ONLINE TAX SERVICE QUALITY IN INDONESIA AFTER SIXTEEN YEARS: TAXPAYERS’ AND TAX AUTHORITY’S POINT OF VIEWS

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ABSTRACT

Purpose: This research aims to enhance the quality of online tax services in Indonesia by identifying and addressing service-related issues, offering practical solutions, and paving the way for future research endeavors that can further refine and optimize digital governance in the tax domain.

Theoretical Reference: This study draws upon theoretical frameworks related to service quality assessment and evaluation in the context of online government services. By integrating these theoretical perspectives, this research seeks to analyze online tax service quality in Indonesia comprehensively and offer practical solutions to address the identified issues.

Method: Various researchers studied service quality, from manual to electronic service, and different countries. However, almost all of them used a quantitative approach, which sometimes cannot explain the reason behind events. For these reasons, this research chose a qualitative approach to evaluate online tax service quality owned by the Directorate General of Taxes by observing, documenting, and interviewing. The interviewees were taxpayers and the Directorate General of Taxes’ employees, connecting both views.

Results and Discussion: It turns out that the current service, in general, can fulfill taxpayers’ needs to a certain degree, and the taxpayers are satisfied. This research also addressed several problems related to the online tax service, such as server capability, internal communication, understaffing, and ICT infrastructure problems.

Implications of Research: The findings of this research hold significant implications for policymakers and practitioners in the field of online tax services in Indonesia.

Originality/Value: This research contributes to the tax field by presenting solutions related to the problems of tax service quality. This study contributes to the existing body of knowledge in online tax services and e-government in several distinctive ways, adding originality and value to the academic and practical discourse.

Conclusion: The current online tax service quality is generally sufficient to satisfy taxpayers. The problems that cause some taxpayers to feel dissatisfied or complain are prominently directed to the server capacity, human resources, the DGT’s internal communication, and the digital divide.

Keyword: online, quality, service, tax, website.

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QUALIDADE DO SERVIÇO FISCAL ONLINE NA INDONÉSIA APÓS DEZESSEIS ANOS: PONTO DE VISTA DOS CONTRIBUINTES E DA AUTORIDADE FISCAL

RESUMO

Objectivo: Esta investigação visa melhorar a qualidade dos serviços fiscais online na Indonésia, identificando e abordando questões relacionadas com os serviços, oferecendo soluções práticas e abrindo caminho para futuros esforços de investigação que possam refinar e optimizar ainda mais a governação digital no domínio fiscal.

Referencial Teórico: Este estudo baseia-se em referenciais teóricos relacionados à avaliação e avaliação da qualidade dos serviços no contexto dos serviços governamentais online. Ao integrar estas perspectivas teóricas, esta investigação procura analisar de forma abrangente a qualidade dos serviços fiscais online na Indonésia e oferecer soluções práticas para resolver os problemas identificados.

Método: Vários pesquisadores estudaram a qualidade do serviço, desde o manual até o eletrônico, e em diferentes países. No entanto, quase todos utilizaram uma abordagem quantitativa, que por vezes não consegue explicar a razão dos acontecimentos. Por estas razões, esta investigação optou por uma abordagem qualitativa para avaliar a qualidade dos serviços fiscais online propriedade da Direcção Geral de Impostos através da observação, documentação e entrevistas. Os entrevistados foram contribuintes e funcionários da Direção Geral de Impostos, ligando ambas as visões.

Resultados e Discussão: Acontece que o serviço actual, em geral, consegue satisfazer até certo ponto as necessidades dos contribuintes, e os contribuintes ficam satisfeitos. Esta investigação também abordou vários problemas relacionados com o serviço fiscal online, tais como capacidade do servidor, comunicação interna, falta de pessoal e problemas de infraestrutura de TIC.

Implicações da investigação: As conclusões desta investigação têm implicações significativas para os decisores políticos e profissionais no domínio dos serviços fiscais online na Indonésia.

Originalidade/valor: Esta pesquisa contribui para a área tributária ao apresentar soluções relacionadas aos problemas de qualidade dos serviços tributários. Este estudo contribui para o corpo de conhecimento existente em serviços fiscais online e governo eletrônico de diversas maneiras distintas, agregando originalidade e valor ao discurso acadêmico e prático.

Conclusão: A atual qualidade dos serviços fiscais online é geralmente suficiente para satisfazer os contribuintes. Os problemas que fazem com que alguns contribuintes se sintam insatisfeitos ou reclamem estão principalmente direcionados para a capacidade dos servidores, os recursos humanos, a comunicação interna da DGT e a exclusão digital.

Palavras-chave: online, qualidade, serviço, fiscal, site.
1 INTRODUCTION

The internet is arguably the most outstanding innovation in human life, with its positives and negatives. The internet enables people to access a wide range of information, work from distances, communicate from far away, or access a variety of entertainment. As for the dark side, the internet allows anyone to commit crimes or fraud to some extent (Marra, 2019). The popularity of the internet can be seen in the 1990s when all sectors changed their view to be more digitally and socially networked (Yator et al., 2014). One of the popular terms connecting the internet and the public sector is ‘e-government’.

E-government does not necessarily refer to only internet-based communication, such as websites, but it may employ any communication network (Manoharan, 2014). Thus, one of the goals of e-government itself is to perform efficient service delivery (Manoharan, 2014; Venkatesh et al., 2016; Waheduzzaman & Miah, 2015). E-government service is proven to lessen the burden of the private sector as the user of government services (Ntaliani & Costopoulou, 2018). Livson et al. (2021) suggest that digitalizing government activities can increase procedural effectiveness. Additionally, Pidd (2012) stated that service quality is one area of overall public service performance that needs to be evaluated. He explained that the quality service evaluation aims to assess the degree to which stakeholders are delighted with the service despite it being subjective. Al-Nidawi et al. (2018) suggested that e-service plays a major role in determining whether e-government would be a success or a failure.

In Indonesia, one of the government services that have been delivered online is tax services. Online tax services have been around since 2005, or about sixteen years ago. Back in 2005, online tax services were not fully provided by the DGT; instead, some of the services were provided by third-party companies called Tax Application Service Providers (TASPs). The DGT had assigned the TASPs to provide e-filing for tax returns to a limited group of taxpayers. On the other side, the DGT provided an online registration service (e-registration), allowing individuals, companies, or institutions to get a Taxpayer Identification Number (NPWP). A significant jump occurred in 2012 when the DGT opened e-filing for annual individual tax returns and online billing creation for taxes, and in 2015 when the DGT introduced a single-stop service called DJP Online on the website. Nowadays, the DGT has provided more online tax services than in the past. However, most of the available features are still focused on the taxpayer’s obligations.
One way to identify how many online tax services are in Indonesia is to read the number of taxpayers who have already activated Electronic Filing Identification Number (EFIN). EFIN is a unique number issued by the DGT, and it is required by taxpayers to gain access to online tax services. According to data obtained from the DGT’s data warehouse, the taxpayers who already activated EFIN on 13 December 2021 totaled more than 20 million taxpayers, as shown in Figure 1.

![Figure 1. Numbers of Registered Taxpayers and EFIN Activation (in millions)](image)

Source: Processed from the data obtained from the DGT

A significant increase in EFIN activation occurred in 2015 because, at that point, the DGT deployed DJP Online on their website. DJP Online is supposed to be a one-stop service for tax administration for registered taxpayers. In 2020, the number of taxpayers was significantly increased. Still, the increase of EFIN activation is not significant, causing the proportion of the taxpayers who activated EFIN compared to all taxpayers dropped to under 35%. It raises a question: what is the cause of this trend? Some research shows that online service quality affects how taxpayers are willing to use tax services (Belanche et al., 2014; Chen et al., 2015; Rifat et al., 2019). Thus, for that reason, it is important to revisit and evaluate whether the online tax service in Indonesia is already good or not.

Over the years, the DGT has conducted a customer satisfaction survey in the form of a Customer Satisfaction Index (CSI). Based on the annual report 2020 (Directorate General of Taxes, 2021a), the CSI is divided into three categories: face-to-face, online application, and other services. The report shows that the average CSI is 3.40 out of 4.00, and its categories are 3.46, 3.34, and 3.41, respectively. It means that the application...
services got the lowest CSI compared to the other two categories. Additionally, in the same report, the trending topic which is asked to *Kring Pajak* (customer service by phone) revolved around how to use specific applications and tax information. Those reports and the SPT growth data give a glimpse that the taxpayers were less satisfied with online tax services than the other two services despite the number of online tax service users increasing over the years.

Some research related to online service quality has been done by previous researchers. Rifat et al. (2019) conducted their research on online tax services in Bangladesh with the service quality dimension focused on interaction quality and website quality. Huang et al. (2015) developed a model to measure electronic service quality delivered through a mobile-based application. Belanche et al. (2014) initially used efficiency, privacy, fulfillment, and system availability as variables of e-service quality. They showed that system availability is not a good enough parameter in their study. Chen et al. (2015) concluded that information quality significantly affects user satisfaction, while system quality and service quality do not.

Several researchers also have studied tax service quality provided by the DGT. Waluyo (2018) studied and used informativeness, reliability, and responsiveness as variables used to measure tax service quality. Those variables were significant to the online tax system's performance. Additionally, Yunas (2018) made a back-to-back comparison between the Japanese and Indonesian electronic tax systems and addressed several current electronic tax system problems. Many researchers studied the quality of the tax e-filing service, a small part of the online tax service in Indonesia. For instance, Widiani and Abdullah (2018) provided information that in Bandung Cibeunying Small Tax Office (STO), overall online tax returns (e-filing) service quality had a significant role in taxpayers’ satisfaction. Ginting and Marlina (2017), who studied in Pondok Gede STO, found that system quality, service quality, and information quality were significantly correlated with the tax e-filing users’ satisfaction. Wicaksono et al. (2021) brought alternatives to improve the e-filing system based on taxpayers’ perspectives.

Looking at the previous studies, the researchers used relatively the same dimensions for one another, but each research brought different results. It should be noted that most research used quantitative approaches. The quantitative approaches are powerful in finding the relation between events or causes using statistics. However, they often cannot clearly explain why the event happened. Additionally, the research in
Indonesia mostly focused on the e-filing system, which is only one of many tax services provided by the DGT. For those reasons, this research used a qualitative approach to fill the gap and enrich the knowledge about online tax service quality, especially in the case of Indonesia.

One of the DGT’s missions is to develop digital-based business processes and increase taxpayers’ compliance through standardized and good-quality service (Directorate General of Taxes, 2021a). Additionally, the DGT has undergone a tax reform process since 2017, and one of the reform areas is Information and Communication Technologies (ICT). Thus, it is a good opportunity for this research to give a view of online tax services owned by the DGT, address the problems with the current services, and give a recommendation related to the current quality of services. The scope of the online tax services in this research is services that are provided on the DGT’s website (https://www.pajak.go.id). Additionally, the aspects explained in this research are efficiency, system availability, security, and contact.

2 THEORETICAL FRAMEWORK

Theoretical frameworks provide a conceptual structure for understanding and analyzing research phenomena. In the context of this study on online tax service quality in Indonesia, the following theoretical framework can be developed to guide the research:

1. Service Quality Model:

   The Service Quality (SERVQUAL) model can serve as a foundation for assessing online tax service quality. It consists of five dimensions:

   a. Tangibles: The physical appearance of the online platform and its ease of use.
   b. Reliability: The consistency and dependability of the online tax service.
   c. Responsiveness: The willingness and ability of tax authorities to assist taxpayers promptly.
   d. Assurance: The competence and courtesy of tax authorities in providing online services.
   e. Empathy: The extent to which tax authorities understand and cater to taxpayers' needs.

2. Technology Adoption Theory:
The Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) can be used to explore factors influencing the adoption and acceptance of online tax services by taxpayers. These models consider factors such as perceived ease of use, perceived usefulness, and social influence.

3. Information Systems Success Model:
   a. The DeLone and McLean Information Systems Success Model can be applied to assess the success of online tax services. It comprises three dimensions:
   b. System Quality: Evaluates the technical aspects and reliability of the online tax system.
   c. Information Quality: Focuses on the accuracy, completeness, and relevance of tax-related information.
   d. Service Quality: Measures the effectiveness of service delivery and user satisfaction.

4. Public Service Delivery Framework:
   Drawing from public administration and governance literature, this framework considers the expectations of taxpayers as citizens and their rights to efficient and effective public service delivery. It emphasizes transparency, accountability, and responsiveness in the online tax service context.

5. Digital Divide Theory:
   The Digital Divide theory can be incorporated to assess any disparities in access to and use of online tax services among different segments of the population. It considers factors such as socio-economic status, education, and technology literacy.

6. Change Management Theories:
   Theories related to organizational change, such as Lewin's Change Management Model or Kotter's Eight-Step Model, can be used to understand the challenges tax authorities face when transitioning from traditional to online service delivery.

7. ICT Infrastructure and Capability Model:
   A model assessing the adequacy of the ICT infrastructure and the technical capabilities of the tax authority can be developed to explain the challenges related to server capability and ICT infrastructure problems.

8. Stakeholder Theory:
Stakeholder theory can be applied to analyze the interplay between the tax authority, taxpayers, and other stakeholders in shaping the online tax service quality. It considers the interests and expectations of all relevant parties.

By integrating these theoretical perspectives, the research can provide a comprehensive understanding of online tax service quality in Indonesia and offer insights into the factors affecting its performance and user satisfaction. The qualitative approach chosen in this study will help delve deeper into the nuances of these theoretical constructs and their application in the Indonesian context.

3 METHODOLOGY

This research used a qualitative approach using documentation, questionnaires, interviews, and observation. Primary data is collected from the DGT employees and taxpayers. A deep interview has been conducted with ten employees, including the Head of Supporting System Development II Division of Directorate of ICT (coded DEV) and nine Tax Educators (coded TED) from central and branch offices. Tax Educators have the main tasks to educate taxpayers, answer taxpayers’ questions, assist taxpayers, and serve as an advisor or a consultant for taxpayers to a certain degree. The TEDs have worked in the DGT for more than ten years and have worked in different units. As for the taxpayers, an open-ended questionnaire was distributed online. From 55 responses, 20 respondents (coded TXP) were chosen and later interviewed. All interviews for all DEV, TEDs, and TXPs were conducted between 21 December 2021 and 17 January 2022. Secondary data sources are journals, the DGT reports, and regulations. Additionally, an observation has been done by actual use of services and with the help of a third-party tool to check the system availability.

4 RESULTS AND DISCUSSIONS

Starting from general views, the TEDs or TXPs gave positive evaluations about the current online tax service. They provided some notes, addressed problems in some areas, and provided several ideas for improving the existing service. Overall, the online tax service can fulfill taxpayers' needs to a certain degree, depending on the taxpayer’s complexity. Notably, the current online tax system on the DGT website can fulfill the self-assessment side, which includes tax registration, calculation, reporting, and billing payment.
Efficiency is the first aspect that needs to be evaluated in terms of online tax quality in this article. Efficiency itself is a part of the functional benefit given by using an online system (Akram et al., 2019), and potentially someone to save money, time, and effort (Li & Shang, 2020; Rifat et al., 2019). Looking into the attributes provided by Huang et al. (2015), in an online environment, efficiency is not only related to the speed of accessing pages or load time but also whether the system provides what users’ needs, has the organization of information, provides proper navigation that makes users easy to find what they want, and provides simplicity.

Related to the access speed, both TEDs and TXPs stated that the website operation and load page are fast enough under normal conditions. However, they experienced occasional slowdowns, especially when the time reporting deadlines were near. Some TXPs who regularly accessed the website for their tax administration explained that it sometimes randomly became slow. One of the quotes, “Under the normal circumstance, the access speed is quite fast, but sometimes the website suddenly randomly becomes slow or even cannot be accessed.” That statement is also matched with the TEDs explanation that the website slowdown is one of the frequently asked questions when taxpayers visit the tax offices or when they contact the DGT via chat or telephone.

Moving to the organization of information on the website, both TXPs and TEDs had mixed answers. For some TEDs and TXPs, the placement and grouping of information are already good. However, several TEDs told their experience that information organization is not adequate. For instance, tutorial videos are mostly not on the website. Instead, they are available on the DGT’s Youtube channel. Several TXPs also said that the information displayed on the website’s main page is overwhelming. One of TXPs commented, “When opening the website, I feel that that page is overcrowded. The amount of information is too much so that some users may experience difficulties digesting the information, especially the first-timer.”

Related to how the site navigation works, most interviewees stated that the site navigation is enough to direct visitors to the place where they want to go. However, some TXPs stated that they need to get used first to the website’s environment. One of them stated, “As for now, the site navigation is not a problem because I already get used to it. However, for the one accessing the website for the first time, they need time to adapt to the website.” Some younger TXPs commented that the navigation could be improved by
putting large icons that will give visual aid when any visitors want to use a particular service they need.

Moving to the next discussion, the TXPs provided different answers when they were asked about whether the website could accommodate their needs or not. The TXPs with simple needs stated that the website already provided enough services. Most TXPs mentioned that the online tax services helped them in terms of time efficiency and effort for visiting tax offices. However, the TXPs with complex needs, such as business owners or finance staff, stated that the website had not provided some services. They stated, “Not all my needs fulfilled. Some documents must be submitted directly to the tax office, and I must retrieve some documents in the same manner. Also, when I have trouble, I still must communicate with the account representative face-to-face. Generally, not fully online.”, “Several documents related to our tax rights must be submitted physically, either by sending mail or visiting the tax office.”, and “As an individual or as a regular employee, my needs are submitting tax returns and may be paying tax on some occasions, so the current service is enough. However, if we talk about enterprise, the tax administration becomes more complex. Some services are not available yet.”

On the other side, some TEDs addressed that some taxpayers need some services to be added on the website, specifically Request of Overpayment Transfer, Request of Early Tax Refund, Request of Refund for Excess Tax Payment, and notification information when the server is down or under maintenance. Some other TEDs also stated that taxpayers want all-in-one service in one place, live video call over web or application, view personal tax records, document tracking, and document follow-up progress. All TEDs explained that whether the system can fulfill the taxpayers' needs is based on their complexity.

Regarding the variety of limited services provided on the DGT website, the DEV explained that the current system could accommodate self-assessment processes. Based on regulation, the self-assessment is taxpayers' obligations ranging from their registration, tax document administration such as withholding slip or tax invoices, tax calculation, tax payment, and reports (The Republic of Indonesia, 2007). The DEV understands the taxpayer’s needs, but the DEV faces a few obstacles when developing applications. The DEV stated, “We (the developers) make or modify applications based on requests from other Directorates, the ones who endorse a regulation and the concept of application. Sometimes, they take time to build analytical documents and user requirements.
Additionally, sometimes they have a hard time formulating the logic that the developer will use to build algorithm on the application.” The DEV further explained that they would add more features to accommodate all taxpayers’ needs. Currently, they are developing a Request of Overpayment Transfer module for the website.

On 24 December 2021, the DGT’s Human Resource Information System showed that the number of Functional of IT Officials that work in the Directorate of ICT is 140 people. Most of the Functional staff are primarily tasked to create, modify, or test applications. Meanwhile, the needs of Functional of IT Officials in the Directorate of ICT are 204 people (Directorate General of Taxes, 2021b). It indicates that the Directorate of ICT is understaffed. Currently, only 68.63% of positions are filled, and 64 positions are left empty. Thus, it is possible that the DGT currently has issues delivering new applications due to being understaffed in the Directorate of ICT. Related to that matter, the DEV shared his experience that the developers need to decide which application to develop first based on its urgency and priority. The developers take that action because they get overwhelmed by the number of development requests.

Since the DGT website also acts as a part of an information service when the users need it, it is important to look into the opinions about the content delivered on the website. The information includes tax regulations, news, and guides to the application. Proper content means the information is accurate, concise, complete, relevant, and easy to understand (Huang et al., 2015).

Related to the content delivered on the website, one of TEDs commented that the information on the website is not delivered effectively. He suggested that the website should provide tutorials or demonstrations, which can be acquired by embedding videos on the website, rather than only providing text. That TED further stated, “Taxpayer’s difficulties are not only related to how to use the applications, but also the tax procedures itself are complex. Making taxpayers understand about general taxation is the most essential for the time being.” and “Several taxpayers that I met were eager to contribute to our country in the form of tax. However, they have trouble understanding the regulation, the procedures, or how to use a certain application.” Thus, it means that the taxpayers not only need information about how to use the application but also about the tax procedures and regulations.

From the taxpayers’ side, one of the TXPs answered that the tax procedures are complicated. He has had a hard time filling the tax returns over the years. Several other
TXPs explained that some tax terms should be explained more, “Some of the tax terms on the website and application are hard to understand, I must search somewhere else to know what the means of that terms. For instance, what is the meaning of *PPh Final*?”

The next thing asked is system availability. It checks whenever the system has the correct technical functionality (Blut, 2016; Huang et al., 2015). In the context of online services, the technical functionality is the online availability and any possible technical problems when users access the system, such as errors, freezes, and crashes (Huang et al., 2015). In the context of a website, those potential problems may arise from ineffective coding from the developer’s side, the user’s device specification that prevents the system from working properly, or even the ICT infrastructure.

Online availability is one of the main concerns related to services that are provided over the internet. We made an observation between 12 October 2021 and 9 November 2021 by using Site24x7 website monitoring service. Its service allows someone to observe the condition of a website. It reported that the DGT’s website Domain Name System (DNS) server was down 259 times and totaled 12 hours 19 minutes, as illustrated in Figure 2. DNS plays an important role on the internet, and it translates ‘hard-to-remember’ IP address numbers into readable addresses (Xu et al., 2019). When the DNS server fails to resolve the address, it will result that the target website will be inaccessible by the users. In the context of this research, the DGT’s website cannot be accessed by visitors when the DGT’s DNS server is down.

![Figure 3. The DGT’s DNS server monitoring report](image)

Source: Taken from Site24x7 report
Most TXPs stated they sometimes could not connect to the DGT’s website, especially when the period is near the reporting deadlines. One of the TXPs strictly stated, “No, the system is not available 24/7”. The TEDs also stated generally the same thing, which makes taxpayers ask tax officials to confirm whether the website is down or under maintenance. On the other hand, DEV stated that the current DGT has limited server capabilities. DEV also stated that TASPs help the DGT lessen the server stress, allowing better online availability to the website. Having said that, some TXPs identified that the DGT’s side might not cause online availability problems. Instead, it is possible those problems were caused by the internet availability in a particular area. Related to that matter, one of TXPs commented, “…in my area of living, I found that some areas have a kind of blank spots. I cannot connect to the internet if I am on those areas.”

Some TXPs also stated that they experienced errors and used application modules on the website. Some TXPs commented, “I retried a few times until, finally, I successfully submitted my tax returns.”, “I experienced errors while requesting verification token.”, or “Sometimes I found error while filling the field, the application (on the website) is not responding and resulting I must re-input the required data.” It also found that some online services or applications provided by the DGT could not run well or were even unusable on Macintosh-based hardware, operating systems (OS), or browsers. One of TXPs shared their experience, “In our office, almost all devices for works and administrations use MacBook (one of Macintosh-based hardware). Some services on the website cannot be accessed. Fortunately, we have one computer with Windows-based OS. We tried the same services on that particular computer, and it worked normally.” On the other side, the TEDs said that one of the most asked questions when taxpayers consult Tax Educators is how to resolve errors when operating either web-based or desktop-based applications. Most TEDs shared a story that they sometimes have difficulties perceiving the source of errors, whether the errors come from the system or from the taxpayer’s side, due to the developers’ lack of error mitigation manuals. As a result, both TXPs and TEDs ended up making trial and error to resolve the problems.

Looking at the information above, the DGT has a problem with the system availability. The first one is mainly the ICT capabilities, which affect online availability. Most TXPs, as well as TEDs, hoped that the DGT would upgrade to server capabilities. The second one, the DGT seems to have communication issues between the application developer and the operational employees, especially delivering technical information.
about the application or error handling and information about server up or downtime due to maintenance or various reasons.

One of the main aspects related to online service quality is how the system security works. The main concern associated with the online-based service is the safety of users’ data (Belanche et al., 2014). It includes the possibility of whether the service providers will share the users’ data or the third party will steal the users’ data (Huang et al., 2015). Additionally, security heavily affects the citizen's trust, and improper security may result in the citizen not being willing to use the e-government services (Venkatesh et al., 2016).

In the context of tax service, the taxpayers are concerned about their tax data, whether it got leaked from internal (the DGT) or stolen by outsiders.

Firstly, the DGT’s system security should be adequate to protect the user’s privacy and tax data. The TXPs majorly stated that they feel that the current website security is relatively good. Additionally, they explained how security works, such as the use of Secure Socket Layer (SSL) protocol or two-factor authentication (2FA). Some of the TXPs quotes, “The use of Secure Socket Layer Secure Socket Layer is one part of security measures...”, or “The use of two-factor authentication in forms of token authentication through e-mail gives an extra layer of security. For instance, if a person successfully logs into DJP Online, they can see several data. However, they cannot make a transaction, such as submitting tax returns, as long as they cannot pass the correct token verification. This token verification is sent by the DGT to the registered taxpayer’s e-mail.”

On the other side, the DEV extensively explained the security of the system owned by the DGT. The DEV stated that the DGT system security is multi-layered, starting from the system security to the environment security. Some of the DEV quotes are, “Starting on the website, we use Secure Socket Layer, SSL, connection.... that to a certain degree any data transfer will not easily be eavesdropped.”, “Our data center which is located in [redacted] has complied ISO 27001... Only selected employees can enter, and even I don’t have access to the data center.”, “We implement internal control, only particular employees who can access tax database directly, even I and my team as application developer have no access to that database.”, “We have logs to identify any anomalies behavior in the system. It records any transaction made through the system.... Including the taxpayers and our employees.”, “… the database uses MD5 hash and AES-256 encryption…”, “… backup and mirroring are done regularly, as well as disaster recovery center…”, “If there is any wrongdoing from the taxpayer’s side, it would likely be
because the taxpayer shared their credential, and the one who got the credential can access the taxpayer account.”

Looking at the explanation from the DEV, the DGT already provides sufficient security toward privacy and tax data. ISO:27001 is a standard to keep information assets secure, enabling organizations to manage the security of assets, such as financial information, intellectual property, employee details, or information entrusted by a third party (International Organization for Standardization, 2021). Additionally, AES-256 is considered sufficient to protect classified information up to the secret level of information (Smid, 2021). The DEV commented that the last time the DGT received a visible attack on the website was in 2018. It was defacement that caused https://www.pajak.go.id to get redirected to another site, and the hacker was not able to touch the tax database. One of TXPs also commented about that defacement event, “For us who understand what the defacement is, maybe, it just a change of a website face without affecting the database. At that time the problem was quickly resolved. However, the defacement might cause a panic moment for the one who does not understand the situation because it made the website unavailable temporarily.”

Another finding showed that despite the TXPs stating relatively positive responses about the system security and never experiencing their data getting stolen or breached by using the DGT website, several TXPs expressed that they do not believe in the DGT related to their privacy and tax data. Those who expressed that matter confessed that their distrust came from the recent news that showed that some government institutions got their users’ data breached and distributed illegally online. One of quotes, “I never experienced my tax data stolen so far and hopefully never, but I do not quite believe in the DGT… Some news showed that many government institutions (outside the DGT) got hacked and the data distributed online.”

Finally, the last component to be evaluated in accordance with the web-based online service is the contact. It is defined as the availability of contacting live representatives online for assistance (Huang et al., 2015), and it is a part of the customer service mechanism (Blut, 2016). It includes whether the representatives properly receive complaints, have consistent answers, and solve users’ problems (Huang et al., 2015). Several users may face a problem while accessing tax services on the DGT website, and the problem cannot be resolved by the users’ hand. That is the situation where the existence of contact becomes important by giving direct assistance just-in-time for
taxpayers. It is different with indirect support such as through e-mail that the users may get delayed replies, which sometimes takes a long time.

Based on the observation, contact channels on the DGT website are available in text-based live chat and telephone lines. As for the text-based chat that the central office manages, the DGT provides ‘Chat Pajak’ located on the bottom-right of the front page of the DGT website. Additionally, the contact center number, called ‘Kring Pajak’ is also provided at the bottom of the front page of the website. Both Chat Pajak and Kring Pajak are available on working days from 8 AM to 5 PM. In addition to the contacts managed by the central office, the DGT also lists phone and cellular numbers for its branch offices on https://pajak.go.id/unit-kerja, allowing citizens to communicate with a particular tax office.

The TXPs gave mixed answers related to the contact provided by the DGT. Several TXPs had not used both Chat Pajak, Kring Pajak, and branch offices’ phone numbers, so they could not provide further comment about the contact support. The others mostly gave a positive statement about the contact quality. One of the comments is, “Well done. When I asked, usually, they answered. However, my call usually got transferred to the proper division first, and then I must repeat the explanation from the beginning. If it is already night, I must wait, but that is understandable. I would say that overall (service) is good.” That statement implies that several taxpayers need the presence of official representatives 24/7 to consult, confirm, ask, or even complain. Related to the call that got transferred, it is a proper approach to ensuring the taxpayers get the best possible answer from the tax officers.

Several TXPs also shared their dissatisfaction with the representatives through the contact provided. Sometimes, the TXPs did not receive any reply from either Chat Pajak or Kring Pajak. The DGT’s annual report showed that the answer rate of Kring Pajak was 97.99% (Directorate General of Taxes, 2021a). On top of that, one of TXPs also got an inaccurate answer related to the tax regulation or problems they found by saying, “I did have experience related to inaccurate information about one of the tax procedures. At that time, a new regulation related to the withholding tax in the case of transactions with the government had been released. The new regulation stated that the minimum threshold transaction value is Rp.2,000,000. I got that information from my circle first. After reading the new regulation, I found that it was already effective. I wanted to confirm it
with the tax officer. When I called them, I got an answer that the threshold is Rp.1,000,000, referring to the older regulation.”

On the other side, some TEDs feel that the rate of knowledge transfer or information transfer is slow, and sometimes not all the employees get the knowledge or information. “Some employees (of the DGT) do not know the updates of the latest tax regulations. For instance, the latest update of tax law stated that the tax facility is now called ‘voluntary disclosure of assets’. Some employees keep saying with the term ‘the second tax amnesty’… Realizing or not, we still have ineffective communication internally… we do need to find a way to resolve this problem.”, and “Sometimes, the developers ran a sudden update without prior notification. As a result, taxpayers and tax educators get confused if we encounter any problems. Ended up, we (tax educators) cannot deliver satisfying answers to the taxpayers.” The statement from TEDs and the TXPs in the earlier paragraph implies that the ineffective transfer of information in the DGT’s internals results in inaccurate information or not satisfying answers.

From the discussion for each aspect of online service quality above, four major problems can be identified. The first problem is related to the server capacity. The current server capacity is not strong enough to take a burden from online traffic. Consequently, the users of the website are experiencing slowdowns, encountering errors, or being unable to access the website at all. That matter becomes more apparent at the time near the reporting deadlines. Wicaksono et al. (2021) also addressed the same problems, albeit related only to the e-filing service.

The second problem is related to human resource management, namely understaffed. Currently, the number of application development staff, which one of their projects is the DGT website, apparently cannot balance the workload. As a result, the online services provided on the website currently cannot fulfill all taxpayers’ needs. It inconveniences some taxpayers that they are required to visit tax offices to submit particular requests or documents related to the taxes. Additionally, several ‘quality of life’ features that focus on user convenience, such as push notifications or digital corresponding letters, are not yet available on the website. For now, the online tax services on the DGT website are more focused on how taxpayers fulfill their tax obligations, and the services related to their tax rights are still minimal.

The third problem is related to how communication works in the DGT. From the discussion, it has been identified that information is not well delivered or received by
employees. It can be seen from the application planning and development process. The application specifications from technical Directorates are not defined clearly. It is implied that the DGT also has problems with the communication line, raising problems such as information transfer from developers to the other employees as end users and the transfer of new information from the central tax office to branch offices. This problem ultimately affects the quality of the contact center or front liners as they act as informers or problem-solving representatives.

Lastly, the digital divide, especially ICT infrastructure, is a glaring problem in Indonesia. One of the research related to public sector service delivery also addressed that the lack of proper ICT is a problem in Indonesia (Utama, 2020). In the case of the current study, how well the ICT infrastructure in an area determines whether a taxpayer can access online tax services or not. The existence of the internet becomes vital when a service is only available through online means, mandatory, and any alternative method is not available. The digital divide is also related to the literacy of how to use a certain technology. In the case of the DGT, several young TXPs shared their experience in their workplace that some employees, especially the elder ones, had difficulty using the online tax system. As a result, the older ones asked for assistance to use the online tax service.

One of the aims of this article is to provide solutions related to the problems that have been identified. It is a good opportunity for the DGT because, currently, they are working on tax reform. It is a good opportunity for the DGT to solve those problems. However, some solutions for the problems require coordination with the higher level of government or other government institutions.

Currently, the tax system in Indonesia is self-maintained by the DGT. Maintaining a national scale system like tax requires a large number of resources, including the infrastructure and the staff, to make sure the system is running well. To make the DGT have better online quality, we suggest the DGT adopt cloud computing technology, moving from a traditionally self-maintained system. Zwattendorfer and Tauber (2013) listed the advantages of using cloud computing for the government. Those advantages are increased flexibility, accessibility anywhere, scalability, ease to implement, service quality, consistent software updates, document sharing, group collaboration, data recovery, and distributed data centers.

Cloud computing allows cloud service users to hand over some or all elements of computing to cloud service providers, ranging from application platforms to physical data
centers (Ahmad, 2017; Poniszewska-Maranda et al., 2020). In the case of the DGT, we suggest that at least the application platform can be handed over to the cloud provider because currently, the DGT’s developers are overwhelmed by the number of applications that they need to develop and maintain to fulfill both the employees’ and taxpayers’ needs. On the other hand, one thing that must be considered is the one who maintains the tax database. One of TXPs commented, “I heard that some government institutions used the third-party database service. I think by using the third-party database, the possibility of data leakage is higher.”

Looking at the deployment model, we suggest that the DGT should adopt the hybrid cloud, specifically the combination of private cloud and public cloud, in favor of database security, which the TXP stated in the earlier paragraph. A private cloud is only for one organization and cannot accessed by the public, while a public cloud is deployed and operated for the general public (Zwattendorfer & Tauber, 2013). In the case of the DGT, the private cloud should handle the internal business process, business intelligence, and stored data security. The public cloud will be more focused on the public and citizens for delivering tax services.

While the first two problems mentioned can be remediated by implementing cloud computing on the DGT, the internal communication problems should be handled by a different approach. The DGT requires formulating a faster and more effective internal information delivery mechanism. The use of ICT aims to build faster communication between and across units within an organization (Kalu, 2019; Kim & Kim, 2020). One of TEDs suggested using pop-up messages on commonly used internal applications to deliver information. That TED argued that the developer or higher authority could use the Logbook application. One of the Logbook functions is to be used by the DGT’s employees to mark their work attendance online, so it is highly likely always used by the employees. Additionally, since computers on the DGT are connected to the same domain, the joint domain administrator can make a push notification or announcement to the connected computers to deliver important information to the employees.

The digital divide on the taxpayer’s side has several solutions. Firstly, the DGT needs to expand its effort to make the taxpayers understand both tax procedures and how to apply the tax procedures on the online tax system. Several TXPs demanded that the DGT provides more tax education in various forms, such as seminars, campaign, or face-to-face education. Subsequently, as for the ICT infrastructure problem, it could not be
resolved by the DGT alone. Instead, it requires collaboration with the higher government, other government institutions, and private sectors. The nationwide ICT infrastructure development in Indonesia is led by The Ministry of Communication and Information Technology.

5 CONCLUSIONS

In general, it concludes that the current online tax service quality is sufficient to make taxpayers satisfied. The problems that cause some taxpayers to feel dissatisfied or complain are prominently directed to the server capacity, human resources, the DGT's internal communication, and the digital divide. Most problems mentioned can be resolved by the DGT, such as implementing cloud computing, empowering existing ICT to make internal communication more effective, or increasing taxpayers' knowledge and awareness through various methods. We have successfully contributed qualitative findings of Indonesia's online tax service quality from the taxpayers' and tax authorities' perspectives. The limitation of the current study is that the taxpayers we interviewed were actual users of services. Consequently, there still needs to be more information from taxpayers who do not use online services. Regarding that matter, the subsequent research should consider comparing online and offline services and involving respondents who never use or are not willing to use online tax services. Additionally, since we mentioned the possibility of implementing cloud computing in the DGT, we suggest that future study takes a feasibility test of it.
REFERENCES


