

Improving the tax e-filing system in Indonesia: An exploration of individual taxpayers' opinions

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ABSTRACT

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The growing number of e-filing users in Indonesia requires a more robust e-filing system, so continuous improvement is essential. This study investigates areas of improvement to the e-filing system by exploring taxpayers' opinions. An open-ended survey question was used to collect opinions from individual taxpayers who have used the system to file their tax returns. There were 318 respondents who provided answers to the question. This study used qualitative content analysis on participants' responses about how the e-filing system can be improved. We utilized NVivo 12 qualitative data analysis software to perform coding of participants' responses. This study employed the three quality dimensions (i.e., system quality, information quality, and service quality) in the updated DeLone and McLean Information Systems (IS) Success Model as a lens to analyze taxpayers' opinions. The results show that taxpayers are especially concerned about improvements in these areas: access to the system and ease of use (system quality), e-filing guidelines and data security (information quality), and dissemination program (service quality). This study provides recommendations for the Directorate General of Taxes to improve the e-filing system to support taxpayers' needs optimally.

Introduction

Taxes contribute significantly to the revenue of the Indonesian government. In the state budget of 2020, tax revenue takes 83.5 percent of the total government revenue (Ministry of Finance, 2020). However, despite the importance of taxes in funding government expenditures, the country's tax revenue has not been generated optimally. In 2017, Indonesia's tax-to-GDP ratio was 11.5 percent, while the average ratio for OECD countries was 34.2 percent (OECD, 2019). Indonesia's tax ratio was also lower than other Asian and Pacific countries (OECD, 2019). Lewis (2019) suggests that increasing voluntary compliance through greater willingness and stronger tax administration and broadening tax bases are needed to increase the tax ratio.

One of the significant efforts of Indonesia's tax authority (i.e., Directorate General of Taxes (DGT)) to increase tax revenue is to implement online tax filing (e-filing). The adoption of e-filing in Indonesia is part of the tax administration reform that aims to improve taxpayers' services by utilizing information technology (Saragih & Septamia, 2019). Specifically, e-filing provides taxpayers with a more accessible service to file their tax returns (Saragih & Septamia, 2019). The use of an online system to file tax returns is expected to increase registration and filing rates (Lewis, 2019), which could subsequently raise tax revenue (Lewis, 2019).

Although the DGT has not made online tax filing mandatory for all taxpayers in Indonesia, except for some types of taxpayers (e.g., civil servants), the number of e-filing users increases every year. In 2019, 10.58 million taxpayers filed their tax returns using e-filing, which was an increase of 15.6 percent from 2018, while in 2015 only 2.57 million taxpayers used e-filing (Direktorat Jendral Pajak, 2020). Moreover, the number of tax return submissions through e-filing took 83.6 percent of all submissions in 2019, which was a significant increase from 2018 (66.5 percent), while only 9.5 percent of submissions used e-filing in 2015 (Direktorat Jendral Pajak, 2020). These figures show that many taxpayers have moved from using the paper-based (offline) system to utilizing the e-filing system to file their tax returns.

The use of e-filing in Indonesia provides benefits for taxpayers. Saragih and Septamia (2019), state that e-filing allows an easier and faster tax filing process. As the tax filing process is moved to an online system, taxpayers do not need to go to the tax offices to file their tax returns (Saragih & Septamia, 2019). Moreover, it is argued that e-filing is more convenient and secure than paper-based tax filing, as well as can reduce human errors in calculating taxes (Saibona et al., 2016). In addition, the use of e-filing can also reduce compliance costs in fulfilling taxpayers' obligations (Saibona et al., 2016).

However, despite the benefits that e-filing can provide, e-filing can also have some potential disadvantages. Saibona et al. (2016) suggest that taxpayers with lack of ability in using digital devices may experience difficulties

in using e-filing. In addition, the use of e-filing also has some risks, such as security and privacy concerns (Bhuasiri et al., 2016). Moreover, Saragih and Septamia (2019) suggest some deficiencies of the e-filing system in Indonesia, such as problems in accessing the system (e.g., server downtime), lack of some essential features (e.g., a feature to save the data in the e-filing forms), and lack of promotion by the DGT to use the system.

Due to the growing number of users and the possibility of making online tax filing mandatory in the future, a more robust system is required to support the tax filing process. The DGT needs to ensure the quality of the e-filing system to accommodate taxpayers' needs optimally. Tjen et al. (2019) find that the quality of the e-filing system positively correlates with perceived usefulness and user satisfaction. If taxpayers have higher satisfaction with the e-filing system, they will be more willing to continue using the system in the future (Zaidi et al., 2017). If the DGT can provide a quality e-filing system, the number of e-filing users can also increase as the system is perceived as beneficial. To provide a quality e-filing system, continuous improvement to the system is, thus, clearly essential.

In order to support the need for continuous improvement, this study aims to investigate areas of improvement to the e-filing system in Indonesia, which has not been much explored in the literature. Prior studies mainly focus on determinants of the adoption of the e-filing system by taxpayers (e.g., Saragih & Septamia, 2019; Sijabat, 2020; Tjen et al., 2019; Yefni et al., 2018). Prior studies in other countries also mainly discuss such an issue, such as in the United States (Schaupp et al., 2010), India (Ojha et al., 2009; Zaidi et al., 2017), Greece (Floropoulos et al., 2010), the Philippines (Chen et al., 2015), and Tunisia (Chaouali et al., 2016). Specifically, this study wants to answer this research question: "What needs to be improved in Indonesia's tax e-filing system?". In order to identify potential improvements to the e-filing system, this research explores individual taxpayers' opinions on how to improve the system. Exploring taxpayers' opinions is important because they are the actual users of the system, so they may have experienced problems in using the system.

This study is expected to provide recommendations for the DGT to enhance the e-filing system to optimize its use in the tax filing process. As this study examines users' experiences, it is expected that the suggested improvements can reflect the actual needs of taxpayers. In addition, this study is expected to contribute to the literature on online tax filing by filling the gap in prior studies, which mainly examine taxpayers' adoption of the e-filing system. Moreover, although this study provides country-specific evidence on the e-filing system, this study could also provide lessons learned for other tax jurisdictions that are currently using an online tax filing system or are considering using such a system.

Literature Review

The DeLone and McLean Information Systems (IS) Success Model

This study employs the updated DeLone and McLean Information Systems (IS) Success Model as a lens to analyze areas of improvement to the e-filing system in Indonesia. DeLone and McLean first introduced the IS Success Model in 1992 as a framework for conceptualizing and operationalizing information systems success (DeLone & McLean, 1992). The model has been widely used in the literature since then. The original model was developed to integrate different concepts and findings related to information systems success in the information systems literature published in 1981–1987 (DeLone & McLean, 1992; Urbach & Müller, 2012). In their original model, DeLone and McLean (1992) describe that information systems success has six major dimensions or categories, namely system quality, information quality, use, user satisfaction, individual impact, and organizational impact.¹

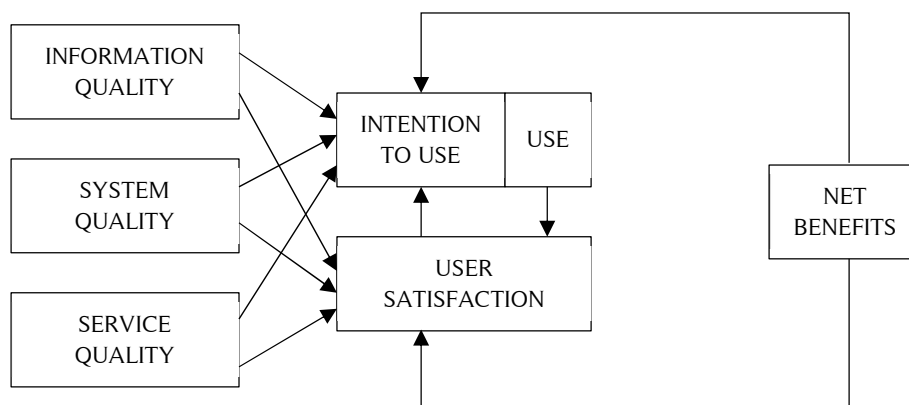


Figure 1. The updated DeLone and McLean information systems (IS) success model
 Source: Delone and McLean (2003)

¹ The original model of the DeLone and McLean IS Success Model can be found in DeLone and McLean (1992, p. 87).

DeLone and McLean updated their model a decade later to consider empirical works that had investigated the original model (DeLone & McLean, 2003). In the updated model, DeLone and McLean added 'service quality' as one of the dimensions of information systems success to reflect the importance of service and support in a successful information system. DeLone and McLean also grouped 'individual impact' and 'organizational impact' into a single dimension, 'net benefits'. The updated model also includes 'intention to use' to measure user attitude as an alternative measure of 'use'. Therefore, the updated IS Success Model consists of six dimensions: system quality, information quality, service quality, intention to use, user satisfaction, and net benefits, as illustrated in Figure 1.

The Three Quality Dimensions As The Theoretical Framework

Rana et al. (2017) provide a list of ten theories and models that have been used by many studies in information systems discussing individual acceptance of technology and the success of information systems. The list includes, for example, Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB), Information Systems Success Model (ISSM), Innovation Diffusion Theory (IDT), and Unified Theory of Acceptance and Use of Technology (UTAUT).² By looking at the core constructs of these models and theories, IS Success Model has a distinct feature compared to the other models and theories. The updated DeLone and McLean IS Success Model provides three quality dimensions that define information systems success: information quality, system quality, and service quality. As they focus on the quality of information systems, these dimensions can be used to classify areas of improvement of the e-filing system. Therefore, the updated DeLone and McLean IS Success Model is a suitable framework to examine areas of improvement to Indonesia's e-filing system.

Urbach and Müller (2012) state that an evaluation of an information system can be conducted in terms of the three quality dimensions. These quality dimensions can affect intention to use or subsequent use of the system and user satisfaction and subsequently provide net benefits to the users (Urbach & Müller, 2012). As the quality dimensions are essential components in the IS Success Model, this study specifically employs these three quality dimensions as a lens in analyzing users' opinions on critical improvements to Indonesia's e-filing system. The following sections provide a more detailed explanation of each of the quality dimensions.

System Quality

In the DeLone and McLean IS Success Model, system quality denotes the desirable characteristics of an information system, so it includes measures of the information system itself (DeLone & McLean, 1992). One of the common measures of system quality is the perceived ease of use (Urbach & Müller, 2012). Technology is considered easy to use if its users can operate it effectively with minimal mental and physical effort (Singh & Srivastava, 2018). Some other system quality measures include adaptability, availability, reliability, response time, and usability (DeLone & McLean, 2003). Urbach and Müller (2012) also provide a more detailed list of system quality measures, such as access, convenience, ease of use, navigation, response time, and system features.

These measures can also be applied to the context of an online tax filing system. The ease of online tax filing is essential as it can reduce compliance costs (Lewis, 2019). Prior studies suggest that the ease of navigating a system can increase user satisfaction towards the system (Landrum et al., 2010; Petter & McLean, 2009; Teo et al., 2008). Besides, performance risks may also occur in the e-filing system as in other online services (Damghanian et al., 2016; Sijabat, 2020). Users may encounter several problems, such as inaccessible websites (downtime) or losing internet connection, making them unable to complete their activities (Damghanian et al., 2016; Sijabat, 2020). Thus, a quality e-filing system is expected to be a system that, for example, can easily be accessed by its users, is easy to use, has minimal technical problems, and has sufficient essential features. The DGT should provide such a quality system to support taxpayers' needs.

Our previous study, in the context of Indonesia's e-filing system, also found that system quality positively impacts perceived usefulness and user satisfaction (Tjen et al., 2019). This result corresponds with a study of e-filing in Mauritius which found that system quality has a positive association with user satisfaction (Veeramootoo et al., 2018). Zaidi et al. (2017) state that higher satisfaction with the e-filing system encourages taxpayers to continue using the system in the future. Therefore, improvements in system quality are expected to increase perceived usefulness and user satisfaction towards the system, which can subsequently raise taxpayers' willingness to use the system in the future.

Information Quality

One of the determinants of a successful information system is information quality. DeLone and McLean (1992) define information quality as desirable characteristics of the system output, such as its content, reports, and

² The complete list of theories and models, including their core constructs and references to the appropriate originating sources, can be found in Rana et al. (2017, p. 553).

dashboard. An information system should produce accurate, time-efficient, and cost-efficient reports to be valued by its users. An example would be a company that invests significantly in advancing its information systems to enable its employees to generate important data for decision-making with only several clicks on the employees' computer.

According to Pitt et al. (1995), users of information systems consider information to be a dominant concern. Information itself is the core reason for the information system. Furthermore, an information system has an essential role in information delivery, highlighting a critical aspect of the quality of information delivered by the system. The range of information and level of detail provided by the system is one dimension of information quality to evaluate the effectiveness of an information system (McKinney et al., 2002). Based on research by Spreng et al. (1996), information satisfaction may lead to users' satisfaction. Satisfaction for users who search for e-service information will be more influenced by the system's information quality rather than satisfaction for those who search for product information (Ghasemaghaei & Hassanein, 2015). Users' requirements in e-services are the information itself. Meanwhile, in the case of products, users' main purpose of gathering information is to get the right product (Ghasemaghaei & Hassanein, 2015).

Apart from that, information quality captures the system's content issue (DeLone & McLean, 2003). Customers of e-commerce keep worrying about the security of transacting on online platforms. Therefore, web content should be secure to expect prospective users (e.g., buyers or suppliers) to initiate transactions via the internet and return to the website regularly. The security issue applies to all types of information systems, including the tax e-filing system (Sijabat, 2020).

Service Quality

Service quality in this study describes the quality of the services delivered by the DGT to support taxpayers in operating the e-filing system so that their needs are fulfilled (DeLone & McLean, 2003). The DGT should provide high-quality services to support the use of the e-filing system. Indonesia's DGT has provided several services related to the use of the e-filing system, such as electronic filing identification number (EFIN) and call center (Kring Pajak). These services should effectively support taxpayers in fulfilling their tax filing obligations. Chen et al. (2015) found that service quality positively impacts users' perception of the usefulness of the government's e-service. Similarly, Veeramootoo et al. (2018) also found that the service quality of an e-filing system has a positive relationship with user satisfaction.

According to Urbach and Müller (2012), service quality represents the quality of the assistance users receive from the IS department and IT support staff, such as training, hotline, or helpdesk. Pitt et al. (1995) measure service quality using several dimensions, i.e., assurance (knowledge and courtesy of human resources and human resources' capacity to inspire confidence and trust), empathy (care, individual attention the service provider provides to its customers), reliability (ability to perform the promised service reliably and accurately), responsiveness (willingness to help customers and provide a quick service), and tangibles (physical facilities, equipment, and personal appearance). Furthermore, according to Chang and King (2005), service quality can also be measured using several aspects, i.e., interpersonal quality, intrinsic quality, responsiveness, flexibility, IS training, and reliability.

Research Method

This paper is a part of a study investigating perceptions of individual taxpayers of the use of the online tax filing system in Indonesia. The study used an online survey questionnaire to collect perceptions of individual taxpayers who have utilized the e-filing system. The questionnaire consisted of closed-ended questions to gather taxpayers' perceptions about prior experience in offline tax filing, trust, the quality of the e-filing system, perceived usefulness, user satisfaction, and perceived net benefits. In addition to the closed-ended questions, we added one open-ended question at the end of the questionnaire that asked participants to provide suggestions on how Indonesia's e-filing system can be improved. This paper specifically analyzes participants' responses to this one open-ended question.³

The open-ended question was optional, so participants could choose not to answer this question. Therefore, not all survey participants provided answers to this question. The first question in the survey questionnaire asked whether the prospective respondents have used the e-filing system to file their tax returns. Non-users would not be able to complete the questionnaire because we only wanted to gather perceptions of e-filing users. The result shows that out of the 1,000 e-filing users who have completed the questionnaire, only 342 provided their answers to the open-ended question at the end of the survey questionnaire. Table 1 provides a summary of the number of respondents.

³ The first research article from the study examined the association between taxpayers' prior experience in offline tax filing system, trust, and information systems success. The analysis of the results, including the complete list of the closed-ended survey questions, can be found in Tjen et al. (2019).

After reading participants' responses to the open-ended question, we excluded six responses that were not related to the e-filing system. For example, some participants commented about the offline tax filing system or the tax compliance system in general (e.g., rewards for compliant taxpayers and elimination of taxpayer's obligation to file tax returns). In addition, we also excluded 18 responses that did not provide any suggestions on how to improve the e-filing system. For example, some participants only answered the question with a statement that they had no suggestions on the e-filing system. Meanwhile, some responses were aimed at the e-filing system but did not contain suggestions on any specific areas of improvement (e.g., "Hope the e-filing system will be better", "It is necessary to improve the e-filing system"). In the end, only 318 responses qualified to be used in the analysis for this study.

Table 1. Summary of the number of respondents

Description	Number of respondents
Total number of respondents	1097
Non-users of the e-filing system	(97)
Users of the e-filing system	1000
Respondents not providing answers to the open-ended question	(658)
Respondents providing answers to the open-ended question	342
Responses being unrelated to the e-filing system	(6)
Responses not containing any suggestions to improve the e-filing system	(18)
Total number of valid responses	318

Table 2 shows the characteristics of the 318 respondents whose comments were analyzed in this study. The majority of the respondents who provided answers to the open-ended question were male users, those with a bachelor's degree, and those who submitted the tax return in the form of SPT 1770 S.⁴ Besides, most of the responses were given by participants who were 26–35 years old. Although we managed to obtain responses from participants in 25 out of 34 Indonesia's provinces and overseas, 63.5 percent of the respondents were domiciled in either DKI Jakarta (i.e., the capital of Indonesia) or Jawa Barat.

This study employed a qualitative methodology using content analysis on participants' responses about how the e-filing system can be improved. We followed suggestions from O'Cathain and Thomas (2004) on conducting qualitative content analysis for responses to open-ended survey questions. In conducting qualitative data analysis, we utilized NVivo 12 to perform coding of participants' responses as the software allowed us to create and organize the themes conveniently. The following paragraphs explain the coding procedures used in this study.

The first step was to clean the data of participants' responses by correcting typographical errors or spelling mistakes made when participants typed in their responses to the survey questionnaire. The cleaned data in an Excel spreadsheet was then imported into NVivo, and the response from each participant was converted into a 'case'. The next step was to identify potential themes emerging from the data. For this purpose, we read participants' responses to understand key issues that participants expressed through their comments and wrote down some potential themes based on our reading. In addition to the reading of the participants' responses, we also conducted word frequency analysis by utilizing the 'word frequency query' feature in NVivo. This tool presented frequently occurring words in participants' responses, which also suggested potential themes. The use of these two ways enabled us to create an initial coding framework, which was subsequently translated into a number of 'nodes' in NVivo. Each node represented an area of improvement to the e-filing system.

After creating initial nodes, we coded the response from each participant by assigning it into related node(s). Although NVivo can perform autocoding, we did not utilize this feature to better reflect on the meaning of participants' responses. Richards (2014) also suggests that autocoding does not substitute the interpretation of the data. In this step, since one participant might comment on more than one area of improvement, response from one participant could be assigned into more than one code. For example, one response might contain statements about access to the system and the guidelines for using e-filing. Besides, we also created new 'nodes' in NVivo to represent themes that were found during this process.

Next, we review the results of coding to ensure the consistency of coding between responses. The next step was to categorize the nodes into three central themes: information quality, system quality, and service quality. These main themes were developed based on the theoretical framework, and each theme represented one quality dimension of information systems success. The nodes were categorized into the central themes by referring to the definition of each quality dimension in the literature. These three central themes were created into three 'parent nodes', and subsequently other nodes were made 'child nodes'.

⁴ SPT 1770 S can be used by employees whose income only comes from one employer, and its gross income is at least IDR 60 million in one year, as well as by employees whose income comes from two or more employers.

The last step was to interpret ideas that were expressed in each node. In order to help us understand the connection between participants' responses, we employed the 'text search query' tool in NVivo. This feature was especially useful when it was used for understanding participants' responses that contained keywords with a high number of occurrences, such as access, server, and guidelines.

Table 2. Characteristics of the respondents

Demographics	Category	Number of respondents	Percentage (%)
Gender	Male	181	56.9
	Female	137	43.1
Age	< 26 years	30	9.4
	26–35 years	150	47.2
	36–45 years	82	25.8
	46–55 years	43	13.5
	> 55 years	13	4.1
Education	Elementary school	1	0.3
	Senior high school	6	1.9
	Diploma I	3	0.9
	Diploma III	15	4.7
	Bachelor's degree (Diploma IV)	177	55.7
	Master's degree	111	34.9
	Doctoral degree	5	1.6
Domicile	Aceh	3	0.9
	Sumatra Utara	2	0.6
	Sumatra Barat	4	1.3
	Riau	1	0.3
	Jambi	1	0.3
	Sumatra Selatan	5	1.6
	Lampung	3	0.9
	Kepulauan Bangka Belitung	2	0.6
	Kepulauan Riau	1	0.3
	DKI Jakarta	123	38.7
	Jawa Barat	79	24.8
	Jawa Tengah	11	3.5
	Daerah Istimewa Yogyakarta	5	1.6
	Jawa Timur	12	3.8
	Banten	27	8.5
	Bali	5	1.6
	Nusa Tenggara Barat	2	0.6
	Kalimantan Selatan	2	0.6
	Kalimantan Timur	1	0.3
	Sulawesi Utara	3	0.9
	Sulawesi Tengah	1	0.3
	Sulawesi Selatan	12	3.8
	Gorontalo	2	0.6
Maluku	1	0.3	
Maluku Utara	1	0.3	
Overseas	9	2.8	
Type of tax return (SPT)	SPT 1770 SS	47	14.8
	SPT 1770 S	246	77.3
	SPT 1770	25	7.9

Results and Discussion

Table 3 presents the results of the coding of participants' responses to the open-ended question that asked their suggestions to improve the e-filing system in Indonesia. The table shows areas of improvement in each of the three quality dimensions of information systems success as well as the number of references for each area of improvement. The number of references represents the number of respondents who provided comments about one particular area of improvement. In the table, we display a specific number of respondents who mentioned one particular area of improvement in their responses. However, we recognize that one particular area of improvement

might also be relevant to participants who did not mention it and those who did not answer the open-ended question (O’Cathain & Thomas, 2004). The following sections discuss potential improvements that the survey participants suggested. Selected responses from participants are also presented.

Table 3. Mapping of the respondents’ comments

Areas of improvement	Number of references
System quality	
Access to the e-filing system	155
Ease of use	34
Scope of tax reporting	15
Addition of a ‘save’ feature	13
Addition of a ‘print’ feature	11
Entry of taxpayers’ data	11
User login	3
E-form system	2
<i>Total number of references for system quality</i>	244
Information quality	
E-filing guidelines	42
Data security	23
Data integration	5
Submission and payment history	3
Information on submission failure	3
Electronic receipts of the tax return and the tax payment	2
<i>Total number of references for information quality</i>	78
Service quality	
Dissemination/publication program	26
Help desk	12
EFIN (Electronic Filing Identification Number)	12
Mobile application	7
Human resource quality	7
Update of technology	3
<i>Total number of references for service quality</i>	67

System Quality

Participants’ responses related to the technical aspects of the e-filing system were classified under the ‘system quality’ theme. In such responses, participants shared the problems they experienced in using the e-filing system and provided suggestions on improving the system. Table 3 shows that the number of respondents expressing concerns on the technical aspects of the e-filing system (system quality) was significantly higher than the number of respondents expressing concerns on the other two quality dimensions. Based on participants’ comments, there are eight areas of improvement that are related to system quality: access to the e-filing system, ease of use, scope of tax reporting, the addition of a ‘save’ feature, the addition of a ‘print’ feature, entry of taxpayers’ data, user login, and e-form system.

Access to The E-Filing System (155 Responses)

A significant number of respondents suggested that the DGT should improve access to the e-filing system. This aspect had the highest number of responses from all areas of improvement in the three quality dimensions (see Table 3), indicating that access is the taxpayers’ primary concern. Access is one of the measures of system quality (Gable et al., 2008; McKinney et al., 2002; Urbach & Müller, 2012). Problems in accessing the e-filing system can be categorized as performance risks, where taxpayers may suddenly experience, for example, server downtime or internet connection problems when they use the system (Damghanian et al., 2016; Sijabat, 2020).

In general, taxpayers want the e-filing system to be more accessible, where they can access the system smoothly and stably at any time. Taxpayers have experienced problems accessing the e-filing system. For instance, they have been unable to access the website due to system downtime, or they experience slow website loading. One of the respondents explained:

“The DGT needs to find a solution so that the system does not cause inconvenience for taxpayers who have a good intention to report but must stumble upon a system failure or the state of the system being busy or server downtime.”

In this sense, access problems can give taxpayers inconvenience in filing their tax returns, although they have the intention to fulfil their tax responsibilities. One of the consequences of access problems, as shared by the respondents, is the need for a longer time to complete a tax filing process. On this a respondent stated:

“When it is attempted to be accessed, the system should not go down that easily, so the reporting process can be completed faster and so users do not need to repeat the reporting process all over again.”

This suggests that due to access problems, taxpayers may have to make several attempts before being able to access the website. Besides, when taxpayers are in the middle of filling out the e-filing forms, the system may also suddenly go down. When this happens, taxpayers need to restart the tax filing process, consequently taking more time to file their tax returns.

Further, respondents explained that access problems often occur, especially, when the due date of filing tax returns is approaching (e.g., 31 March for individual taxpayers' annual income tax returns). This is because many taxpayers are using the system during such time. One of the respondents commented:

“The DJP Online website often experiences downtime when it is approaching the deadline of the annual tax return submission. ... It may be down because many people access it, so people should not access it toward the deadline of the electronic tax return submission at one time.”

Saibona et al. (2016) also suggest that such an issue is one of the problems that can occur in an online tax filing system. The e-filing system can become slow because it is congested with taxpayers trying to access the system at one time. Therefore, the DGT should anticipate it when the system may be accessed by millions of people at the same time, especially on critical dates or due dates of tax reporting.

In order to resolve access problems, many respondents suggested that the DGT should improve the reliability of the system by increasing its server capacity. The increase in the server capacity is expected to make the system accessible at any time. This improvement can also prevent system downtime from occurring when many taxpayers use the system, for example, when it is close to the tax return submission deadline. One of the respondents suggested:

“Strengthen the server, so that, when it becomes busy, the network will not go down easily, especially when it is approaching the reporting deadline.”

Besides increasing the server capacity, some respondents advised that the DGT should not perform system maintenance when many taxpayers are likely to be using the system (e.g., when it is close to the tax filing due date or during working hours). System maintenance may restrain taxpayers from accessing the system. Moreover, one participant suggested that the DGT should also consider taxpayers in the country's border regions because they may have limited internet access. If they do not have access to the internet, taxpayers will have no other choice than to file tax returns manually (Saibona et al., 2016). As the e-filing system itself generally has access problems, as mentioned above, taxpayers in border regions may be impacted more significantly.

Ease of Use (34 Responses)

Many respondents criticized the e-filing system as complicated and difficult to understand. Besides, taxpayers also need to input too much information to the e-filing forms. It is suggested that the system should be designed to be simpler and easier to use. One of the respondents explained:

“I hope the reporting system can be made much easier and more convenient for users. Several things are sometimes confusing. I'm sure that tax filing will be much more convenient if there is not too much data that taxpayers must input.”

Another respondent shared his/her experience that the difficulties in understanding the e-filing system make him/her rely heavily on tax officers:

“The features should be simpler and easier to understand. ... To fill in the e-filing forms, I had to call the tax officer, and I must do so again when I open the next page, and the next, because there are many things that are difficult to understand.”

Therefore, for this purpose, the DGT should design a more simplified user interface without sacrificing the completeness of the taxpayers' data. If the system can be made more user-friendly, more taxpayers may be willing to file their tax returns using the e-filing system:

“The forms should always be improved to become more user-friendly, and more people will be more interested in reporting taxes.”

Perceived ease of use is considered a common measure of system quality (Urbach & Müller, 2012). Hubert et al. (2019) suggest that a simpler technology is more likely to be used than complicated ones. Similarly, Wirtz and Piehler (2016) state that ease of using an e-government application is critical for its users. It is also argued that more straightforward navigation in a system can increase user satisfaction (Landrum et al., 2010; Petter et al., 2013; Teo et al., 2008). If users are satisfied with the system, they will have more willingness to continue using it (Zaidi et al., 2017). Thus, in accordance with participants' responses, a simpler e-filing system in Indonesia can encourage

current users to continue using the system. Meanwhile, it could also potentially increase the number of e-filing users as non-users may intend to use the system to file their tax returns in the future.

Scope of Tax Reporting (15 Responses)

Participants shared that they have not been able to file all types of tax returns using the e-filing system. The current system only accommodates annual income tax returns and a few periodic income tax returns, such as Article 21 income tax. Meanwhile, the other periodic income tax returns, such as Articles 23, 15, and 4(2) income tax returns, can only be submitted using the manual system. One of the respondents explained:

“Expand the use of the tax e-filing system to cover not only annual tax returns but also periodic tax returns. For your information, the current e-filing system is also available for the periodic tax return of Article 21 income tax. However, it still needs to be expanded for other types of periodic tax returns. It does take a lot of money and time to prepare the IT infrastructure, but I’m sure that this will lead Indonesia into a significant new era of tax administration.”

Therefore, the DGT should expand the scope of the e-filing system to allow taxpayers to report all types of tax returns. This recommendation is related to system features as one of the system quality measures (Gable et al., 2008; Urbach & Müller, 2012). For this measure, the e-filing system should provide necessary system features to support taxpayers’ needs in using the system.

Addition of a ‘Save’ Feature (13 Responses)

This area of improvement is also related to system features as one of the system quality measures (Gable et al., 2008; Urbach & Müller, 2012). Participants pointed out the need to add a ‘save’ feature into the e-filing system. Currently, the absence of the ‘save’ feature makes taxpayers unable to save the data in the e-filing forms. It is expected that this feature allows taxpayers to save and edit their data in the e-filing forms before they file their tax returns. One of the respondents suggested:

“Data that is already halfway through should be able to be temporarily saved and edited before the tax return is submitted, so there is no need to do a repetitive input process.”

In the current e-filing system, taxpayers need to restart the tax filing process if problems arise in the middle of using the system. For example, when access to the system is interrupted or when taxpayers fail to send the completed forms, the e-filing system requires taxpayers to start the process again from the beginning. Thus, adding a ‘save’ feature into the system can be used to overcome these problems. Instead of restarting the tax filing process, taxpayers can simply continue filling out their incomplete e-filing forms. In addition, it is also expected that this feature can help taxpayers if they need to correct some of their data before they file their tax returns.

Moreover, one participant shared how adding a ‘save’ feature is necessary considering that some regions in Indonesia have difficulties accessing the internet, while some areas experience frequent power outages. This makes the ‘save’ feature essential in the e-filing system. If the internet access is disconnected or the power fails in the middle of filling out the e-filing forms, taxpayers need to repeat the tax filing process from the beginning:

“There is a need to consider areas that are difficult to be reached by the internet and areas with frequent blackouts. The data should be able to be saved, so that users do not repeat the filing process from the beginning if a blackout occurs during the process.”

Addition of a ‘Print’ Feature (11 Responses)

Another suggested improvement related to system features is to add a ‘print’ feature into the e-filing system. Participants suggested that the e-filing system needs to have this feature to allow taxpayers to download the tax returns that they have submitted. One of the respondents explained:

“Perhaps, it is necessary to add a feature to print tax returns that have been completed and submitted, not only to print the tax filing receipt.”

The e-filing system should provide, for example, the PDF version of the tax returns, so taxpayers can have a copy of their tax returns and print them where necessary. This can help taxpayers if they need their tax returns in the future.

Entry of Taxpayers’ Data (11 Responses)

Respondents expressed that they have problems inputting their data into the e-filing system. Taxpayers find system bugs or errors in some parts of the forms when entering their data. Two of the participants shared their experiences related to this issue:

“There are some bugs, especially when filling out assets and liabilities that have the same value as the previous year. There was a ‘copy’ feature, but it did not work the first time, so it must be repeated. Please pay attention to this matter.”

“If there are a lot of assets to be inputted, the system often gets errors and I have to repeat the process, so it takes time.”

Therefore, the DGT should be able to resolve such problems. In addition, one respondent suggested that the e-filing system can utilize barcodes to help taxpayers input their data into the system. The use of barcodes may help taxpayers in inputting data and minimize the possibility of entering data incorrectly.

User Login (3 Responses)

Some respondents experienced difficulties to log into the e-filing system. For example, one respondent encountered a problem with the verification code (captcha) he/she needed to enter several times before he/she succeeded:

“In the latest tax filing, I entered the verification number/code five times to be able to log in.”

Meanwhile, the other respondents provided recommendations related to a forgotten password. They suggested that the DGT needs to provide a simpler and secure alternative procedure for taxpayers who forget their passwords. One of the respondents suggested:

“Provide other options to log in when we forget the password so that there are alternatives besides changing or resetting the password. This will help those who forget the password of the email associated with the e-filing account.”

Such an issue is also suggested by Saibona et al. (2016) as one of the disadvantages of e-filing. When using e-filing, users need to remember their password to successfully access the e-filing system. Meanwhile, people tend to hold many passwords, such as email and internet banking, so it may be difficult to also remember the password to access the e-filing system (Saibona et al., 2016).

E-Form System (2 Responses)

Two respondents provided suggestions to make the e-form system easier to use.⁵ Currently, the e-form system requires taxpayers to install the IBM software to open the tax return forms they have downloaded. One of the participants suggested that the DGT should remove such a requirement because some taxpayers may not be able to carry out the procedures of using this software:

“The requirement to install the IBM software should be removed where possible. Not all taxpayers can carry out the procedures.”

Information Quality

Comments on the accuracy, timeliness, completeness, relevance, and consistency of e-filing output are categorized into the information quality aspect of e-filing. Taxpayers who submit their tax returns using e-filing depend heavily on the information provided in the e-filing system to compensate for the lack of physical contact with tax officers. Therefore, to assist taxpayers, the information contained in the system should be accurate, precise, continuously updated, sufficient, and understandable (Petter et al., 2013). The respondents' statements in our research reflect the improvements that the DGT should make to elevate the quality of the e-filing output, which is a tax report submitted by the taxpayers. Based on the respondents' feedback, there are six groups in this aspect.

E-filing Guidelines (42 Responses)

E-filing users range from those who have a deep understanding of taxes to those who lack taxation knowledge. Moreover, using an information system to file the tax report is significantly different from filing it manually. Taxpayers used to come to the tax office to report their taxes, where they will have an opportunity to ask their account representatives about the submission. Even though the DGT provides a hotline called “Kring Pajak”, regular telephone calls during tax filing would be costly for taxpayers. Therefore, many respondents expected that the system can provide them with clear guidelines on filing their tax returns using e-filing. One of the respondents suggested:

“The system should be more user-friendly and provide clear, complete, easy-to-read guidelines on how to file the tax return using e-filing.”

⁵Currently, individual taxpayers required to file annual income tax returns using the 1770 S or the 1770 forms can either use ‘e-filing’ or ‘e-form’ to file their tax returns. If they use e-filing, taxpayers must connect to the internet to complete the forms. Meanwhile, e-form combines online and offline tasks. Taxpayers need to download the forms first, complete them offline, and upload them into the e-form system.

This response, along with other similar responses related to e-filing guidelines, made clear that in order to increase the quality of the information provided in the e-filing system, the DGT must give guidelines that are clear, understandable, and regularly updated. This will enable taxpayers to report their tax obligation easier. The guidelines themselves should not only cover the technical aspects of reporting taxes using the e-filing system; they should also give up-to-date tax rules and regulation.

Data Security (23 Responses)

One major concern of the taxpayers is about the security of the data they feed into the e-filing system. The system's security is one measure of excellent information quality (Delone & McLean, 2003). One of the respondents provided suggestion to the DGT about this issue:

“Hopefully, the implementation of e-filing will be accompanied by the readiness of infrastructure and security systems for users' personal data, since the issue of misuse of personal data is very vulnerable. At least in the early stages, the DGT as the e-filing host needs to implement and carry out SNI ISO 27001 certification on information security management systems so that the public grow more confident with the reliability of this system.”

The respondents expected that the DGT is able to guarantee a secure system when taxpayers report their taxes through the e-filing system. Some suggested ways such as using a better encryption, applying two-factor authentications, and getting certified in information security management systems.

In online tax filing, the data provided by taxpayers in the e-filing system is highly confidential, involving taxpayers' assets, liabilities, and income. It will be costly and dangerous for taxpayers if unauthorized parties misuse those data. In Indonesia, there have been numerous reports on data breach. For example, in 2020, online customers experienced the leak of 91 million users of one of Indonesian unicorns. Users' names, e-mail addresses, and phone numbers were allegedly sold online (The Jakarta Post, 2020a). Few months after that, another breach was reported. This time, the leaked data included bank accounts, mothers' maiden names, Tax Identification Numbers, and passwords (The Jakarta Post, 2020b). The leak of social security data has also shocked the Indonesian society just recently (Yulisman, 2021). These cases exposed the vulnerability of transacting and providing confidential data on online platforms.

Data Integration (5 Responses)

The inputs in this category relate to how the data required for e-filing submission can be generated from many parties involved. One of the respondents suggested:

“Data input automation should be improved further to make tax return filing easier; for example, for withholding tax certificates from employers, banks, or stock exchanges, not all of them are automatically filled in.”

The e-filing system is expected to integrate necessary data and provide these data automatically to be used in tax reporting. Taxpayers may generate income from many sources, inducing the issuance of certificates of withholding taxes from several institutions. It will be cumbersome and time-consuming if taxpayers must collect these certificates by themselves and input them one by one as part of tax reporting. Therefore, they hope that withholding tax certificates of their income can be automatically shown in the e-filing system. This will make it easier to submit the tax report. As Gable et al. (2008) state, the quality of information system output is measured not only by the quality of the report produced but also by the quality of the information provided on-screen to help users complete their tasks in a time-efficient manner.

As one of the respondents suggested, it will be much appreciated if the e-filing system is able to integrate tax data coming from various sources. This automation is not only beneficial for the users, but also able to reduce the likelihood of wrong input. For the DGT, this is not a new concept. In the end of 2020, the DGT launched prepopulated VAT-in feature in the latest version of e-Faktur (a system to generate VAT invoices). The latest version of e-Faktur can automatically provide VAT-in invoices that can be credited, so taxpayers do not have to manually input the invoices to the e-Faktur application. This concept can also be applied in income tax reporting.

Submission and Payment History (3 Responses)

The statements categorized in this group suggest that the e-filing system can complete the history of tax return submission and tax payment all the way back from the manual submission. One respondent who gave his/her opinion on this matter expected that the e-filing system will provide information on types of tax obligation that he/she already fulfilled:

“Give a checklist on the types of taxes that have been paid.”

The tax payment history can be made as a checklist to help taxpayers identify the taxes they have or have not paid. The system should contain useful information to make it easier for the taxpayers to assess their compliance. Focusing on delivering users with the information they need will improve users' satisfaction (Urbach & Müller, 2012).

Information on Submission Failure (3 Responses)

In this category, respondents expected that the e-filing system will provide them with information if there is a situation where taxpayers fail to upload the data required in the tax report. Two of the respondents commented:

"Provide clear information related to the cause of failed submission and the solution."

"Confirmation process after each entry should be faster, and there should be notification if there is any error/deficiency/failure."

Taxpayers need not only failure notification but also information as to the cause of the failure and how to fix it. Notification on each successful data submission is also important so that taxpayers can proceed to the next section without worrying about whether the previous section has been submitted properly or not.

Tax reporting is a complicated task requiring multiple entries of data from taxpayers. It will be tiring if taxpayers are required to restart an entry process because they are not notified of any failure that somehow occurred in a previous section and proceeded to later sections without knowing of it. Therefore, taxpayers expect that the system will give information if there are some deficiencies in the data entry, so they can complete it without having to start filling the data from zero on that section.

Electronic Receipts of the Tax Return and the Tax Payment (2 Responses)

One respondent claimed that in 2018, the electronic receipt of his/her tax return was not sent to his/her email address. Another respondent mentioned that the e-filing system does not provide confirmation about the tax payment that taxpayers have made. This may cause confusion and uncertainty on the status of the tax report or the tax payment. In the current system, electronic receipts of the tax report and the tax payment will be sent directly to taxpayers' email address. There are some risks that taxpayers may not receive the receipts because they mistakenly write down the address or because their inbox is full.

A proof of completed transaction is important, not only on online platforms, but also on traditional platforms. The two respondents emphasize this in their comments since they have experienced failure in getting electronic receipts from the e-filing system. Normally, the electronic receipt will be sent right away after taxpayers have successfully completed their tax report. Payments of tax underpayments are also filled automatically in the tax report if taxpayers have made those payments correctly. However, in a case in which taxpayers wrongly input the tax type or the tax period when they want to issue a tax e-bill, this wrong doing will not be shown during tax reporting.

Service Quality

As mentioned above, service quality refers to the quality of the services delivered by the DGT to assist users in operating the e-filing system so that their needs are addressed. Based on participants' responses, we have identified six aspects of suggested improvements related to the service quality of the e-filing system in Indonesia.

Dissemination/Publication Program (26 Responses)

Dissemination or publication to taxpayers regarding the e-filing system is an important factor in improving the service quality. According to Chang and King (2005) and Pitt et al. (1995), this factor can be classified into reliability and responsiveness of an information system. One of the participants commented on how the lack of dissemination negatively influences people's awareness of online tax filing:

"Please improve the dissemination on the use of e-filing; there are still many people who are not aware of their taxes reporting because they think the e-filing system is difficult to use, even though this happens due to lack of dissemination."

Participants also suggested that the DGT can use different tools to disseminate information, such as video or broadcast emails to taxpayers. Furthermore, some participants expected that information regarding the use of the e-filing system should be disseminated throughout Indonesia, including remote areas. Therefore, taxpayers all over Indonesia can be aware that there is a tax e-filing system as one method to submit their tax returns. In addition, a good publication program will provide better information for taxpayers so that they will not delay reporting their tax returns until the end of the reporting deadline to avoid excessive access that causes server errors.

Help desk (12 Responses)

Based on the participants' comments, help desk is another important factor that can improve the service quality of the e-filing system. This aspect is in line with the service quality measures suggested by Chang and King (2005) and Pitt et al. (1995), i.e., assurance, responsiveness, empathy, reliability, and tangibles.

The respondents suggested that the DGT should improve the system of Kring Pajak (the DGT's customer service). Taxpayers also expect the DGT to provide online and offline services for taxpayers whenever there is a problem or complaint in using the e-filing system. Furthermore, the help desk should be more responsive in handling the taxpayers' complaints, as mentioned by one of the participants:

"The customer service must be more responsive in responding to questions from taxpayers."

EFIN (Electronic Filing Identification Number) (12 Responses)

Another factor that can improve the service quality of the e-filing system in Indonesia is the EFIN. To use the e-filing system, taxpayers must have an EFIN (Electronic Filing Identification Number). This aspect is in accordance with some service quality measures, i.e., responsiveness, tangibles (Chang & King, 2005), and flexibility (Pitt et al., 1995).

From the participants' responses, it is suggested that the EFIN should be generated online, so taxpayers do not have to go to the tax office to get the EFIN. One of the participants shared:

"We must go to the tax office first to get the EFIN. This is troublesome. It should be provided by an online system or electronically and be verifiable using an email and/or SMS."

In addition, some of the participants also advised to make it possible to reset the EFIN online or by phone to increase efficiency and save time:

"If we forget the EFIN, we should be able to reset it manually using an email or a registered phone number. There should be no need to come to a special tax office that handles e-filing because the queue is quite long."

Mobile Application (7 Responses)

One of the recommendations to improve the e-filing system is the development of a mobile application. This factor represents the tangibles and the flexibility of services as service quality measures (Chang & King, 2005; Pitt et al., 1995).

Participants suggested that the tax e-filing platform should be developed in the form of a mobile application as iOS-based and Android-based applications for smartphones. This gives taxpayers an alternative to what is currently available through the DGT's official website. Taxpayers can download the official application through, for instance, Google Play Store. This application will add flexibility to taxpayers' access because it will be available for taxpayers to carry out everywhere. Moreover, as suggested by one of the respondents, the development of an official application can support younger taxpayers to file their taxes.

Human Resource Quality (7 Responses)

Another important factor in improving the e-filing system in Indonesia is the quality of the DGT's human resources. Participants suggested that the DGT should have a sufficient quantity of human resources. Furthermore, these human resources should have adequate tax knowledge and skills to serve taxpayers, especially in regards to the understanding of the requirements and rules for tax reporting using the e-filing system. This includes, for example, the understanding about the documents that need to be attached when reporting through e-filing and the regulation on how to report particular types of taxes. One of the participants shared his/her experience related to this issue:

"There are still many tax officers who do not understand the rules for reporting foreign income tax. I had to go back and forth four times to two tax offices to complete last year's report. ... The officers should be further trained."

In addition, participants also suggested that the tax officers should have the same answer for the same tax case because, sometimes, one tax officer may have a different opinion from that of another:

"Tax officers sometimes have different perceptions; rules that are clearly written are often interpreted differently between tax offices."

This factor corresponds with Pitt et al. (1995), who measure service quality using several variables, i.e., assurance, empathy, reliability, responsiveness, and tangibles. It is also in line with Chang and King (2005), who state that service quality can also be measured using several elements, i.e., flexibility, interpersonal quality, intrinsic quality, IS training, reliability, and responsiveness.

Update of Technology (3 Responses)

One more aspect of improvement related to the service quality of the e-filing system is the update of technology. The respondents suggested that it is important to improve the technology and conduct continuous development to the e-filing system. This can improve the quality of the services provided to e-filing users. This factor is related to the improvement in physical facilities and equipment, which is part of the tangibles variable in the service quality measures (Chang & King, 2005).

Conclusion

This study investigates areas of improvement to the e-filing system in Indonesia in order to support the need for its continuous improvement. The objective of this research is to provide recommendations for the DGT to improve the e-filing system to optimize its use in the tax filing process. In order to identify potential improvements to the e-filing system, this research explores individual taxpayers' opinions on how to improve the system. We study users' experience of using the e-filing system in a hope that the suggested improvements may reflect the actual needs of taxpayers.

This study used qualitative content analysis on participants' responses about how the e-filing system can be improved. In analyzing participants' comments, we employed the framework of the updated DeLone and McLean IS Success Model (DeLone & McLean, 2003), specifically in its quality dimensions. Thus, there are three main categories used to classify participants' responses, namely System Quality, Information Quality, and Service Quality.

Of all the quality dimensions that influence information systems success, system quality received the most comments from the respondents. It is not surprising since the essential part of an information system is the system's hardware and software built to be accessed, used, and navigated easily by the users. The majority of the respondents who gave comments for the system quality aspect of e-filing emphasized the accessibility and the ease of use of the current system. Hitherto, the current e-filing system often experiences breakdown, especially when it is near the tax reporting deadline. If this problem continues in the future, taxpayers may hesitate to use e-filing and return to manual submission. Therefore, if the DGT expects a growing number of e-filing submissions, the DGT should increase the e-filing capacity and back up e-filing with a stronger system that can accommodate many taxpayers' access at any time. In addition to system breakdown, many respondents also commented that the current e-filing system is not user-friendly. The respondents argued that taxpayers are required to input too much information to report their taxes using e-filing. They are also unsure whether they have put the correct information so that they need to call a tax officer to give some explanations.

In the information quality aspect, many respondents suggested that e-filing should come with some clear guidelines on how to report taxes through it. Not all taxpayers have comprehensive knowledge about taxes and tax filing steps. The availability of complete and relevant information is the quality that users of e-filing will value. Apart from that, the e-filing system must maintain the confidentiality of taxpayers' data. Thus, taxpayers will have no hesitation in filling out these data truthfully. To make taxpayers confident that the e-filing system is equipped with highly secure features, the DGT may implement ISO certification on security features.

As for service quality, respondents called for an intensive dissemination program on online tax reporting. This action is essential to reach more users of the e-filing system. Amidst the broader coverage of internet connection in Indonesia, many taxpayers may not be aware that tax reporting can also be conducted online. Even if they know, some are still reluctant to adopt it out of fear that the system is complicated and makes them misreport their taxes. Massive publication from the DGT can also encourage taxpayers to submit their tax returns earlier, not at the end of the reporting date, to avoid server breakdown. The service quality of e-filing can also be improved by having reliable helpdesk channels. Since taxation is complex in nature, with many updates of tax rules and regulation, consultation with tax officers are sometimes still needed to address taxpayers' inquiries. This far, the DGT has provided Kring Pajak. In the future, hopefully, the DGT will add more helpdesk channels to help e-filing users report their taxes properly.

In the near future, there is a possibility that the DGT will make online tax filing mandatory for all taxpayers. Therefore, our study can provide benefits for the DGT to map areas that require immediate improvements because we emphasize attributes that are valued the most by the users and potential users. However, we are well aware of the limitation of this research, whose respondents mainly came from the Jakarta and West Java area. Thus, to make it more representative and inclusive of more possible problems in e-filing, future research should generate responses more equally from all across Indonesia. Besides, the data for our study was gathered from July to August 2018. It is likely that the DGT has already made some improvements to fix some problems related to e-filing that we identified in this research. For future research, more insight can also be captured by conducting interviews or Focus Group Discussions with taxpayers who have already used e-filing.

References

- Bhuasiri, W., Zo, H., Lee, H., & Ciganek, A. P. (2016). User acceptance of e-government services: Examining an e-tax filing and payment system in Thailand. *Information Technology for Development, 22*(4), 672–695.
- Chang, J. C., & King, W. R. (2005). Measuring the performance of information systems: A functional scorecard. *Journal of Management Information Systems, 22*(1), 85–115.
- Chaouali, W., Yahia, I. Ben, Charfeddine, L., & Triki, A. (2016). Understanding citizens' adoption of e-filing in developing countries: An empirical investigation. *The Journal of High Technology Management Research, 27*(2), 161–176.
- Chen, J. V., Jubilado, R. J. M., Capistrano, E. P. S., & Yen, D. C. (2015). Factors affecting online tax filing – An application of the IS success model and trust theory. *Computers in Human Behavior, 43*, 251–262.
- Damghanian, H., Zarei, A., & Kojuri, M. A. S. (2016). Impact of perceived security on trust, perceived risk, and acceptance of online banking in Iran. *Journal of Internet Commerce, 15*(3), 214–238.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information System, 19*(4), 3–30.
- Delone, W., & McLean, E. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems, 19*(4), 9–30.
- DeLone, William H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *Information Systems Research, 3*(1), 60–95.
- Direktorat Jendral Pajak. (2020). *Laporan tahunan 2019*.
- Floropoulos, J., Spathis, C., Halvatzis, D., & Tspouridou, M. (2010). Measuring the success of the Greek Taxation Information System. *International Journal of Information Management, 30*(1), 47–56.
- Gable, G. G., Sedera, D., & Chan, T. (2008). Re-conceptualizing information system success: The IS-impact measurement model. *Journal of the Association for Information Systems, 9*(7), 377–408.
- Ghasemaghaei, M., & Hassanein, K. (2015). Online information quality and consumer satisfaction: The moderating roles of contextual factors – A meta-analysis. *Information & Management, 52*(8), 965–981.
- Hubert, M., Blut, M., Brock, C., Zhang, R. W., Koch, V., & Riedl, R. (2019). The influence of acceptance and adoption drivers on smart home usage. *European Journal of Marketing, 53*(6), 1073–1098.
- Kementrian Keuangan Republik Indonesia. (2020). *Pokok-pokok APBN 2020*.
- Landrum, H. T., Prybutok, V. R., & Zhang, X. (2010). The moderating effect of occupation on the perception of information services quality and success. *Computers & Industrial Engineering, 58*(1), 133–142.
- Lewis, C. (2019). *Raising more public revenue in Indonesia in a growth - and equity-friendly way* (No. 1534).
- McKinney, V., Yoon, K., & Zahedi, F. M. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. *Information Systems Research, 13*(3), 227–359.
- O’Cathain, A., & Thomas, K. J. (2004). “Any other comments?” Open questions on questionnaires – a bane or a bonus to research? *BMC Medical Research Methodology, 4*(25), 1–7.
- OECD. (2019). *Revenue statistics in Asian and Pacific economies*.
- Ojha, A., Sahu, G. P., & Gupta, M. P. (2009). Antecedents of paperless income tax filing by young professionals in India: An exploratory study. *Transforming Government People Process and Policy, 3*(1), 65–90.
- Petter, S., DeLone, W., & McLean, E. R. (2013). Information systems success: The quest for the independent variables. *Journal of Management Information Systems, 29*(4), 7–62.
- Petter, S., & McLean, E. R. (2009). A meta-analytic assessment of the DeLone and McLean IS success model: An examination of IS success at the individual level. *Information & Management, 46*(3), 159–166.
- Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service quality: A measure of information systems effectiveness. *MIS Quarterly, 19*(2), 173–187.
- Richards, L. (2014). *Handling Qualitative Data A Practical Guide* (3rd ed.). Sage Publication.
- Saibona, N., ‘Azimatun, Nawawia, A., & Salin, A. S. A. P. (2016). E-filing acceptance by the individual taxpayers –

- A preliminary analysis. *Journal of Administrative Science*, 13(2), 1–14.
- Saragih, A. H., & Septamia, N. U. (2019). Analisis penerimaan pengguna e-filing menggunakan model unified theory acceptance and use of technology (UTAUT). *Jurnal Kajian Akuntansi*, 3(1), 1–17.
- Schaupp, L. C., Carter, L., & Hobbs, J. (2010). E-file adoption: A study of U.S. taxpayers' intentions. *Computers in Human Behavior*, 64(4), 636–644.
- Sijabat, R. (2020). Analysis of e-government services: A study of the adoption of electronic tax filing in Indonesia. *Jurnal Ilmu Sosial Dan Ilmu Politik*, 23(3), 179–197.
- Singh, S., & Srivastava, R. K. (2018). Predicting the intention to use mobile banking in India. *International Journal of Bank Marketing*, 36(2), 357–378.
- Spreng, R. A., MacKenzie, S. B., & Olshavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *Journal of Marketing*, 60(3), 15–32.
- Teo, T. S. H., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems*, 25(3), 99–132.
- The Jakarta Post. (2020a, May 6). Stop data breaches. *TheJakartaPost*. <https://www.thejakartapost.com/academia/2020/05/06/stop-data-breaches.html>
- The Jakarta Post. (2020b, November 5). Fintech Cermati data breach points to urgency for data protection law: Experts. *TheJakartaPost*. <https://www.thejakartapost.com/news/2020/11/05/fintech-cermati-data-breach-points-to-urgency-for-data-protection-law-experts.html>
- Tjen, C., Indriani, V., & Wicaksono, P. T. (2019). Prior experience, trust, and IS success model: A study on the use of tax e-filing in Indonesia. *Journal of the Australasian Tax Teachers Association*, 14(1), 240–263.
- Urbach, N., & Müller, B. (2012). The Updated DeLone and McLean Model of Information Systems Success. In Y. K. Dwivedi, M. R. Wade, & S. L. Schneberger (Eds.), *Information Systems Theory*. Springer.
- Veeramootoo, N., Nunkoo, R., Beta, & Dwivedi, Y. K. (2018). What determines success of an e-government service? Validation of an integrative model of e-filing continuance usage. *Government Information Quarterly*, 35(2), 161–174.
- Wirtz, B. W., & Piehler, R. (2016). eGovernment applications and public personnel acceptance: An empirical analysis of the public servant perspective. *International Journal of Public Administration*, 39(3), 238–247.
- Yefni, S. M., Zifi, M. P., & Yuliantoro, H. R. (2018). What are the motivation of taxpayers in using e-filing information system? *Jurnal Akuntansi Multiparadigma*, 9(3), 510–525.
- Yulisman, L. (2021, May 21). Indonesian govt says social security data breach much smaller than claimed. *The Straits Times*. <https://www.straitstimes.com/asia/se-asia/indonesian-govt-says-social-security-data-breach-much-smaller-than-claimed>
- Zaidi, S. K. R., Henderson, C. D., & Gupta, G. (2017). The moderating effect of culture on e-filing taxes: Evidence from India. *Journal of Accounting in Emerging Economies*, 7(1), 134–152.