positively affects user satisfaction.

Trust in e-government and system use

Mayer et al. (1995) propose model of trust and shows that factors of perceived trustworthiness consist of ability, benevolence, and integrity. Users must trust not only the website in information system use, but also the organization and infrastructure behind it (Beldad et al., 2010). Trust in e-government refers to an individual's beliefs and their expectations of e-government (Alzahrani et al., 2016). Fakhoury & Aubert (2015) found that trust defined as trust in internet and trust in government increased e-government adoption as well as significantly affects system use. Several studies found that trust in e-government has a positive effect on system use such as Belanger & Carter (2008) and Pérez-Morote et al. (2020). Based on the description above, the research hypothesis as follows.

H7: Trust in e-government positively affects system use.
Trust in e-government and user satisfaction

The three main factors determining trust, namely ability, benevolence, and integrity, are primary factors for building individual’s trust about media, transaction, and commitment (Mayer et al., 1995). Citizens’ assessment of system usefulness increases because of their trust in system (Warkentin et al., 2018). Trust reduces risk and uncertainty, thereby positively affect system usage behavior. There is a significant relationship between trust and technology acceptance (Khan et al., 2020). Trust in e-government will increase the system usage continuously and the user satisfaction can be achieve (Alzahrani et al., 2016). There is a positive relationship between trust and user satisfaction (Amin et al., 2014; Welch et al., 2004). Based on the description above, the research hypothesis as follows.

H₈: Trust in e-government positively affects user satisfaction

System use and tax compliance

Theory of Planned Behavior can explain the online filing taxes behavior. Taxpayers with positive perception of e-filing believe that the system can provide various benefits for them (Lu et al., 2010). Information system has an impact on performance and provides net benefits to users, both individuals and organizations. In the future, taxpayers will use e-filing when the system is beneficial for them and speed up their work (Hambali, 2020). Several previous studies found that system use has a positive effect on net benefits (tax compliance) such as Noviyanti (2016), Rahayu et al (2018), Trihandayani et al. (2018), Pramanita & Rasmini (2020), Hambali (2020), and Masunga & Mapesa (2020). Based on the description above, the research hypothesis as follows.

H₉: System use positively affects tax compliance

User satisfaction and tax compliance

Theory of Planned Behavior explains that an individual’s behavior to do something is influenced by their reactions and perceptions. High user satisfaction will lead to high actual usage because users feel the net benefits obtained over system use (W. Delone & Mclean, 2003). This condition can eventually lead to tax compliance behavior. User satisfaction refers to the difference between actual benefits and expected results. Satisfaction increased as it exceeds expectation and positively affects net benefits (Petter et al., 2008). Previous studies found that system user satisfaction has a positive effect on net benefits (tax compliance) such as Chen et al. (2015), Chiu et al. (2016), Angelina et al. (2019), Hidayatullah et al. (2020), Farizi et al. (2020), and Pramanita & Rasmini (2020). Based on the description above, the research hypothesis as follows.

H₁₀: User satisfaction positively affects tax compliance.

System use and tax compliance with gender as moderating variable

Gefen & Straub (1997) was first proposed the role of gender moderation in the context of information technology. Gender moderation also demonstrated in the technology adoption model such as UTAUT (Venkatesh et al., 2003) and TAM (Venkatesh & Morris, 2000). Gender affects users' perceptions in using information technology (Dong & Zhang, 2011). Furthermore, women and men behave differently in all conditions, including to tax compliance behavior (Attoma et al., 2017; Prasetyo et al., 2020). Women tend to change their behavior to be expected and more obedient rather than man (Brockmann et al., 2016). There is a significant relationship between gender and tax payments of SMEs (Antwi et al., 2015). Based on the description above, the research hypothesis as follows.

H₁₁: Gender strengthens the effect of system use on tax compliance.

User satisfaction and tax compliance with gender as moderating variable

Gender roles are important to provide an understanding of how users make decisions to adopt and use new technologies (Venkatesh & Morris, 2000). Venkatesh et al. (2003) has tested the role of gender moderation in their research model known as
UTAUT. Several studies explain that gender can be used as a moderation variable in the use of information systems (Glavee-Geo et al., 2015; Marinković et al., 2019). Gender was able to explain individual tax compliance, where women were considered to have a higher level of tax compliance than men (Amponsah & Adu, 2017; Hofmann et al., 2017). There is a positive relationship between gender and tax compliance (Attoma et al., 2017). Based on the description above, the research hypothesis as follows.

\[ H_{12}: \text{Gender strengthens the effect of user satisfaction on tax compliance.} \]

3. Research method

Population and sample

The population in this study are all Micro, Small, and Medium Enterprises (MSMEs) in Gianyar that are actively registered at Pratama Tax Office of Gianyar and carry out tax reporting through e-filling in 2020. There are 1,405 MSMEs consist of corporate and individual taxpayers. Sample sizes tested with the appropriate SEM-PLS are between 100-200 (Ferdinand, 2014). The sampling method used is probability sampling with proportional sampling technique. Data were collected by questionnaires which distributed directly and indirectly via internet from May to June 2021. There were 253 questionnaires distributed, and 154 give a response with response rate 60.8%. From that response there were 26 questionnaires rejected, so that 128 questionnaires using for the analysis.

Variable measurement

Information quality is information system output and its usefulness for users (W. Delone & Mclean, 2003). The indicators of information quality measured by 5 point Likert scale consist of, ease of use, response time, reliability, and flexibility (Delone & McLean, 1992; Trihandayani et al., 2018).

Service quality is the service obtained from system developers to users. The indicators of service quality measured by 5 point Likert scale consist of, assurance, empathy, and responsiveness (Delone & McLean, 1992; Trihandayani et al., 2018).

Trust in e-government is the belief or expectation of citizens that e-government services will provide certain facilities that suit the users’ needs, even though they have no control over the performance of e-government services. The indicators of trust in e-government measured by 5 point Likert scale consist of, effectiveness of service, honesty of service, commitment and trust in service, services in favor of community, and profitable services for community (Purwanto & Susanto, 2018).

System usage or use is variable indicating how often users use the information system (DeLone & McLean, 2003). The indicators of system use measured by 5 point Likert scale that is frequency of use (McGill et al., 2003).

User satisfaction, is the response and feedback given by users after using the information system. The user's attitude towards the information system is a subjective criteria regarding the level of user satisfaction with the desired system (Seddon & Kiew, 1996). The indicators of user satisfaction measured by 5 point Likert scale consist of, efficiency, effectiveness, satisfaction, and proudness (McGill et al., 2003).

Tax compliance is an endogenous variable measured by 5 point Likert scale consists of, compliance in registering, compliance to return and report SPT, compliance in calculating and paying taxes, compliance in reporting and pay the arrears (Rahayu, 2013; Pohan, 2017).

Gender is moderating variable considered as a biological differences, also relevant to social identities and categories (Febrian & Islami, 2020).
Gender variable in this study was measured using nominal scale, which is 1 for male and 2 for female.

Data analyzing

The study used SEM-PLS statistical analysis, which is simultaneously test the measurement model as well as test the structural model. Moderation testing can use several ways. If the exogenous and moderator constructs are reflective, then the proper method to test moderating effect is called Product Indicator Approach. This method is to make a multiplication between the exogenous variable indicators and moderation variable to form an interaction construct (Ghozali, 2012).

4. Result and discussion

Respondent characteristics

Respondent characteristics are a representation of MSMEs taxpayers who use the e-filing system in this research. The characteristics of the research sample consist of gender, last education, age, type of MSMEs, MSMEs ownership, business size, and length of business. In this study, male respondents were more than female (60.2%). The last education level of the highest respondents came from undergraduate education (44.5%). The predominant age was at intervals of 26-35 years (47.7%). The most types of MSMEs in this study were handicrafts (32.0%). MSME ownership is dominated by individual ownership (64.1%). MSMEs with the size of micro enterprises have the highest percentage (68.8%). The length of MSME business in this study was dominated by 5 years (67.2%).

Descriptive statistics

Descriptive statistics are presented to provide information about the variable characteristics consisting of the observation number, minimum, maximum, and mode values. The results of descriptive statistics are presented in Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Quality</td>
<td>128</td>
<td>1.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
<tr>
<td>System Quality</td>
<td>128</td>
<td>2.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Service Quality</td>
<td>128</td>
<td>2.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Trust in E-Government</td>
<td>128</td>
<td>2.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
<tr>
<td>System Use</td>
<td>128</td>
<td>2.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
<tr>
<td>User Satisfaction</td>
<td>128</td>
<td>1.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Tax Compliance</td>
<td>128</td>
<td>2.00</td>
<td>5.00</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Source: Data tested, 2021

Outer model

Convergent validity

The outer model using reflective indicators is evaluated through convergent validity, discriminant validity, and reliability. The rule of thumb for convergent validity is the AVE ≥ 0.5 and the loading factor ≥ 0.6. The results of the convergent validity test are presented in Table 3.

Based on Table 3, it found that loading factor and AVE values of all constructs are above 0.6 and 0.5. Therefore, it concluded that all constructs have met the convergent validity requirements.

Discriminant validity

Discriminant validity can be determined by comparing the roots square of Average Variance Extracted (AVE) of each construct with the correlations between other constructs in the model. Discriminant validity test are presented in Table 4.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Loading Factor</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IQ1.1</td>
<td>0.822</td>
<td>0.664</td>
</tr>
<tr>
<td>IQ1.2</td>
<td>0.77</td>
<td></td>
</tr>
<tr>
<td>IQ 2</td>
<td>0.824</td>
<td></td>
</tr>
<tr>
<td>IQ 4</td>
<td>0.845</td>
<td></td>
</tr>
<tr>
<td>IQ 5</td>
<td>0.812</td>
<td></td>
</tr>
<tr>
<td>SQ1.1</td>
<td>0.79</td>
<td>0.579</td>
</tr>
<tr>
<td></td>
<td>SQ1.2</td>
<td>SQ1.3</td>
</tr>
<tr>
<td>---</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>0.796</td>
<td>0.817</td>
</tr>
</tbody>
</table>

**Table 4. Root-square of AVE**

<table>
<thead>
<tr>
<th>Gender</th>
<th>GD</th>
<th>TC</th>
<th>US</th>
<th>IQ</th>
<th>SVQ</th>
<th>SQ</th>
<th>SU</th>
<th>TEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000</td>
<td>0.055</td>
<td>0.780</td>
<td>0.021</td>
<td>0.663</td>
<td>0.853</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Compliance</td>
<td>0.055</td>
<td>0.780</td>
<td>0.021</td>
<td>0.663</td>
<td>0.853</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Satisfaction</td>
<td>-0.021</td>
<td>0.663</td>
<td>0.853</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information Quality</td>
<td>-0.069</td>
<td>0.526</td>
<td>0.868</td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Quality</td>
<td>-0.032</td>
<td>0.475</td>
<td>0.710</td>
<td>0.655</td>
<td>0.819</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Quality</td>
<td>0.068</td>
<td>0.771</td>
<td>0.816</td>
<td>0.660</td>
<td>0.666</td>
<td>0.761</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td>-0.093</td>
<td>0.493</td>
<td>0.552</td>
<td>0.625</td>
<td>0.713</td>
<td>0.558</td>
<td>0.869</td>
<td></td>
</tr>
</tbody>
</table>
Based on Table 4, it found that roots square of AVE variables is greater than the correlation with all other latent variables. It concluded that all constructs are valid. Measuring the reliability of reflective indicators carried out in two ways, i.e. cronbach’s alpha and composite reliability with the rule of thumb ≥ 0.70. Reliability test are presented in Table 5.

Table 5. Reliability Test

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Quality</td>
<td>0.873</td>
<td>0.903</td>
</tr>
<tr>
<td>System Quality</td>
<td>0.896</td>
<td>0.916</td>
</tr>
<tr>
<td>Service Quality</td>
<td>0.756</td>
<td>0.859</td>
</tr>
<tr>
<td>Trust in E-Government</td>
<td>0.937</td>
<td>0.945</td>
</tr>
<tr>
<td>System Use</td>
<td>0.837</td>
<td>0.902</td>
</tr>
<tr>
<td>User Satisfaction</td>
<td>0.875</td>
<td>0.914</td>
</tr>
<tr>
<td>Tax Compliance</td>
<td>0.838</td>
<td>0.886</td>
</tr>
<tr>
<td>Gender</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Inner model

Inner model is a structural model that relates latent variables by looking at the $R^2$ for each endogenous latent variable as the predictive power of the structural model. The evaluation of structural model for evaluating $R^2$ and path coefficient are presented in Figure 3.

Table 6. R-Squares

<table>
<thead>
<tr>
<th>Constructs</th>
<th>$R^2$</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax Compliance</td>
<td>0.483</td>
<td>Moderate</td>
</tr>
<tr>
<td>System Use</td>
<td>0.553</td>
<td>Moderate</td>
</tr>
<tr>
<td>User Satisfaction</td>
<td>0.863</td>
<td>Strong</td>
</tr>
</tbody>
</table>

Hypothesis test

Significance testing is used to test whether an effect of exogenous variables on endogenous variables. The test criteria state that if the T-statistics value ≥ weight significance, it is stated that there is an influence between exogenous variables on endogenous variables (Ghozali, 2014). The results of hypothesis test are presented in Table 7.
The effect of information system on system use

The results found that information quality has a positive effect on the use of e-filing system. According to Theory of Planned Behavior which explains that humans are rational individuals who take useful information for them systematically. This empirical result is consistent with several studies such as Chen et al. (2015), Tam & Oliveira (2016), Ameen et al. (2019), Pramanita & Rasmini (2020), and Hambali (2020). Searching for information through e-government websites is the most common reason for using a system. The public has a good perception of e-filing if the system provides good quality information (Chen et al., 2015). User evaluation of the system is based on the system performance in presenting good information, so the usage will increase (Veeramootoo et al., 2018).

The effect of information quality on user satisfaction

The result found that information quality has a positive effect on user satisfaction. In accordance to Theory of Planned Behavior, individuals need information before deciding to behave or not to behave. This finding in line with several previous studies such as Laumer et al. (2017), Alzahrani et al. (2017), Trihandayani et al. (2018), Christanti (2019), and Shim & Jo (2020). Information quality is often seen as a key antecedent of user satisfaction (Tam & Oliveira, 2016). User satisfaction is influenced by the ability of high quality information to help individual work routines (Laumer et al., 2017). System output is the most easily component assessed by users. They can assess system usefulness through the information presented (Christanti, 2019).

The effect of system quality on system use

The result found that system quality has no effect on system use. This finding in line with several studies such as Chen et al. (2015), Chiu et al. (2016), Alzahrani et al. (2017), Rahayu et al. (2018), Angelina et al. (2019), Hambali (2020), and Shahzad et al. (2020). The users assume that quality of the system will not affect their decision to use the system. Therefore, it is necessary to continuously improve the quality of e-filing system so it can support the devices both hardware and software (Chiu et al., 2016). The use of information systems that are mandatory can be considered limited because users in this context are passive and has no direct role to the system provided. Users did not have high motivation of the outcome due to this passive condition. Therefore, this skepticism make the taxpayers seen that changing the SPT reporting process to a modern one is more complicated (Christanti, 2019).

The effect of system quality on user satisfaction

The result found that system quality has a positive effect on user satisfaction. TPB states that

Table 7. Hypothesis Test

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Constructs</th>
<th>Coefficient</th>
<th>T Statistics</th>
<th>P-value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>IQ → SU</td>
<td>0.259</td>
<td>2.186</td>
<td>0.032</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>IQ → US</td>
<td>0.554</td>
<td>3.449</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>SQ → SU</td>
<td>0.045</td>
<td>0.164</td>
<td>0.687</td>
<td>Rejected</td>
</tr>
<tr>
<td>H4</td>
<td>SQ → US</td>
<td>0.381</td>
<td>3.259</td>
<td>0.001</td>
<td>Accepted</td>
</tr>
<tr>
<td>H5</td>
<td>SVQ → SU</td>
<td>0.511</td>
<td>7.290</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H6</td>
<td>SVQ → US</td>
<td>0.062</td>
<td>1.001</td>
<td>0.309</td>
<td>Rejected</td>
</tr>
<tr>
<td>H7</td>
<td>TEG → SU</td>
<td>0.004</td>
<td>0.038</td>
<td>0.957</td>
<td>Rejected</td>
</tr>
<tr>
<td>H8</td>
<td>TEG → US</td>
<td>0.049</td>
<td>0.937</td>
<td>0.433</td>
<td>Rejected</td>
</tr>
<tr>
<td>H9</td>
<td>SU → TC</td>
<td>0.221</td>
<td>2.539</td>
<td>0.015</td>
<td>Accepted</td>
</tr>
<tr>
<td>H10</td>
<td>US → TC</td>
<td>0.542</td>
<td>7.193</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H11</td>
<td>GD*SU → TC</td>
<td>0.146</td>
<td>0.797</td>
<td>0.095</td>
<td>Rejected</td>
</tr>
<tr>
<td>H12</td>
<td>GD*US → TC</td>
<td>-0.067</td>
<td>1.736</td>
<td>0.427</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Source: Data tested by PLS (2021)

individuals decided to use a system because it can help them to complete work faster with better results. High software quality improved performance and provide satisfaction for users (Delone & McLean, 1992). This finding in line with previous studies such as Chen (2010), Chiu et al. (2016), Alzahrani et al. (2017), Veeramootoo et al. (2018), Masunga & Mapesa (2020), and Hambali (2020). At first there may be skepticism and resistance from taxpayers who think that system changes will make it difficult to report SPT, but if the resistance is managed by building a good and useful system, then resistance and skepticism can turn into satisfaction (Christanti, 2019).

The effect of service quality on system use

The result found that service quality has a positive effect on system use. Theory of Planned Behavior explains that individuals will use information systems if the usage provides benefits or positive feedback for them. This finding in line with several studies such as Tam & Oliveira (2016), Alzahrani et al. (2017), Ameen et al. (2019), Rahi & Ghani (2019), and Shahzad et al. (2020). Taxpayers can use the e-filing service features according to their needs. Frequent use of e-filling by taxpayers lead recommendations to other users, because the system usage is the main choice to help their tax reporting obligations (Ameen et al., 2019).

The effect of service quality on user satisfaction

The result found that service quality has no effect on user satisfaction. This finding in line with several studies such as Christanti (2019), Santa et al. (2019), and Hambali (2020). The guidelines for filling and reporting SPT have been presented clearly, completely, and guaranteed security, but it is not enough to achieve user satisfaction (Hambali, 2020). Based on service availability, various features are provided, such as help desk services and FAQ (Frequently Asked Questions) on IDGT web page. In several conditions, if the taxpayer's expectations of these features are not in accordance with the perceived benefits, it still leads to dissatisfaction even though they have used the system facility (Christanti, 2019). There is an asymmetry relationship between performance and user satisfaction. In this study, negative performance from one or more features of IDGT services can have a greater influence than the positive performance received by users (Mittal et al., 1998).

The effect of trust in e-government on system use

The result found that trust in e-government has no effect on system use. This finding in line with several studies such as West (2004), Sweeney (2008), Rimawati (2012), and Nam (2014). Previous experience and self-efficacy are important factors in the e-government usage. Trust in e-government is depends more on continuance use than first-time use, especially for e-tax and e-filing (Chen et al., 2015). This is due to the fact that MSME users do not have much experience in using e-filing system. Users must trust not only the website in using information system, but also the organization and infrastructure behind it (Beldad et al., 2010), while respondents' trust in IDGT are still low. This condition can be affected by various cases of state losses caused by IDGT that have occurred in Indonesia (Rimawati, 2012).

The effect of trust in e-government on user satisfaction

The result found that trust in e-government has no effect on user satisfaction. This finding in line with previous studies such as Santa et al. (2019), Tegethoff (2019), and Nguyen et al. (2020). MSME taxpayers who use e-filing do not consider their trust addressed at IDGT website as e-government system, but more focus to online services in general (Santa et al., 2019). The implementation of e-government is said to be in its early stages. The public especially taxpayers, are just starting to get information about the benefits and consequences of taking online based transactions with government (Belanger & Carter, 2008). In addition, trust is not always the reason users feel satisfied with the 'product'. If the results do not meet their expectations, it still causes dissatisfaction (Mawey et al., 2018).
The effect of system usage on tax compliance

The result found that system use has a positive effect on tax compliance. In accordance to Theory of Planned Behavior which explains the motivational factors of individuals as determinants for carrying out certain behaviors, such as system use (Nurhaida & Putra, 2019). This finding in line with several studies such as Chen et al. (2015), Noviyanti (2016), Trihandayani et al. (2018), and Rahayu et al. (2018). Net benefit variable in this study replaced with tax compliance variable. The succeed of system usage will provide benefits in improving individual and organizational performance (Noviyanti, 2016). The high intensity of system use will lead to many benefits obtained by taxpayers, such as saving time and costs, as well as increasing effectiveness and productivity (Hambali, 2020). Good perception of e-filing usage, make it easier for citizens to appreciate and justify the overall value in the system (Rowley, 2011).

The effect of user satisfaction on tax compliance

The result found that user satisfaction has a positive effect on tax compliance. This finding support DeLone & McLean (2003) model and other studies such as Chen et al. (2015), Chiu et al. (2016), Tam & Oliveira (2016), Angelina et al. (2019), Lailiyah et al. (2019), dan Pramanita & Rasmini (2020). There is a reciprocal relationship between user satisfaction and individual performance (W. H. Delone & Mclean, 1992). Good user performance and satisfaction of their work affects system net value (Nurhaida & Putra, 2019). Taxpayer's decision to use e-filing is influenced by the system benefits, so that taxpayers feel their own satisfaction. This is supported by utility theory which explain that people's interest to use a product due to the satisfaction from the products benefit (Lailiyah et al., 2019). The benefits obtained of using e-filing leads to tax compliance behavior.

Gender in moderating the effect of system usage on tax compliance

This result is similar to several studies such as Cahyonowati (2011) and Mahmudah & Iskandar (2018). Both male and female taxpayers have the same decision to compliance or not compliance with the tax regulation (Mahmudah & Iskandar, 2018). The system usage is not moderated by gender because there is gender equality on using information systems (Hormati, 2012; Lian & Yen, 2014). Men and women show the same attitude towards technology (Dyanrosi, 2015). The gender role also become less influential when it comes to technology adoption. Most respondents are habitual internet users. This characteristic might contribute to reducing gender differences (Pascual-miguel et al., 2015).

Gender in moderating the effect of user satisfaction on tax compliance

The result found that gender is not a moderating variable between user satisfaction and tax compliance. Men and women have the same behavior towards technology (Venkatesh et al., 2017). Several studies support this finding such as Yol et al. (2006) and Krisnawati et al. (2015). E-filing is a mandatory system, both male and female taxpayers use e-filing to report taxes (Krisnawati et al., 2015). Male and female users have the same perception in forming a satisfaction in using information technology (Yol et al., 2006). Classifying taxpayers by gender to investigate tax compliance may lead to biased results due to the changing nature of male and female. Women shown increased masculinity and decreased level of femininity, so the effect of gender on tax compliance is not significant (Prasetyo et al., 2020).

5. Conclusions

Based on the results of data analysis, it concluded that information quality has a positive effect on system use and user satisfaction. System quality has no effect on system use, but has a positive effect on user satisfaction. Service quality has a positive effect on system use, but has no effect on user satisfaction. Trust in e-government has no effect on system use and user satisfaction. System use and
user satisfaction have a positive effect on tax compliance. Meanwhile, gender does not moderate the effect of system use and user satisfaction on tax compliance.

There are several implications of this research. First for MSME taxpayers, to provide additional references about the net benefits of e-filing system, such as increase productivity and time efficiency so that taxpayers will avoid the cost of sanctions if they report late. Second, for Pratama Tax Office of Gianyar, to continue promote and socialize online-based tax reporting in order to increasing the use of e-filing, especially during the COVID-19 pandemic. Third, for IDGT especially system developers, always to improve the system quality and service quality of e-filing. This is caused by often problem of IDGT website when accessed by users. Further, there are still taxpayers concerns if the inputted data do not record, lost, or does not enter IDGT database. This implication refers to the loading factor value of system quality construct for ‘system reliability’ indicator and the service quality construct for ‘security’ indicator which has the lowest value among other indicators.

There are several limitations of this research. First, this research was only conducted on MSMEs in Gianyar Regency. Further researchers can expand the research location in other districts in Bali Province. Second, the trust variable in this study only uses trust in e-government. Further researchers can develop it by adding other variables such as trust in the government, trust in technology, trust in stored data, and trust in transactions. Third, this study only distinguishes gender moderation by biological differences, which is male and female. The next researchers can adopt Hofstede’s Theory which classifies gender into masculine and feminism criteria.

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References


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