TAXPAYERS' PERCEPTION ON THE USAGE OF THE E-FILING SYSTEM OF BIR

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Abstract

A nation's lifeblood is its taxation system. It is an inherent power of the state wherein, without the taxes, the government would be paralyzed. Thus, the timely and accurate filing and payment of taxes makes the performance of the responsibility of the government to defray the necessary expenses in promoting general welfare easier and prompt. During this challenging period of pandemic, the filing of taxes becomes equally challenging. The Bureau of Internal Revenue (BIR) imposes electronic filing or e-Filing to encourage citizens to file and pay their tax dues promptly and properly. On that ground, this study aims to determine the perception of Small and Medium Enterprises (SMEs) on the usage of e-Filing in the City of Baliwag. The study used a comparative-descriptive study, which determined the difference between variables. Additionally, the researchers used convenience sampling in gathering respondents with perceived ease of use, perceived usefulness, and perceived security as determinants in measuring their perceptions. Due to difficulty in criteria for respondents, the researchers managed to collect, tabulate, analyze, and interpret 11 responses. The results revealed that there is no significant difference between the three determinants when their age and sex were considered. As to perceived ease of use, with a highest mean of 3.73, the respondents mostly agree that the e-Filing system is easy to use. In perceived usefulness, three indicators got the highest mean of 3.64, which indicates that the e-Filing system improves the quality of their work, enables them to accomplish their tasks quickly, and it saves them time. Lastly, with a highest mean of 3.45 in perceived security, the respondents believe that the e-Filing system has the technical capacity to protect their information from being modified by inappropriate parties. Therefore, the findings of this study revealed that the age and sex of the respondents do not affect their perception on the usage of the e-Filing system.

Keywords: electronic filing (e-Filing), perceived ease of use, perceived usefulness, perceived security

Introduction

Taxation is an inherent power of the state. Failure to pay taxes on time is penalized by the government. Surcharge, interest, and compromise can be the penalties imposed for late filing in addition to the tax due. These penalties can be burdening to the taxpavers as these are not budgeted and not part of their actual obligation as income earners. Furthermore, the level of compliance by the taxpayers has a significant impact on the tax revenue generated by the taxing authority. It is the duty of the tax authorities to guarantee that the present tax system will be able to address the problem that some taxpayers tend to avoid paying taxes for some reasons (Yunus, Ramli & Abu Hassan, 2017). Some reasons for not paying taxes on time could be due to a liquidity problem or the system of filing itself. Taxpayers may find it troublesome to go to a Revenue District Office (RDO) and file tax returns manually.

In these modern times, advancement in technology makes almost all things to be done easier. Electronic filing (e-filing) is the process of submitting tax returns through the internet using electronic forms that have been pre-approved by relevant tax authorities (Gupta, 2017). The Electronic Filing and Payment System (eFPS) of the Bureau of Internal Revenue (BIR) can make a way for taxpayers to have a more convenient filing of tax returns. With eFPS, tax filing is paperless and the payment can be done through online banking. Since it is available on the internet, taxpayers can file and pay taxes anytime (BIR, 2022). The particular issue that this study will address is the perception of taxpayers regarding

the usage of the e-Filing system. Does taxpayers' perception towards the usage of the e-Filing system have a significant difference when their age and sex are considered?

Ever since the existence of e-filing in the Philippines two decades ago, its development towards a better and easier transaction of filing tax returns has been significant and shown a great impact on the country. Taxpayers can reduce the costs of filing their tax obligations. However, the taxpayers' perception differs due to various factors. This study aims to determine the different perceptions of taxpayers on the usage of the e-Filing system, particularly in terms of *perceived ease of use, perceived usefulness,* and *perceived security.* This study is relevant as the use of technology is prevalent in today's time.

Review of Related Literature

According to BearingPoint Caribbean (2021), the primary goal of taxation is to provide funding for governments to provide vital public services. Many essential components of well-functioning societies around the world, including social services, health care, and education, are funded by taxes. Taxation has the potential to be an effective weapon for promoting development in a nation in addition to being a source of income.

According to the Department of Finance (2020), users of online systems gradually rose from 25% in 2015 to 35% in 2016. Then from 46% in 2017 to 55% in 2018 and 58% in 2019. And, during the Duterte administration, more electronic payment channels were added. Aside from the eFPS and the GCash digital platform, the PesoNet through LandBank Link.biz Portal and the Development Bank of the Philippines (DBP) PayTax Online System was opened in 2017, UnionBank Online and PesoNet in 2019, and PayMaya in 2020. Additionally, in an article by Laforga (2021) income tax returns (ITRs) during the months between January and April 2020 reached up to 99.5% which means that most ITRs

were electronically filed through the use of BIR eFPS and eBIRForms. The percentage of users has been gradually rising since 2015 when the ITRs filed were only equivalent to 10%. The increase in users was believed to be the result of the agency's continued efforts to improve its online systems.

E-Filing

According to Taxconcept (2021), the usage of e-filing has the following advantages: filing of taxes anywhere, anytime; refunds are faster. It also has value-added services like tracking refunds, 26AS view, and e-mail and SMS alerts. Meanwhile, concerning the status of processing and refund, there is immediate acknowledgment, 24/7 online service, and a dedicated helpdesk to support the queries of the assessees. Additionally, based on Investopedia (2022), since data from returns is transmitted through electronic filing directly to the tax authority's computers, in this instance, the BIR's system, input errors are considerably reduced, which saves the taxpayers both time and money.

According to CFI Team (2021), e-filing is occasionally limited to specific professionals and/or businesses with a minimum annual income cap. Individuals, small businesses, and other professionals are permitted to e-file depending upon the tax regulations and government rules in the said country. Meanwhile, Grant Thornton (2021) states that in the Philippines, there are two options for electronically filing tax returns: the Electronic Filing and Payment System (eFPS) Facility or the eBIR Forms. Several taxpavers are required to use electronic filing platforms to submit their tax returns based on the regulations set by the tax authorities. However, other taxpayers may opt to file their tax returns online voluntarily. In 2021, the Bureau of Internal Revenue (BIR) issued Revenue Memorandum Circular (RMC) No. 4-2021, which outlines procedures for filing tax returns and attachments and paying the taxes owed. There are no fundamental changes in the prescribed methods of filing and paying taxes. Reviewing the said guidelines is important as it could help ensure proper compliance and help avoid unnecessary penalties and inconvenience.

Hambali (2020) concluded that system quality is a factor that taxpavers take into account when using e-filing. The study also shows that taxpayers who are pleased with their experience of using e-filing will most likely keep using the system. According to the findings of the study, the success of taxpayers' use of e-filing was governed by their purpose and contentment with the system. Taxpavers who are delighted with e-filing will continue to utilize it because they believe it will improve their performance, ease their job in filing and reporting tax, and speed up filling and reporting tax, particularly in the present epidemic of COVID-19. Similarly, in the study of Gupta and Kumar (2017), the satisfaction index shows how happy the income taxpayers are with electronic filing and how well-informed they are about the website or its applications. When filling out their tax return the users should feel safe according to the safety or perceived risk. However, taxpavers also have trouble remembering their registration number and password. They also encounter network issues, especially during busy months.

Based on the study by Paramashivaiah et al. (2019), the Income Tax Department of India has begun to adopt the suggestions of many income tax reform committees. Although e-filing of income tax returns has received a positive response over the years, it is still not commonly used in many states. To enjoy the benefits of using technology in filing income tax returns, the taxing department should make webbased services more user-friendly and guarantee that web-service users' privacy and security are protected. Additionally, simplifying areas such as passwords and accessing ITR-V receipts, acknowledgments, and tax credits would be necessary. Most likely, all taxpayers would willingly utilize e-filing when assessees have no problems using information technology to file their income tax returns.

Perceived Ease of Use

Perceived ease of use has a huge impact on the usage of taxpayers for e-filing. Once the taxpayers perceive that electronic filing is easy to navigate as well as less complex, there is a high chance for many taxpayers to use it often (Agarwal & Prasad, 2000, as cited by Mustapha & Obid, 2015). As stated by Ibrahim et al. (2020), the invention of Big Data helps tax officials in maintaining taxpayers information in the e-Filing system. Big Data makes it possible to collect and computationally analyze very huge data sets. The electronic filing system makes it possible for tax officials to easily analyze a huge amount of taxpayers information.

According to the findings of Prastiwi and Rahayu (2021), it indicates that the perceived usability of the electronic filing system has a positive and significant impact on the level of taxpayer compliance. Additionally, taxpayer behavioral intention can mediate the relationship between perceived ease of use and level of compliance by influencing both the relationship between perceived usefulness and compliance. These findings suggest that perceptions of taxpayers and their intent to behave as taxpayers play a significant role in raising the level of tax compliance.

Perceived Usefulness

Perceived usefulness can also influence the taxpayers' perception regarding their usage of the e-Filing system. Taxpayers focus on the benefits the e-Filing system can give. Furthermore, this can be observed through the level of trust the taxpayers are willing to give in using the e-Filing system. If the e-Filing system is beneficial and useful to taxpayers, the tendency for them to continue to use the system is expectedly high (Kurniawan & Setiawan, 2018, as cited by, Prastiwi & Rahayu, 2021). Intention to utilize the e-Filing system is significantly influenced by risk, social influence, and performance expectancy. Furthermore, the researchers discovered that these characteristics had varied effects on

users and non-users' intents, necessitating the deployment of distinct tactics to change their intention to use electronic filing. It is concluded by suggesting that, in order to increase the intention of usage and acceptance of e-Filing systems, both administrative and technical difficulties should be taken into account. (Chimilila et al., 2019). Moreover, there is an online tax filing system because the manual tax payment procedure is complicated and time-consuming. Therefore, it is anticipated that the e-Filing system will be more effective and efficient (Rahman & Mayasari, 2015).

According to Ilias et al. (2009), there is no difference in taxpayers' attitudes toward the e-Filing system. As Ambali (2009) observed, the user's intention to use e-filing is significantly influenced by their gender. Their findings show that males have lower perceived usefulness than females and that both genders have a positive perception on the usefulness of e-filing of their tax returns. Furthermore, according to multi-group analysis, gender has a significant effect on the intention to use the e-Filing system (Sijabat, 2020). Women had a higher regression coefficient value than men (0.498 for men, and 0.370 for women). In other words, perceived usefulness has a stronger influence on women's intention to use than on men.

Perceived Security

Perceived security refers to taxpayers' perceptions of how the e-Filing system uses and maintains their personal data information. Perceived security may influence taxpayers' decision to use an electronic filing system (Loewenstein et. al., 2012, as cited by Purnomo et. al., 2020). For instance, there is a strong likelihood that a taxpayer will refrain from utilizing the BIR's e-Filing system if they believe it poses a risk to their personal data. Additionally, even while taxpayers may find the e-Filing system to be useful and convenient, they may choose to overlook this fact if they have concerns about the security of their personal data (Tan & Foo, 2012, as cited by Purnomo et. al., 2020).

According to Cordero et al. (2015), age has a significant effect on e-Filing system awareness and is also a significant factor in computer and internet literacy. Younger generations are more familiar with updated regulations and e-government services. Likewise, Nawawi et al. (2016) claim that users of e-Filing systems are not absolutely sure that the security system used to protect their information is adequate. If people view electronic tax filing to be particularly unsafe or unsecured, they are quite likely not to file their income tax returns electronically. Furthermore, e-filing will be used only if their concerns and uncertainties are allayed.

According to Ambali (2009), there is a significant difference in the perceived security of male and female e-filers. Their findings indicate that males have a lower level of perceived security than females. Thus, when using the BIR's e-Filing system, female e-filers feel more secure. Furthermore, the study implies that it is one thing to offer a technology system for people to use to speed up service processes, but it is quite another for people to accept and perceive it as something useful, easy, convenient, and improving their situation when compared to the manual form.

Theoretical Framework

Theory of Planned Behavior (TPB)

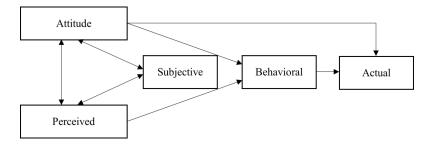


Figure 1. Theory of Planned Behavior (TPB)

This theory proposes that an individual's behavior is best predicted by the intention to engage in a specific behavior. This theory started as the Theory of Reasoned Action (TRA) which was originally propounded by Fishbein and Ajzen (1975). However, due to the TRA's limitation in dealing with people's behavior over which they have incomplete voluntary control, Ajzen modified TRA and developed TPB. In the original model, the determinants of actual behavior which are influenced by intentions are attitude towards the behavior and subjective norms. Due to the modification, Ajzen introduced perceived behavioral control as another determinant of behavioral intention. In other words, this theory explains that behavioral intentions, which lead to actual behavior, are affected by attitude, subjective norms, and perceived behavioral control.

According to Ajzen (1991), the general rule is that the stronger the intention to engage in a behavior, the more likely the performance should be. *Attitude* is defined as the favorable and unfavorable evaluation or assessment of a particular behavior. While the *subjective norm* is the perceived social pressure that influences an individual whether to perform a particular behavior. On the other hand, the perception of how much an individual thinks he or she can control his or her behavior is the *perceived behavioral control*. The TPB three factors can be used directly to predict actual behavior or behavioral achievement (Brookes, 2021).

The TPB is relevant to explain the behavior of tax-payers in utilizing the e-filing of tax returns. A taxpayer will be using the e-Filing system if, through experience and direct observation, the advantages of using it outweigh the disadvantages. Moreover, through direct observation of the behavior of other taxpayers, it increases a taxpayer's intention to engage in utilizing the e-Filing system. A favorable attitude toward e-filing leads to voluntary adoption. When more taxpayers are engaged in e-filing, it could induce a reluctant taxpayer to follow.

Technology Acceptance Model (TAM)

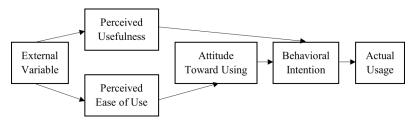


Figure 2. Technology Acceptance Model (TAM)

This theory suggests that the determinants of a user's acceptance of system use or technology are influenced by two beliefs: (1) perceived ease of use, and (2) perceived usefulness. It was introduced by Fred Davis (1989) to explain the relationship between the perceptions of users and the use of technology. Perceived usefulness and perceived ease of use affect the attitude of the individuals which ultimately forms the basis of behavioral intentions (Maji & Pal, 2017). According to Davis (1989), the degree to which an individual expects that using a particular system would improve the performance of his or her job is referred to as perceived usefulness. That is if a potential user believes that their performance on their job will get better increases the likelihood of them using an application. In contrast, perceived ease of use is the degree to which an individual supposes that the use of a system would be without difficulty (Davis, 1989). However, the potential user believes that the difficulty of the use of a system outweighs the performance benefit, even if it is considered useful.

The reason for the adaptation of this theory in this study is that it is relevant in examining the perception of tax-payers, particularly the *perceived ease of use* and *perceived usefulness*, regarding the usage of the e-Filing system. Consequently, *perceived ease of use* is defined as the degree to which a taxpayer perceives how easy it is to use the e-Filing system; while, *perceived usefulness* is the belief of

gaining benefits from using the e-Filing system. Thus, a taxpayer would choose to accept and utilize the e-Filing system depending on their perceptions of these determinants.

Conceptual Framework

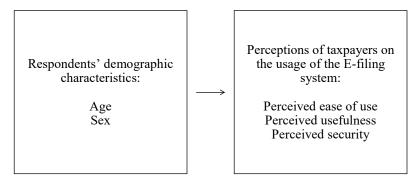


Figure 3. Research paradigm of the study

Figure 3 briefly summarizes the variables that affect the perception of taxpayers on the usage of the e-Filing system. The independent variable illustrated in the framework is the demographic characteristics which will be assessed in terms of age and sex. On the contrary, perceptions on the usage of the e-Filing system is the dependent variable. *Perceived ease of use, perceived usefulness,* and *perceived security* are factors used to describe the perceptions of taxpayers on the usage of the e-Filing system. The arrow line indicates the assumed relationship between independent and dependent variables.

Statement of the Problem

The main objective of this study is to determine the perception of SMEs on the usage of the e-filing system of Bureau of Internal Revenue (BIR).

In light of this major problem, the following specific problems were considered:

- 1. How may the demographic characteristics of taxpayers be described in terms of:
 - 1.1 Age,
 - 1.2 Sex, and
 - 1.3 Years of Using e-Filing?
- 2. How may the taxpayers' perception on the usage of the e-Filing system be described in terms of:
 - 2.1 Perceived ease of use,
 - 2.2 Perceived usefulness, and
 - 2.3 Perceived security?
- 3. Is there a significant difference in the perception of taxpayers in terms of perceived ease of use when their age and sex are considered?
- 4. Is there a significant difference in the perception of taxpayers in terms of perceived usefulness when their age and sex are considered?
- 5. Is there a significant difference in the perception of taxpayers in terms of perceived security when their age and sex are considered?

Hypothesis of the study

 H_{01} : There is no significant difference in the perceived ease of use of taxpayers when their age and sex are considered.

 H_{02} : There is no significant difference in the perceived usefulness of taxpayers when their age and sex are considered.

 H_{03} : There is no significant difference in the perceived security of taxpayers when their age and sex are considered.

Method

Research Locale

The study was conducted specifically in the City of Baliwag in Bulacan. Aside from convenience, proximity, and practicability, the researchers selected the said research locale because it is a home for many prosperous entities ranging from micro to large. Consequently, the City of Baliwag continuously produces numerous taxpayers and is a great contributor of government funds in that Municipality. The researchers chose not to focus on one barangay due to the difficulty in finding qualified prospective respondents; thus, the researchers considered the whole SMEs in the City of Baliwag. This enabled the researchers to do their data gathering, which also allowed the researchers to arrive with reasonable and reliable outcomes.

Research Design

A research design is a strategy for employing empirical data to address the research problem (McCombes, 2021). The research design used in this study is descriptivecomparative. Formplus (2022) define descriptive research as describing a phenomenon. It is used to describe the characteristics of a population by directly examining samples of that population. On the other hand, a process known as comparative research investigates phenomena and then groups them to identify their differences and similarities (MokhtarianPour, 2016, as cited in Dehdashti Shahrokh & Miri, 2019). According to Formplus (2022), in descriptivecomparative research, two non-manipulated variables are taken into account, and a formal process is established to determine which one is better. Moreover, this research design is used in a quantitative research method. Additionally, descriptive-comparative research design is used to seek how SMEs perceive the usage of the e-Filing system, particularly in the *perceived ease of use*, *perceived usefulness*, and *perceived security*. The researchers employed and distributed a questionnaire using Google Forms to SMEs in the City of Baliwag and the data collected were tabulated, analyzed, and interpreted. Thus, this design enabled the researchers to study the variables.

Respondents and Sampling Procedure

The respondents of this study are Small and Medium Enterprises (SMEs), who are using the e-Filing system and whose place of business is in the City of Baliwag. According to the information provided by the Baliwag Investment and Promotions Unit (BIPU), upon request, the City has 357 SMEs as of 2023. The sample size consists of 189 SMEs who are using the e-Filing system of BIR. To produce more accurate results and due to difficulty in finding respondents that qualify the criteria, the researchers used selected sampling to choose the respondents. Selected sampling is a non-probability sampling technique which involves choosing participants whose expertise and knowledge are aligned with the study. Moreover, the selected respondents are easy to reach and willing to participate. The respondents were found by the researchers in the most accessible locations.

However, out of the total sample size, the researchers were only able to gather 11 qualified respondents. Additionally, the researchers found out that most SMEs in the City of Baliwag are still using the traditional method –the manual filing of tax returns. Below is the summary per barangay of the 11 qualified respondents.

Place of Business (Barangay)	Number of Respondents	Percentage
Bagong Nayon	3	27.3
Pinagbarilan	1	9.1
Poblacion	1	9.1
Tangos	1	9.1
Tarcan	1	9.1
Unknown	4	36.4
Total	11	100.0

Research Instruments

The instrument used in this study is a survey questionnaire. Since this study was descriptive-comparative, then the instrument to be used should measure the direction and magnitude of the difference of the variables. The questionnaire consists of a demographic identification part and 30 statements that are evenly distributed into three parts, namely: perceived ease of use, perceived usefulness, and perceived security. A four-point Likert Scale is ideal to use as it will measure and determine the equivalent rating of the results. This scale will enable respondents to rate the items on a level of agreement: Strongly Agree, Agree, Disagree, and Strongly Disagree. The instrument came from various studies. It was modified in the way that several of the questions were changed and/or reworded to make them more appropriate to the study.

The survey questionnaire was divided into two major parts:

The first part of the questionnaire is the demographic characteristics which consist of age, sex, and years of using the e-Filing system. The interval classes for age were based on generations, namely: Generation Z, Millennials, Generation X, and Baby Boomers.

The second part, which is subdivided into three parts. is the taxpayers' perception on the usage of the e-Filing system. Perceived ease of use, perceived usefulness, and perceived security are the factors used to measure the perception of SMEs. Perceived ease of use and perceived usefulness were adapted from a study conducted by Fred Davis, entitled: "User Acceptance of Information Technology: System Characteristics, User Perceptions and Behavioral Impacts". *Perceived security* is adapted from three studies with titles of "The Adoption of Cloud Computing as Complementary Work in the Private Sector," "Perceived Security, Subjective Norm, Self-efficacy, Intention, and Actual Usage Towards E-Payment Among UPM Students" and "Measuring Perceived Security in B2C Electronic Commerce Website Usage: A Respecification and Validation," which were conducted by Arreola and Martin (2022), Jusoh and Jing (2019), and Hartono, Holsapple, Kim, Na, and Simpson (2014), respectively.

Data Gathering Procedures

The first step the researchers took was to obtain approval from the College Dean of Business Administration and Accountancy to conduct the study. Upon the College Dean's approval, the researchers proceeded with sending a formal letter of request to the Municipality of City of Baliwag to obtain a list of registered SMEs. Upon approval, the Baliwag Investment and Promotions Unit (BIPU) sent the said list by electronic mail. The researchers then proceeded with sending a formal letter to the list of registered SMEs. with email addresses, the link for the survey questionnaire. The survey questionnaire used to collect pertinent data from qualified respondents is in the form of Google Forms. Giving the prospective respondents a few days to answer the questionnaire, the researchers managed to gather two responses. This way of gathering respondents and the difficulty of qualification forced the researchers to go from store to store and ask a few necessary questions around the City of Baliwag. From 357 SMEs around the City, the researchers obtained 11 qualified respondents.

The researchers began by explaining the purpose and objectives of the research. The following are the ethical considerations during the conduct of the study:

Informed consent. The researchers requested only 10 minutes of the participants' time to complete the research questionnaire. It was written at the beginning of Google forms/questionnaires that respondents have agreed to consent the researchers to collect, record, and analyze their data.

Anonymity and confidentiality. The researchers assured the respondents that their identities together with all the information they provided will be treated with utmost confidentiality and will be used for this purpose only. In the demographic part of the research questionnaire, age, sex, of taxpayers and years of using of the system must be provided as it was used as variables in the study. The respondents are also given the option whether or not to indicate their business name to increase their trust.

Honesty, sympathy, and respect. At the beginning of the process, the researchers made sure that their study would contain credible information. One of the principles that the researchers desire to follow in order to continue the reliability of the study is to give respect and sympathy to their participants. In this way, the participants were able to provide truthful information that researchers need.

Data Analysis and Statistical Treatment

Statistical Package for Social Sciences (SPSS) was used to accurately analyze the gathered data. In analyzing the gathered data, the following statistical treatments were used:

- 1. Frequency and percentage was used to describe the demographic characteristics of the respondents in terms of age and sex.
- 2. Mean and standard deviation were used to describe the variables being studied. Particularly, the number of years of using the e-Filing system, and the respondents' perception in terms of *perceived ease of use, perceived usefulness*, and *perceived security*.
- 3. Kruskal-Wallis Test was used to determine whether there is a significant difference between the independent variables. Particularly, in the perception of respondents' in terms of *perceived ease of use, perceived usefulness,* and *perceived security* across the age group.
- 4. Mann-Whitney Test was used to determine whether there is a significant difference between two independent variables. Particularly, in the sex/gender of respondents' in terms of *perceived ease of use, perceived usefulness,* and *perceived security.*

The researchers used Likert Scale to collect and measure the perception of respondents. To interpret the mean obtained from the respondents' perception on the usage of the e-Filing system in terms of perceived ease of use, perceived usefulness, and perceived security, the following range was used.

Range	Level of Agreement	Interpretation
3.26 - 4.00	Strongly Agree	Very High
2.51 - 3.25	Agree	High
1.76 - 2.50	Disagree	Low
1.00 - 1.75	Strongly Disagree	Very Low

Table 1. Frequency and percentage distribution of respondents according to age group

Age Group	Frequency	Percentage
26 – 41 (Millennials)	5	45.5
42 – 57 (Gen X)	4	36.4
58 – 76 (Baby Boomers)	2	18.2
Total	11	100.0

The distribution of the respondents according to age group is shown in Table 1. Out of the 11 respondents, five (45.5%) have ages from 26 to 41, or millennials. Four (36.4%) have ages from 42 to 57 or Gen X. Meanwhile, only two (18.2%) are from the Baby Boomers with ages from 58 to 76.

Table 2. Frequency and percentage distribution of respondents according to sex

Sex	Frequency	Percentage
Female	7	63.6
Male	4	36.4
Total	11	100.0

Table 2 presents the profile of the respondents in terms of sex. Among the 11 respondents, seven (63.6%) are females while four (36.4%) are males.

Table 3. Mean and standard deviation interpretation for respondents' number of years of using e-filing

	N	Min	Max	M	SD
Number of Years of Using e-Filing	11	1	10	4.91	2.43

Table 3 presents the mean and standard deviation of the respondents' number of years of using e-filing. The results (M = 4.91, SD = 2.43, N > 55) show that the 55 respondents vary in terms of their use of e-filing.

Specifically, there are five (45.5%) respondents who said that they have been using e-filing for five years already. Meanwhile, there is one (9.1%) who answered each of the following: one year, two years, three years, six years, seven years, and ten years. As shown on the table, the minimum number of years is one (1) while the maximum number is ten (10).

Table 4. Mean and standard deviation interpretation of the taxpayers' perception on the usage of the e-filing system in terms of perceived ease of use

Indicators of Perceived Ease of Use	M	SD	Interpretation
Overall, I find the e-Filing system easy to use.	3.73	0.467	Very High
I find the e-Filing system helpful.	3.64	0.505	Very High
The e-Filing system is flexible to interact with.	3.55	0.688	Very High
My interaction with the e-Filing system is clear and understandable.	3.55	0.522	Very High
Learning to operate the e-Filing system is easy for me.	3.45	0.688	Very High
It is easy for me to remember how to perform tasks using the e-Filing system	3.45	0.688	Very High
I find it easy to get the e-Filing system to do what I want it to do.	3.27	0.786	Very High
Interacting with the e-Filing system requires little effort	3.27	0.467	Very High
Interacting with the e-Filing system is uncomplicated.	3.18	0.874	High
It takes little effort to be skillful in using the e-Filing system.	3.18	0.603	High
Overall Mean – Perceived Ease of Use	3.43	0.629	Very High

Table 4 shows the mean and standard deviation of the responses of the taxpayers' perception on the usage of e-Filing system in terms of perceived ease of use. The overall mean of all indicators shows that the respondents have a very high level of perception about the ease of use of this system (M = 3.43, SD = .629, N > 55). It should be noted also that all the indicators received an interpretation of "Very High" except for two: "Interacting with the e-Filing system is uncomplicated" (M = 3.18, SD = .874, N > 55) and "It takes little effort to be skillful in using the e-Filing system" (M = 3.18, SD = .603, N = 11).

Table 5. Mean and standard deviation interpretation of the taxpayers' perception on the usage of the e-filing system in terms of perceived usefulness

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Indicators of Perceived Usefulness	M	SD	Interpretation
Using the e-Filing system improves the quality of the work I do.	3.64	0.505	Very High
The e-Filing system enables me to accomplish tasks quickly.	3.64	0.505	Very High
Using the e-Filing system saves me time.	3.64	0.505	Very High
The e-Filing system supports critical aspects of my job.	3.55	0.522	Very High
Using the e-Filing system increases my productivity.	3.55	0.522	Very High
Using the e-Filing system improves my job performance.	3.55	0.522	Very High
Using the e-Filing system makes it easier to do my job.	3.55	0.522	Very High
Overall, I find the e-Filing system useful in my job.	3.55	0.522	Very High
Using the e-Filing system gives me greater control over my work.	3.36	0.505	Very High
Using the e-Filing system enhances my effectiveness on the job.	3.27	0.467	Very High
Overall Mean – Perceived Usefulness	3.53	0.510	Very High

Table 5 presents the mean and standard deviation of the responses of the taxpayers' perception on the usage of e-Filing system in terms of perceived usefulness. Unlike the previous table, it can be seen here that all indicators of perceived usefulness received an interpretation of "Very High". The overall mean shows that the respondents have a very high level of perception about the usefulness of this system (M = 3.53, SD = .510, N = 11).

Table 6. Mean and standard deviation interpretation of the taxpayers' perception on the usage of the e-filing system in terms of perceived security

Indicators of Perceived Security	M	SD	Interpretation
I believe that the e-filing system has sufficient technical capacity to ensure that the data I send cannot be modified by inappropriate parties.	3.45	0.522	Very High
I believe that the information relating to user and e-payment transactions while using the e-Filing system is secure.	3.36	0.505	Very High
I believe that by using the e-Filing system, I will have the means to prevent the loss of my data.	3.27	0.467	Very High
I believe that the e-Filing system guarantees confidentiality in all matters.	3.27	0.647	Very High
I believe that the e-Filing system will only reach the appropriate parties.	3.27	0.467	Very High
I believe that the inappropriate parties will not be able to view the information I have provided when using the e-Filing system.	3.27	0.647	Very High
I believe that using the e-Filing system will protect my data from theft.	3.18	0.603	High
I believe that the e-Filing system has enough security measures to protect my personal and financial information.	3.09	0.539	High
I believe that I would be free to give out my personal information when using the e-Filing system.	3.09	0.539	High
I believe that using the e-Filing system will prevent unauthorized access to my files.	3.00	0.632	High
Overall Mean – Perceived Security	3.23	0.557	High

Table 6 showcases the mean and standard deviation of the responses of the taxpayers' perception on the usage of e-Filing system in terms of perceived security. Unlike the first two variables, it can be seen here that the overall mean for perceived security (M = 3.23, SD = .557, N > 55) only received an interpretation of "High". This means that there are certain aspects to the e-Filing system that the taxpayers do not completely trust. Specifically, the following indicators received a similar interpretation: "I believe that using the e-Filing system will protect my data from theft" (M = 3.18, SD= .603, N = 11); "I believe that the e-Filing system has enough security measures to protect my personal and financial information" (M = 3.18, SD = .603, N = 11); "I believe that I would be free to give out my personal information when using the e-Filing system" (M = 3.18, SD = .603, N > 55); and "I believe that using the e-Filing system will prevent unauthorized access to my files" (M = 3.18, SD = .603, N = 11).

Table 7. Kruskal-Wallis test results of perception of tax-payers on the ease of use of e-filing across age groups

Variable	Age Group	N	Mean Rank
42 – 5 Perceived Ease of Use	26 – 41 (Millennials)	5	5.90
	42 – 57 (Gen X)	4	6.38
	58 - 76 (Baby Boomers)	2	5.50
	Total	11	

Kruskal Wallis = .104, df = 2, p = .949

A Kruskal-Wallis Test was done to determine whether there is a significant difference in the perception of the respondents on the ease of use of e-filing across the three age groups. A nonparametric test like Kruskal-Wallis is considered more appropriate due to the limitations in the number of respondents.

Results showed that the groups do not significantly differ in terms of their perception on the ease of use $[H(2) = .104, p > .38^3]$. This shows that based on the responses in this study, the age of the taxpayers do not affect their perceived ease of use of the system.

According to the result of Kartikaningdyah and Mahmudah (2020), younger age groups are more familiar with using e-filing services, and the perception of ease of use influences the taxpayers' usage of the e-Filing system. It is also stated that there is a positive and significant influence on different variables used in the study conducted by them.

Table 8. Mann-Whitney test results of perception of male and female taxpayers on the usage of e-filing in terms of perceived ease of use

Variable	Sex	N	Mean Rank	Sum of Rank
	Female	7	6.36	44.50
Perceived Ease of Use	Male	4	5.38	21.50
	Total	11		

Mann-Whitney U = 11.50, Z = -.479, p = .632

A Mann-Whitney Test was done to determine whether there is a significant difference in the perception of the male and female respondents on the ease of use of the e-Filing system. This nonparametric test is a more appropriate method to compare the two groups based on the number of respondents.

Results showed that the male and female taxpayers do not significantly differ in terms of their perception on the ease of use [U = 11.50, Z = -.479, p = .632]. This shows that based on the responses in this study, the sex of the taxpayers does not affect their perceived ease of use of the system. This is further supported by Ilias et al. (2009), where there exists no significance in the attitude of the taxpayers toward the

usage of e-filing and their gender with a significance level of 0.219. In other words, the attitude of taxpayers regarding the usage of e-filing is the same, regardless of gender.

Table 9. Kruskal-Wallis test results of perception of taxpayers on the perceived usefulness of e-filing across age groups

Variable	Age Group	N	Mean Rank
Perceived Usefulness	26 – 41 (Millennials)	5	6.00
	42 – 57 (Gen X)	4	6.00
	58 – 76 (Baby Boomers)	2	6.00
	Total	11	

Kruskal Wallis = .000, df = 2, p = 1.000

A Kruskal-Wallis Test was again done to determine whether there is a significant difference in the perception of the respondents on the usefulness of e-filing across the three age groups.

Results showed that the groups do not significantly differ in terms of their perception on the usefulness of the system [H(2) = .000, p > 5.444]. In fact, the mean ranks of the three groups were found to be equal with each other. This shows that based on the responses in this study, the age of the taxpayers do not affect their perceived usefulness of the system.

Contrastly, the findings of the research conducted by Chavez, et. al. (2015), there is a significant difference of 0.008 in the perception of the usefulness of the system across the age group. Younger e-filers are more well-informed about the use of technologies and new tax regulations provided by the government. Therefore, the e-Filing system of the BIR is more useful to them. On the other hand, older e-filers are more inclined to the manual filing of taxes. Thus, they continue using the manual filing of taxes.

Table 10. Mann-Whitney test results of perception of male and female taxpayers on the usage of e-filing in terms of perceived usefulness

Variable	Sex	N	Mean Rank	Sum of Rank
	Female	7	6.14	43.00
Perceived Usefulness	Male	4	5.75	23.00
	Total	11		

Mann-Whitney U = 13.00, Z = -.193, p = .847

A Mann-Whitney Test was again done to determine whether there is a significant difference in the perception of the male and female respondents on the usefulness of the e-filing system.

Results showed that the male and female taxpayers do not significantly differ in terms of their perception on the system's usefulness [U=13.00, Z=-.193, p=.847]. This shows that based on the responses in this study, the sex of the taxpayers does not affect their perceived usefulness of the system. This is supported by Ilias et. al. (2009) when there exists no difference in the taxpayers' attitude toward using the e-Filing system.

As opposed to the study conducted by Ambali (2009), when the role of gender in the user's intention to use e-filing is significant. Their findings show that the degree of perceived usefulness for males is lower than their female counterparts, and that, in using e-filing for their tax returns, both genders have positively perceived its usefulness. In addition, gender has a significant effect on the intention to use e-filing according to multi-group analysis (Sijabat, 2020). The value of the regression coefficient was higher in women than in men (0.498 for men, and 0.370 for women). In other words, perceived usefulness influences the intention to use more strongly in women than in men.

Table 11. Kruskal-Wallis test results of perception of tax-payers on the perceived security of e-filing across age groups

Age Group	N	Mean Rank
26 – 41 (Millennials)	5	5.60
42 – 57 (Gen X)	4	5.88
58 – 76 (Baby Boomers)	2	7.25
Total	11	
	26 – 41 (Millennials) 42 – 57 (Gen X) 58 – 76 (Baby Boomers)	26 – 41 (Millennials) 5 42 – 57 (Gen X) 4 58 – 76 (Baby Boomers) 2

Kruskal Wallis = .401, df = 2, p = .818

Another Kruskal-Wallis Test was done to determine whether there is a significant difference in the perception of the respondents on the security of e-filing across the three age groups.

Results showed that the groups do not significantly differ in terms of their perception on the system's security [H (2) = .401, p > . 2 5 2]. This shows that based on the responses in this study, the age of the taxpayers do not affect their perceived security of the e-Filing system. As opposed to these findings, according to Cordero et al. (2015), age has a significant effect on the level of awareness of the e-filing system, and is also a great factor in computer and internet literacy. Younger age groups are more familiar and knowledgeable about updated regulations and e-government services. Similarly, Nawawi et. al. (2016) state that users of e-Filing systems are not confident that the security system used for such is not enough to protect their information. Furthermore, the use of e-filing is only likely if their worries and uncertainties are alleviated.

Table 12. Mann-Whitney Test Results of Perception of Male and Female Taxpayers on the Usage of e-Filing in terms of Perceived Security

Variable	Sex	N	Mean Rank	Sum of Rank
Perceived Security	Female	7	5.50	38.50
	Male	4	6.88	27.50
	Total	11		

Mann-Whitney U = 10.50, Z = -.695, p = .487

Another Mann-Whitney Test was done to determine whether there is a significant difference in the perception of the male and female respondents, this time on the level of security of the e-Filing system.

As shown in the table, male and female taxpayers do not significantly differ in terms of their perception of security [U > 54.94, Z > -.695, p = .487]. This shows that based on the responses in this study, the sex of the taxpayers does not affect their perceived security of the system.

The study conducted by Ambali (2009) stated otherwise. The perceived security of male and female e-filers has a significant difference. Their findings show that the degree of perceived security for males is lower than for their female counterparts. Therefore, female e-filers have a higher sense of security in using the e-filing system of BIR.

Conclusions

Due to the existence of COVID-19, and all other implications that come with it, social distancing, limited capacities on establishments, and all other health protocols, it has been quite laborious to submit taxes physically. An increase in the usage of electronic payment channels should have been an expectation. Thus, the researchers wanted to measure the taxpayers' level of perception towards the usage

of the e-Filing system of BIR. Unfortunately, various difficulties arose while conducting the study. One of these difficulties is the lack of qualified respondents in the locale of the study, which is the Baliwag City. It could be concluded that despite digitalization and technological advancements present, most taxpayers still prefer the manual filing of taxes.

Based on the findings of the study, the following conclusions are drawn: The SMEs have a very high level of perception about the ease of use and usefulness of the e-Filing system of the BIR, while the perception of security is received only at a high level. The results suggest that BIR's e-Filing system is a valuable tool for SMEs. Users of the online tax system find it useful, although not everyone agrees that using the e-Filing system is uncomplicated. Other users also think they need to exert effort to be skilled in using the system. Furthermore, there were various aspects of the online system's security that the users were not very confident about, which shows that there was still a lot of room for further improvements in security measures.

There is no significant difference in the perception of the respondents on the ease of use of e-filing across the age groups. Thus, there is evidence to accept the null hypothesis. Additionally, there is also no significant difference in the perception of the male and female respondents on the ease of use of the e-Filing system. Hence, there is evidence to accept the null hypothesis.

The perception of the respondents on the usefulness of e-filing across the age groups indicates no significant difference. Thus, there is evidence to accept the null hypothesis. Furthermore, there is also no significant difference in the perception of the male and female respondents on the usefulness of the e-Filing system. Therefore, there is evidence to accept the null hypothesis.

There is no significant difference in the perception of the respondents on the security of e-filing across the age groups. Thus, there is evidence to accept the null hypothesis. Moreover, the perception of the male and female respondents on the security of the e-Filing system shows no significant difference. Thus, there is evidence to accept the null hypothesis.

Recommendations

The purpose of the study is to determine the perceptions of SMEs in the usage of the e-Filing system of the BIR. Based on the conclusions drawn from the study, the following recommendations are suggested:

- 1. The responsible officer/practitioner in a Small and Medium Enterprises (SMEs) are encouraged to work closely with the BIR, especially in utilizing the e-Filing system. SMEs should further try to utilize the e-Filing system since it offers a lot of benefits for its users. e-filing has proved to be an essential tool for SMEs, thus, continued usage is recommended. Furthermore, in order to ensure accurate tax filing, they should also keep themselves informed of any new BIR laws and regulations pertaining to online tax compliance.
- 2. For taxpayers, it is advisable for them to try using the Electronic Filing and Payment System of the BIR and maximize the flatform to their advantage, regardless of their requirement of use, since it is only optional for other taxpayers. In order for the BIR to improve the e-Filing system and offer a better security system, they can also provide feedback on how secure they feel when using it.
- 3. Certified Public Accountants (CPAs) and other Tax Practitioners may add the e-filing of tax returns to the services they offer to their clients. Thus, makes its filing timely and accurately and which, as a result, might increase the trust of their clients. In addition, they may continue to educate themselves on BIR and other

- government agency updates on the filing of their taxes, especially on updates regarding the e-Filing system.
- 4. Regarding the upgrades in submitting taxes electronically, BIR and other pertinent government agencies may focus on offering a wide range of information dissemination through publishing to online websites and local platforms. They may also hold seminars and training to assist SMEs in becoming more knowledgeable about electronic filing. Finally, for the organization to provide better security and clearly convey its goals and intentions to users, BIR must concentrate on enhancing its network control system. BIR may make periodic system improvements to ensure that SMEs may continue utilizing it and have confidence in the security of their data.
- 5. Future researchers are advisable to seek for a wider range of population and locale to gather different and new information than the existing one.

References

- Abu Hassan, N. S. B., Ramli, R. B., & Yunus, N. B. (2017, April). TAX PENALTIES AND TAX COMPLIANCE OF SMALL MEDI-UM ENTERPRISES (SMEs) IN MALAYSIA. International Journal of Business, Economics and Law. https:// ijbel.com/wp-content/uploads/2017/07/ACC-342.pdf
- BearingPoint Caribbean. The Importance of Taxation. (2021, August 30). https://www.bearingpointcaribbean.com/blog/the-importance-of-taxation/
- Bureau of Internal Revenue. (n.d.) eFPS FAQ. https://efps.bir.gov.ph/eFPSFAQ.html
- CFI Team. (2021, January 28). Electronic Filing Overview, Benefits, and Limitations. Corporate Finance Institute. https://corporatefinanceinstitute.com/resources/knowledge/accounting/electronic-filing/
- Chimilila, C., Kimea, A., & Sichone, J. (2019, August). Analysis of Taxpayers' Intention to Use Tax E-Filing System in Tanzania: Controlling for Self-Selection Based Endogeneity. African Journal of Economic Review, 07(2), 193–212. https://doi.org/10.22004/ag.econ.292372
- Cottrell, S. (2023, January 28). A Year-by-Year Guide to the Different Generations and Their Parenting Personalities, From Boomers to Gen Z. Parents. https://www.parents.com/parenting/better-parenting/style/generation-names-and-years-a-cheat-sheet-for-parents/
- Department of Finance. (2020, June 30). E-filers comprise 58 percent of total tax filers in 2019. https://www.dof.gov.ph/e-filers-comprise-58-percent-of-total-tax-filers-in-2019/
- Formplus. (2022, July 27). Descriptive Research Designs: Types, Examples & Methods. https://www.formpl.us/

- blog/descriptive-research
- Grant Thornton. (2021, January 26). Revisiting the manner of tax filings and payment. https://www.grantthornton.com.ph/insights/articles-and-updates1/lets-talk-tax/revisiting-the-manner-of-tax-filings-and-payment/?fbclid=IwAR126gRszUvoy_f_fECVYex9AdMKPNKhzw1oA50yR0gJm77HuX8jUlFcIiI
- Guo, Y., Li, X., Shao, Z., Zhang, L. (2018, December 21). Antecedents of trust and continuance intention in mobile payment platforms: the moderating effect of gender: the moderating effect of gender. Electronic Commerce Research and Applications. https://sci-hub.se/10.1016/j.elerap.2018.100823
- Gupta, S., Kumar, S. (2017, March 30). A STUDY ON INCOME TAX PAYERS PERCEPTION TOWARDS ELECTRONIC FILING. The Journal of Internet Banking and Commerce, 2017, 1-14. https://www.icommercecentral.com/openaccess/a-study-on-income-tax-payers-perception-towards-electronic-filing.php?aid=85520
- Hambali, A. J. H. (2020, July 31). The success of e-filing adoption during Covid 19 pandemic: The role of collaborative quality, user intention, and user satisfaction. Journal of Economics, Business, & Accountancy Ventura, 23(1), 57-68. https://pdfs.semanticscholar.org/d931/f589565dc7ac1bee051dcf16db4cf6a5e735.pdf
- Hartono, E., Holsapple, C., Kim, K. Y., Na, K. S., Simpson, J. (2014). Measuring perceived security in B2C electronic commerce website usage: a respecification and validation. Elsevier Decision Support Systems, 62, 11-21. http://modir3-3.ir/article-english/t565.pdf
- Ibrahim, M., Ismail, I., Sani, U., Shaharuddin, S., Shahroni, N. (2020, October 1). The Effect of Trust and Ease of Use of E

- -filing on Tax Compliance in the Era of Big Data Analytics. https://eudl.eu/pdf/10.4108/eai.1-10-2020.2305611#:~:text=Perceived%20ease%20of%20use%20is,result%20to%20be%20more%20compliance
- Ilias, A., Razak, M. Z. A., & Yasoa, M. R. (2009, April). Taxpayers' Attitude in Using e-Filing System: Is There Any Significant Difference Among Demographic Factors? www.academia.edu/98361134/Taxpayers_attitude_in_using_e_Filing_system_Is_there_any_significant_difference_among_demographic_factors
- Jing, T. Y., Jusoh, Z. M. (2019). Perceived security, subjective norm, self-efficacy, intention, and actual usage towards e-payment among upm students. Journal of Education and Social Sciences, Vol. 12, Issue 2. https://www.jesoc.com/wp-content/uploads/2019/04/KC12_016.pdf
- Kartikaningdyah, E., & Mahmudah, N. (2020, January). The Effect of Perception of Utilization, Perception of Easy of Use and Taxpayer Satisfaction on E-Filing Use by Tax Payer. ReasearchGate. https://www.researchgate.net/publication/343842915_The_Effect_of_Perception_of_Utilization_Perception_of_Easy_of_Use_and_Taxpayer_S atisfaction_on_E-Filing_Use_by_Tax_Payer
- Laforga, B. (2021, June 03). Online filing rate for tax returns nearly 100% during pandemic. BusinessWorld Online. https://www.bworldonline.com/economy/2021/06/03/373306/online-filing-rate-for-tax-returns-nearly-100-during-pandemic/
- Luximon, Y., Song, Y., Zhang, J. (2019, December 2). The role of consumers' perceived security, perceived control, interface design features, and conscientiousness in continuous use of mobile payment services. MDPI. https://www.mdpi.com/2071-1050/11/23/6843

- Maji, S. K. & Pal, K. (2017, September). Factors Affecting the Adoption of e-Filing of Income Tax Returns in India: A Survey. ResearchGate. https://www.researchgate.net/publication/315642164_Factors_Affecting_the_Adoption_of_e-Filing_of_Income_Tax_Returns_in_India_A_Survey
- McCombes S. (2021, June). What Is a Research Design | Types, Guide & Examples. Sribbr. https://www.scribbr.com/methodology/research-design/
- Miri, S. & Dehdashti Shahrokh, Z. (2019). A Short Introduction to Comparative Research. ResearchGate. https://www.researchgate.net/publication/336278925_A_Short_Introduction_to_Comparative_Research
- Nawawi, A., Puteh Salin, A. S. A. and Saibon, N. (2016, December). E-filing Acceptance by the Individual Taxpayers A Preliminary Analysis. Journal of Administrative Science. 13. 1-14. https://www.researchgate.net/publication/315794835_E-filing_Acceptance_by_the_Individual_Taxpayers_-_A_Preliminary_Analysis
- Paramashivaiah, P., Puttaswamy and Ramya, S.K. (2019, March). A study on assessees' perception towards e-filing of income tax returns. Finance India: the quarterly journal of Indian Institute of Finance, 33(1), . http://financeindia.org/data/2019/FI331/FI-331-Art03.pdf
- Prastiwi, D., & Rahayu, S. (2021). The Effect of Perceived Ease of Use and Usefulness of e-Filing on Taxpayers' Compliance: Taxpayer Behavioral Intention as a Mediating Variable. https://ijebmr.com/uploads/pdf/archivepdf/2021/IJEBMR_764.pdf
- Purnomo, W. E., Riyadh, H. A., Sofyani, H., Tahar, A. (2020, August 10). Perceived ease of use, perceived usefulness, perceived security and intention to use e-Filing: the role of technology readiness. Research Gate. https://

www.researchgate.net/publication/344697124_ Perceived_Ease_of_Use_Perceived_Usefulness_ Perceived_Security_and_Intention_to_Use_E-Filing_The_Role_of_Technology_Readiness

- Putri, P. Y. A., & Saputra, K. A. K. (2022, July). Use of the E-Filing System by MSME Actors during the COVID-19 Pandemic. Journal of Economics, Finance and Management Studies, 5(07), 1975–1982. https://doi.org/10.47191/jefms/v5-i7-16, Impact Factor: 6.274
- Sijabat, R. (2020, March). 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. https://doi.org/10.22146/jsp.52770
- Zamzami, A. H., & Putra, Y. M. (2019, December 13). Intensity of Taxpayers Using E-Filing (Empirical Testing of Taxpayers in Jakarta, Bogor, Depok, Tangerang, and Bekasi). Intensity of Taxpayers Using E-Filing (Empirical Testing of Taxpayers in Jakarta, Bogor, Depok, Tangerang, and Bekasi) by Annisa Hakim Zamzami, Yananto Mihadi Putra:: SSRN. https://papers.ssrn.com/sol3/papers.cfm? abstract_id=3493951