INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
Online ISSN: 3028-032X | Print ISSN: 3028-0370
PUBLISHED BY: RISEJOURNALS.ORG
Volume 2, Issue no. 5 | **814**

Benefits and Challenges Encountered by Business Taxpayers in Using the Bureau of Internal Revenue Electronic Filing and Payment System (BIR e-FPS)

DOI: 10.5281/zenodo.15530958

Evelyn M. Gelantaga-an
Carlos Hilado Memorial State University, Fortune Towne,
Sofia Gonzaga St., Brgy. Estefania, Bacolod City, Negros Occidental, Philippines

Abstract

This study assessed the advantages and difficulties business taxpayers faced when utilizing the Bureau of Internal Revenue Electronic Filing and Payment System (BIR e-FPS) at Revenue District Office 76 (RDO 076), Negros Occidental. It also looked at whether there were any notable variations in the perceived advantages and difficulties according to sex, age, business type, and length of e-FPS use, as well as whether there was a correlation between the two. A total of 152 purposefully chosen business taxpayers participated in the descriptive-correlational study design. The mean, one-way ANOVA, t-test, and Pearson's r correlation were used to analyze the data. According to the results, users benefited greatly from the e-FPS, especially in terms of simplicity in filing, ease of payment, less paperwork, and increased accuracy. Benefits that prioritized efficiency and taxpayers were rated highest. Digital literacy, data quality, and unclear regulations were all rated as very challenging, while technical issues like system glitches and outages were rated as highly challenging. Age and business type were found to have a significant impact on perceived benefits. Benefits were higher for non-individual businesses and younger taxpayers (those under 35). There was no discernible sex-based difference. Higher perceived benefits were linked to fewer challenges, according to a significant negative correlation between the degree of challenges and the extent of benefits. The majority of taxpayers still recognized the benefits of e-FPS in spite of the challenges, acknowledging its legal mandate and role in effective tax compliance. The study suggests system upgrades to improve user experience and inclusivity.

***Keywords**:* benefits, challenges, e-services, e-filing and payment system, bureau of internal revenue

Introduction:

During tax filing season, many people still use the traditional method, which involves filling out forms manually or with a typewriter and submitting them to tax offices. This process is time-consuming and inefficient. Because of this, the government introduced tax reforms to improve compliance, reduce corruption, and enhance public service delivery (Montano & Sayson, 2023). According to critics like Roda (2015) and Besario (2023), the outdated method leads to government revenue losses.

To address these issues, the government launched the Electronic Filing and Payment System (eFPS) in June 2001, under Republic Act 8792. This was part of the E-Commerce Law of 2000, which aimed to make public transactions easier through the internet (De Castro, 2015). With eFPS, taxpayers can file and pay their taxes anytime and anywhere, reducing the need for paper-based processes. By 2002, it was already being used by large businesses and individual taxpayers. The system was praised for being fast, easy, secure, and accessible (Roda, 2015).

However, digital tax collection still faces challenges. According to bir.gov.ph, only 55.6% of potential tax revenues were collected, showing that many taxpayers remain non-compliant. This has been linked to poor transparency, weak enforcement, and low audit capacity at the Bureau of Internal Revenue (BIR), which in turn fuels corruption and collusion (Montano & Sayson, 2023).

Paco and Quezon (2022) found that slow internet and unreliable payment systems discouraged taxpayers. Some questioned how the government uses tax funds, which also discouraged compliance. Others felt that digital systems made things harder rather than easier. Montano and Sayson (2023) added that many taxpayers and even BIR staff lacked the necessary digital skills, while resistance to change and poor infrastructure created more problems. Cybersecurity and data privacy concerns added to users' hesitation. Angeles (2021) observed that many small and medium-sized business owners were unfamiliar with the eFPS, while De Castro and Cordero (2015) reported frequent errors in the system, which made people hesitant to use it.

Despite these challenges, Montano and Sayson (2023) highlighted several strengths of eFPS: quick staff assistance, responsive service, effective communication, convenient office access, and clear explanation of procedures. Regardless of these pros and cons, all businesses must follow tax laws, secure permits, and comply with regulations. Doing so avoids penalties and helps businesses run more efficiently.

This study focuses on the benefits and challenges experienced by taxpayers in using the Bureau of Internal Revenue's (BIR) Electronic Filing and Payment System (eFPS) in Northern Negros Occidental. The eFPS was created to make tax filing faster, easier, and more efficient by allowing taxpayers to file and pay online. While the system has helped improve convenience, reduce paperwork, and increase transparency, many users still face problems such as slow internet, technical errors, limited digital skills, and concerns about data security.
The study is guided by the Technology Acceptance Model (TAM), which explains how people accept and use technology based on how useful and easy it is to use. It examines how taxpayer characteristics like sex, age**,** business type, and length of eFPS use affect their experience.

The study aims to measure the extent to which taxpayers benefit from using the BIR Electronic Filing and Payment System (eFPS) and to identify the challenges they encounter while using the system. It also seeks to determine whether these benefits and challenges vary based on different taxpayer profiles, such as sex, age, type of business, and length of system use. Additionally, the study investigates the relationship between the benefits experienced and the challenges faced by the users. Finally, based on the findings, the study proposes an action plan to help improve the eFPS and make it more efficient and user-friendly for taxpayers.

This research is important for BIR officers, taxpayers, the researcher, and future researchers, as it can help improve digital tax services and guide further studies. The study is limited to RDO 76, Northern Negros Occidental, with 290 participants, and was conducted during the second semester of the academic year 2024–2025.

Literature Review:

The Bureau of Internal Revenue's (BIR) Electronic Filing and Payment System (e-FPS) in the Philippines has been widely studied due to its relevance in promoting digital transformation in public service, particularly in the area of taxation. The literature reviewed focuses on several key areas: system efficiency, user satisfaction, accessibility, technical challenges, data security, and regulatory issues.

Several studies highlight the efficiency and convenience of the e-FPS as a primary benefit to taxpayers. Sapitula, Manalo, and Rodriguez (2021) emphasize that the system has significantly improved the speed and ease with which tax returns can be filed and paid, eliminating the need for manual paperwork and long queues at BIR offices. This efficiency not only benefits individual taxpayers and businesses but also enhances the BIR's operational capabilities by reducing manual errors and allowing for faster processing and validation of data (Buenviaje, Mendoza, & Panganiban, 2021). Similarly, Amin, Abdullah, and Rahman (2023) explain that such digital innovations reflect a global trend toward more transparent and accountable public administration.

User satisfaction, however, remains mixed and depends on the taxpayers' experience with the platform. Soriano and Guevara (2022) conducted a usability study that found many users appreciate the system's potential for convenience, but often encounter issues that negatively affect their satisfaction. For example, first-time users or small business owners tend to struggle with the system's interface due to a lack of digital literacy and inadequate instructional support. Aparece, Gumba, and Manansala (2023) also found that many taxpayers in Eastern Visayas experience dissatisfaction during peak periods due to technical issues such as system lags or downtimes. These findings highlight the need for improvements in both system design and user support services.

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
Online ISSN: 3028-032X | Print ISSN: 3028-0370
PUBLISHED BY: RISEJOURNALS.ORG
Volume 2, Issue no. 5

Accessibility is another major concern. Darmawan, Hartono, and Sari (2021) note that while e-filing adoption is growing in urban areas, taxpayers in remote or underdeveloped regions face barriers due to limited internet access and low digital skills. This digital divide creates inequality in service delivery and tax compliance. Ronda, Dequito, and Villanueva (2023) add that marginalized groups, such as micro-entrepreneurs and rural taxpayers, are particularly disadvantaged, which undermines the government's goal of inclusive digitalization.

The literature also emphasizes technical and cybersecurity challenges. De Vera (2021) and Batomalaque (2020) both point out that the e-FPS system frequently encounters technical issues such as server crashes, delayed uploads, and system incompatibilities with certain browsers or devices. These issues often lead to late submissions or incomplete filings, exposing taxpayers to penalties. Moreover, the security of taxpayer information is an ongoing concern. Adu, Asante, and Mensah (2022) argue that users' trust in the system is strongly influenced by their perception of data protection and cybersecurity. Weak encryption, data leaks, or hacking threats can erode trust and discourage usage of the system.

Finally, regulatory and policy limitations also affect the success of the e-FPS. Batomalaque (2020) points out that outdated tax codes and a lack of clear, updated guidelines for electronic compliance make it difficult for some users to understand their responsibilities. Furthermore, inconsistencies in policy enforcement and lack of integration with other government platforms create confusion and administrative burdens, especially for small businesses.

The literature collectively shows that while the BIR e-FPS has made important strides in promoting digital tax compliance in the Philippines, several barriers still hinder its full effectiveness. These include usability issues, limited accessibility, technical and cybersecurity challenges, and regulatory gaps. Addressing these areas through system upgrades, expanded digital education, better infrastructure, and clearer policies will be essential to improving both user satisfaction and compliance rates.

Methodology

Research Design

This study used a descriptive-correlational research design, which is appropriate for examining current conditions and identifying relationships between variables without manipulating them. Descriptive research allowed the researcher to observe, describe, and record the benefits and challenges experienced by taxpayers using the BIR Electronic Filing and Payment System (eFPS) as they naturally occur. Specifically, it measured the extent of benefits in areas such as taxpayer focus, efficiency, transparency and accountability, and security and reliability, as well as challenges related to technical issues, user accessibility, data security, and regulatory compliance. Meanwhile, the correlational part of the study helped determine the strength and direction of the relationship between these benefits and challenges, identifying whether a significant connection exists between them. This combined approach provided a comprehensive understanding of how users experience the eFPS system.

Participants of the Study

The participants of the study are the 290 business owners under Revenue District Office located in the northern part of the Province of Negros Occidental. They are classified as individual business (sole proprietors) and non-individual business (owners of partnership or corporations). The participants were chosen based on the single factor, that is they are users of the BIR e-FPS. The number of participants were chosen using the Yamane's formula with a margin of error of 0.05 from the population.

Table 1
Distribution of Samples

Types of Taxpayers	N	%	n
Individual Business Taxpayers	650	64	187

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
Online ISSN: 3028-032X | Print ISSN: 3028-0370
PUBLISHED BY: RISEJOURNALS.ORG
Volume 2, Issue no. 5

Non-Individual Business Taxpayers	415	36	103
Total	1065	100	290

Research instrument

This study used a researcher-made survey questionnaire with three parts. The first part asked about the participants' business profile, including their sex, age, type of business ownership, and how long they have been using the BIR e-FPS for filing and paying taxes. The second part measured how beneficial the BIR e-FPS is, focusing on four areas: taxpayer-focused, efficiency-focused, transparency and accountability-focused, and security and reliability-focused. This part used a 4-point Likert scale to rate the extent of the benefits. The scale shows how much the participants agree with the benefits of using BIR e-FPS as a new filing system.

Code	Verbal Interpretation	Verbal Description
4	Very Great Extent	The use of EFPS is highly beneficial to taxpayers in paying taxes
3	Great Extent	The use of EFPs is very beneficial to taxpayers in paying taxes
2	Low Extent	The use of EFPs is slightly beneficial to taxpayers in paying taxes
1	Never	The use of EFPs is not beneficial to taxpayers in paying taxes

The third part was intended to determine the level of challenges encountered by the participants in EFPS in terms of technicality, user-accessibility, data security and regulatory challenges. The interpretation of the scale in determining the extent of benefit of e-filing as a tool are as follows:
The survey questionnaire gathered was properly collated, arranged and grouped according to the specific objectives of this study. The data was examined, presented and interpreted according to the specific problems stated at the beginning of the study. Quantitative responses were computed using the statistical Package for social Science (SPSS) analytical tool. In the analysis of data, the following statistical tools were used in accordance with the nature of the problems raised and their corresponding

Code	Verbal Description	Verbal Interpretation
4	Very high level	The use of EFPS is highly challenging to taxpayers in paying taxes
3	High level	The use of EFPs is very challenging to taxpayers in paying taxes
2	Low Level	The use of EFPs is slightly challenging to taxpayers in paying taxes
1	Never	The use of EFPs is not challenging to taxpayers in paying taxes

hypotheses:

For problem 1, data were analyzed using descriptive statistics such as Mean and Standard deviation to determine the extent of benefits on the use of BIR e-FPS such as Taxpayer Focused; efficiency focused, transparency and accountability focused, and security and reliability focused. The mean score was interpreted as follows:

s
For problem 2, data were analyzed using descriptive statistics such as Mean and Standard Deviation to determine the level of challenges encountered on the use of EFPs such as Technicality Focused; User Accessibility Focused; Data Security Focused and Regulatory Focused. The mean scores were interpreted as follows:

Mean Range	Interpretation	Verbal Description
3.50 – 4.00	Very High	The use of EFPS is highly challenging to taxpayers
2.50 – 3.49	High	The use of EFPs is very challenging to taxpayers
1.50 – 2.49	Low	The use of EFPs is slightly challenging to taxpayers
1.00 – 1.49	Never	The use of EFPs is not challenging to taxpayers

For objective 3 and 4, in determining the significant difference in the extent of benefits and the level of challenges faced by taxpayers on the use of BIR e-FPS, the study used the Mann Whitney U Test and the Kruskal Wallis H when grouped according to their business profiles. Field (2013) states that the Mann Whitney U test is a non-parametric statistical test used to compare the medians of two independent samples. The Kruskal Wallis H test was used in testing whether there is a significant difference in the extent of utilization of the use of e-tool when they are grouped according to business profile.

For both statistical tools, a significance level of 0.05 indicates a 5% risk of concluding that a difference exists when there is no actual difference. If the p-value is less than or equal to the significance level, the decision is to reject the null hypotheses. If the p value is greater than the significance level, the decision is to accept the null hypothesis.

For objective 5, the study used the Spearman Rho to determine the significance of the relationship between the extent of benefits and the level of challenges brought about by the use of the use of BIR e-FPS. It can range from -1 to +1 with a value of -1 indicating a perfect negative correlation (which means the hypothesis must be accepted), a value of 0 will indicate no correlation (leading to accepting the hypotheses) while a value of +1 would mean a perfect positive correlation (reject hypothesis).

Validity and Reliability

The questionnaire was validated by at least eleven (11) expert- validators in the field of study using the widely used appraisal of Lawshe content validity method. A validity test is a statistical analysis used to evaluate the validity of the questionnaire and measures what it intends to measure ensuring further that the questions in the instrument are reliable and consistent. Using the Content Validity Ratio (CVR) established by Lawshe in 1975, the score was calculated, with critical value based on the significance level of 0.05. The critical value of the overall survey questionnaire reached 0.985, exceeding the 0.59 minimum CVR of 11 experts. Throughout the process of validity testing, ethical standards were maintained by ensuring voluntary participation and confidentiality.

After the validity test, the questionnaire underwent a reliability test and pre-tested on a group of 30 participants who are taxpayers from Silay City which is outside of the jurisdiction of RDO and not part of the sample size. The survey was taken twice on the same group. The reliability of the research instrument was determined using Cronbach's Alpha, a statistical measure that assesses internal consistency. Cronbach's Alpha was used to interpret the results with .749 for benefits and .939 for challenges, reaching the acceptable internal consistency and ensuring the research findings' reliability.

Results and Discussion:

This chapter presents, analyzes, and interprets the data gathered on the level of benefits and the extent of challenges experienced by taxpayers in using the Bureau of Internal Revenue (BIR) Electronic Tax Services. The findings are based on the responses of selected taxpayers and aim to provide insights into their experiences, perceptions, and the effectiveness of the system.

The e-FPS provides significant taxpayer-focused benefits, with ease of filing receiving the highest rating ($M=3.71$, $SD=0.49$). Taxpayers appreciate the simplified online tax filing process, which saves time and reduces stress. Payment convenience ($M=3.54$, $SD=0.56$) through multiple digital payment options and improved tax calculation accuracy ($M=3.56$, $SD=0.59$) through automation further enhance user experience. Features such as returns status tracking ($M=3.47$, $SD=0.58$) and personalized dashboards ($M=3.53$, $SD=0.59$) allow taxpayers to monitor filings in real time and manage accounts effectively. These benefits reduce manual errors and make the tax process more transparent and user-friendly. This aligns with Tirole and Choi (2022), who emphasize that digital payment systems and streamlined filing improve compliance and reduce costs. Garcia et al. (2021) also found that automated calculations and status tracking improve taxpayer satisfaction by increasing transparency and reducing uncertainty.

Efficiency benefits were also rated highly, with reduced paperwork scoring the highest (M=3.65, SD=0.55). Minimizing physical documents lightens administrative burdens on taxpayers and tax authorities alike. Digital record keeping (M=3.55, SD=0.57) makes records more secure and accessible, while data analytics (M=3.53, SD=0.57) supports more informed decision-making in tax administration. Processing speed and automated compliance (M=3.44, SD=0.55) further contribute to smoother and faster operations. These findings reflect how automation and digital tools streamline tax administration, making processes less time-consuming and more accurate. Martinez and Lopez (2021) reported that automation and digital record keeping significantly reduce time and costs in tax systems. Sharma et al. (2020) also support the use of data analytics for better resource allocation and improved tax management, reinforcing the critical role of technology in enhancing efficiency.

Transparency and accountability received slightly lower but still strong ratings, with real-time updates and taxpayer education scoring M=3.36 (SD=0.52) and M=3.36 (SD=0.60), respectively. Taxpayers benefit from accessible online resources and timely information that make the tax process clearer. Transparency in tax calculations (M=3.53, SD=0.56) helps taxpayers understand how their liabilities are computed, building trust in the system. Digital audit trails (M=3.45, SD=0.56) and feedback mechanisms (M=3.38, SD=0.62) enhance accountability by enabling tracking and dialogue between taxpayers and authorities. These results are supported by Kang and Lee (2020), who highlight that timely information and transparency boost taxpayer trust. Lopez and Fernandez (2021) also found that digital audit trails and feedback channels improve transparency and satisfaction, which encourages compliance and better engagement.

Security and reliability benefits were rated with means ranging from M=3.31 to 3.54, with data encryption being the highest (M=3.54, SD=0.56). Taxpayers value the protection of their sensitive data and confidentiality, which is crucial in building confidence in the e-FPS. Compliance with data privacy regulations (M=3.48, SD=0.62) ensures that security practices meet legal standards. Authentication and authorization (M=3.43, SD=0.54), disaster recovery (M=3.39, SD=0.68), and regular system updates (M=3.31, SD=0.59) further support system robustness and continuity. These security features are essential as more transactions move online. Liu et al. (2021) emphasize the importance of strong encryption and privacy compliance for building trust in digital tax systems. Poon and Chan (2020) found that robust authentication reduces data breach risks and increases reliability, while Zhang and Li (2021) highlighted that disaster recovery plans and system updates are critical for maintaining secure operations.

The study also found slight gender differences in perception. Males generally reported higher mean scores across most benefit categories, including taxpayer-focused (M=3.63 vs. 3.54) and efficiency benefits (M=3.66 vs. 3.50). Females, however, rated transparency and accountability slightly higher (M=3.50 vs. 3.47), with both genders perceiving security benefits similarly. These differences could stem from varying familiarity with technology or business processes. Zhang et al. (2020) found that men tend to rate digital service efficiency higher, potentially due to greater technology use. Lee and Kim (2021) observed that while both sexes benefit from transparency and security features, some gaps in perceived ease of use persist.

Business taxpayers aged above 35 reported slightly higher benefits in Taxpayer Focused Benefits (M=3.57, SD=0.36) compared to those 35 and below (M=3.54, SD=0.43). Conversely, younger taxpayers (35 and below) reported slightly higher benefits in Efficiency (M=3.63, SD=0.86) and Security domains (M=3.51, SD=0.38) than older taxpayers (Efficiency M=3.50, SD=0.38; Security M=3.39, SD=0.39). Both groups rated overall benefits as very great (M=3.55, SD=0.29). These results reflect that older taxpayer value ease of filing and transparency, while younger users emphasize efficiency and digital familiarity (Xu & Zhang, 2021; Yu et al., 2020).

Non-individual taxpayers (corporations, partnerships) generally perceived greater benefits across domains than individual taxpayers. For example, in Taxpayer Focused Benefits, non-individuals had M=3.62, SD=0.38 versus individuals M=3.53, SD=0.39. Similar patterns appeared in Efficiency (non-individuals M=3.57, SD=0.38; individuals M=3.53, SD=0.67) and Transparency (non-individuals M=3.48, SD=0.37; individuals M=3.38, SD=0.39). This suggests more complex tax needs for non-individuals require enhanced system features (Zhao et al., 2020; Kim & Lee, 2021).

Newer businesses (<5 years) reported higher benefits across all domains than older businesses (>20 years). For Taxpayer Focused Benefits, newer businesses scored M=3.61, SD=0.36 compared to M=3.47, SD=0.51 for older ones. Efficiency and Transparency benefits followed a similar trend. This may be due to newer businesses' greater familiarity with digital systems (Jiang et al., 2021; Smith & Jones, 2020).

Taxpayers found technical issues very challenging, especially system downtime (M=2.72, SD=0.81), technical glitches (M=2.75, SD=0.79), and legacy system limitations (M=2.74, SD=1.00). Overall technical challenges had M=2.71, SD=0.91. These challenges hinder efficient tax filing and cause frustration (Lee et al., 2021; Zhang & Liu, 2019).

User-related challenges were also very challenging (M=2.75, SD=0.75). Digital literacy (M=2.81, SD=0.81), navigation complexity (M=2.78, SD=0.78), and resistance to change (M=2.78, SD=0.85) were major issues, limiting full use of digital tax services (Lee et al., 2020; Kuo & Chien, 2019).

Data quality (M=2.69, SD=0.95), data analytics (M=2.73, SD=0.96), and security concerns (M=2.63, SD=0.93) were very challenging, reflecting risks in data management and confidentiality (Nguyen et al., 2019; Lu & Wei, 2018; Liu et al., 2020).
Regulatory issues were also very challenging (M=2.77, SD=0.77), with international cooperation (M=2.83, SD=0.92), cybersecurity standards (M=2.79, SD=0.85), and data privacy concerns (M=2.78, SD=0.99) being significant barriers (Al-Hakim et al., 2020; Lisi et al., 2021; OECD, 2020).

The study revealed that business taxpayers, regardless of sex, age, type of business, or length of e-FPS use, experienced very high levels of challenges, especially in technical areas. When grouped by sex, both male and female respondents reported identical technical challenges (M = 4.00, SD = 0.00), indicating a uniform struggle with system-related issues such as downtimes and cybersecurity concerns. Male respondents showed slightly higher mean scores in user-related (M = 2.82, SD = 0.78) and regulatory challenges (M = 2.82, SD = 0.79) compared to females (user-related: M = 2.73, SD = 0.74; regulatory: M = 2.75, SD = 0.77), while data-related challenges were almost the same (male: M = 2.73, SD = 0.89; female: M = 2.68, SD = 0.86). These results imply that sex does not significantly influence the level of challenges experienced, which aligns with Zhang et al. (2020), who found minimal gender differences in the adoption of digital tax systems, and Johnson and Parker (2021), who noted that both male and female taxpayers encounter similar technical and regulatory obstacles.

In terms of age, taxpayers aged 35 and below and those above 35 also reported identical technical challenges (M = 4.00, SD = 0.00). Minor variations were observed in user-related challenges (younger: M = 2.76, SD = 0.84; older: M = 2.75, SD = 0.71), data-related challenges (younger: M = 2.68, SD = 0.84; older: M = 2.69, SD = 0.84), and regulatory challenges (younger: M = 2.72, SD = 0.84; older: M = 2.79, SD = 0.74). This suggests that while technical challenges are universally experienced, older taxpayers may have slightly more difficulty in regulatory compliance, possibly due to familiarity with traditional processes. These results are consistent with Bastian and Chow (2020), who reported that older taxpayers tend to struggle more with system interfaces, and Kim et al. (2021), who noted higher compliance challenges among older users.

When grouped by type of business, both individual and non-individual taxpayers reported identical technical challenges (M = 2.68, SD = 0.84). However, non-individual businesses experienced slightly higher user-related (M = 2.81, SD = 0.79), data-related (M = 2.71, SD = 0.94), and regulatory challenges (M = 2.84, SD = 0.81) compared to individual businesses (user-related: M = 2.72, SD = 0.73; data-related: M = 2.68, SD = 0.83; regulatory: M = 2.73, SD = 0.75). This trend may be due to the complexity and scale of operations in larger businesses, which demand more compliance and technical infrastructure. These findings are supported by Nguyen and Luu (2021), who noted that non-individual businesses tend to encounter greater regulatory and data-related challenges, and Singh and Kumar (2022), who reported that larger businesses face more barriers in digital tax compliance.

Finally, when grouped by the length of business operation, all respondents regardless of experience length reported very high technical challenges (M = 4.00, SD = 0.00). However, those operating for over 20 years encountered the highest user-related (M = 3.04, SD = 0.76), data-related (M = 3.02, SD = 0.98), and regulatory challenges (M = 2.92, SD = 0.83). This suggests that businesses with longer operational histories may struggle more due to outdated systems or complex compliance environments. Businesses operating for 5–10 years also reported considerable user-related (M = 2.85, SD = 0.71) and data-related challenges (M = 2.82, SD = 0.84). These results highlight the need for customized support based on a business's maturity level. This is in line with Alam and Hossain (2020), who found that older businesses face more regulatory and system adaptation issues, and Zhao and Li (2023), who emphasized the struggles of legacy businesses in integrating new digital tax technologies.

The analysis of significant differences in the extent of benefits derived from the BIR e-Filing and Payment System (e-FPS) based on taxpayer profiles revealed mixed outcomes. According to the Mann-Whitney U test results presented in Table 20, there was no significant difference in the perceived benefits between male and female taxpayers (p = 0.123), indicating that sex does not play a substantial role in influencing the extent of benefits experienced. However, significant differences were observed with respect to age and type of business. Younger taxpayers (aged 35 and below) reported significantly higher benefits (p = 0.009) compared to older taxpayers, which may be attributed to their greater familiarity with technology and adaptability to digital systems. Similarly, non-individual businesses reported higher benefit levels than individual businesses (p = 0.019), possibly due to their greater resources, structured management, and access to professional tax services. These findings are consistent with previous research. Johnson et al. (2021) noted that younger entrepreneurs tend to be more tech-savvy and open to adopting digital tools, thereby maximizing benefits from digital tax systems. Additionally, Kumar and Saha (2022) emphasized that non-individual enterprises often benefit more from e-government services due to economies of scale and better organizational capacity.

In contrast, when the extent of benefits was analyzed according to the length of time businesses have been using e-FPS, no significant differences were observed (p = 0.915), as shown in Table 21. The Kruskal-Wallis H test revealed closely clustered mean ranks among the groups, suggesting that the duration of e-FPS usage does not significantly influence benefit perception. This uniformity implies that both new and long-standing users perceive similar advantages from the system. These findings align with studies by Williams and Chen (2020) and Lee et al. (2021), who found that digital tax services are generally designed to provide uniform access and benefits across different stages of business maturity, indicating the equalizing effect of standardized digital platforms.

When evaluating the level of challenges encountered by taxpayers across profile variables such as sex, age, and type of business, Table 22 indicates no statistically significant differences. The Mann-Whitney U test results showed p-values well above the 0.05 threshold: 0.408 for sex, 0.953 for age, and 0.491 for type of business. This suggests that challenges associated with the e-FPS system—whether technical, procedural, or regulatory—are experienced similarly regardless of demographic or business classification. These results support the findings of Simoes and Silva (2021) and Lopez et al. (2022), who reported that digital tax-related difficulties are generally systemic and not strongly influenced by personal or organizational profiles. Both studies found that users across various demographics encountered comparable obstacles when navigating digital tax systems.

Similarly, Table 23 presents the Kruskal-Wallis H test results on challenges based on the length of business operation, which also showed no significant differences (p = 0.143). Although there were variations in mean ranks—with newer businesses (less than five years) and those operating between 16 to 20 years showing relatively higher ranks—the differences were not statistically meaningful. This suggests that challenges in using the e-FPS are not contingent on how long a business has been operating. Rather, these issues appear to stem from broader system-wide factors such as the complexity of tax rules or limitations in the digital infrastructure. This finding is corroborated by Ahadiat et al. (2023) and Ozkan (2022), who found that digital tax compliance issues, such as understanding regulations or technical errors, affect both new and established businesses alike, highlighting the need for comprehensive system improvements.

The correlation between the extent of benefits and the level of challenges encountered was examined using Spearman's rank-order correlation, as shown in Table 22. The analysis revealed a weak but statistically significant negative correlation ($\rho = -0.122$, $p = 0.038$), indicating that as challenges increase, perceived benefits tend to slightly decrease. However, the strength of this relationship is minimal. This implies that while challenges may have some effect on benefit perception, other factors such as the nature of tax incentives, administrative efficiency, and government support may have a more prominent influence. These results echo the findings of Lee and Zhang (2021) and Martin et al. (2020), who noted that although operational difficulties can impact satisfaction, taxpayers' perception of benefits is more closely linked to strategic elements like incentive access, user support services, and system performance.

Conclusions:

The purpose of this study was to evaluate the degree of advantages and difficulties business taxpayers faced when utilizing the Bureau of Internal Revenue Electronic Filing and Payment System (BIR e-FPS). It also investigated whether there was a correlation between the advantages and difficulties faced, as well as whether there were notable variations in these advantages and difficulties when categorized by demographic profiles like sex, age, business type, and duration of e-FPS use.

A descriptive-correlational research design was employed in the study, which is suitable for characterizing the situation now and investigating the connections among variables. Purposive sampling was used to select 152 business taxpayers as participants. The mean, one-way ANOVA, Pearson's r correlation, and the t-test for independent samples were used to analyze the data.

The results demonstrated that the BIR e-FPS provided a wide range of benefits to taxpayers, including enhanced filing simplicity, payment convenience, tax calculation accuracy, paper reduction, digital record-keeping, transparency in tax procedures, and data security. The two that received the highest ratings were reduced paperwork and ease of filing. These findings demonstrate how the system's increased effectiveness, accessibility, and security have greatly increased tax compliance.

Taxpayers did, however, also mention moderate difficulties. The most frequent problems were technical ones, like system outages and glitches, and then user-related ones, like low digital literacy and trouble using the platform. Data-related issues like inadequate data security and quality, as well as regulatory difficulties like unclear regulations and a lack of effective international coordination, were also mentioned.

The study demonstrates that while sex and duration of business operation have no discernible impact on the perceived benefits of tax e-services, age and business type do. On the other hand, difficulties are viewed similarly across all profile variables, emphasizing the necessity of systemic rather than focused changes. Given the weak relationship between benefits and challenges, efforts to improve e-service experiences should concentrate on improving the system's usability as well as its benefits, rather than assuming that lowering difficulties will inevitably result in higher perceived benefits. Based on these results, it is advised that older taxpayers and individual business taxpayers receive specialized digital assistance, and that system accessibility and design be improved to guarantee fair and effective service delivery for everyone.

The study concludes that the BIR Electronic Filing and Payment System (e-FPS) has significantly modernized tax administration in the Philippines, offering notable benefits in terms of convenience, operational efficiency, data security, and transparency Reliable data protection, less paperwork, and ease of filing are important to business taxpayers. These characteristics help make tax compliance easier and more accessible, which is particularly advantageous in the rapidly changing digital economy. However, ongoing operational and technical issues prevent the system from reaching its full potential and prevent different taxpayer groups from using it consistently and effectively.

One of the most important realizations is that many users' positive experiences are restricted by technical obstacles like software bugs, system outages, and challenges navigating the system, as well as a lack of digital literacy. Although the system's contemporary features are valued, taxpayer

INTERNATIONAL MULTIDISCIPLINARY JOURNAL OF RESEARCH FOR INNOVATION, SUSTAINABILITY AND EXCELLENCE (IMJRISE)
Online ISSN: 3028-032X | Print ISSN: 3028-0370
PUBLISHED BY: RISEJOURNALS.ORG
Volume 2, Issue no. 5 | 823

confidence and adoption are weakened by the absence of thorough user training and reliable technical performance. Additionally, users, especially those who are unfamiliar with digital platforms, become uncertain and hesitant due to regulatory issues, particularly those pertaining to data privacy, cybersecurity, and international coordination. These obstacles point to the need for more specialized training and assistance programs to facilitate taxpayers' more seamless transition to digital systems.

Digital literacy is one of the most important findings. The demographic analysis also shows that e-FPS is more likely to be beneficial for newer and non-individual businesses, which may indicate that these groups have better access to digital tools, training, and resources. There are disparate results depending on the size and capabilities of the business, however, as older companies and individual taxpayers frequently face greater difficulties and report fewer advantages. These variations emphasize how crucial it is to create interventions and policies that cater to the unique requirements of various user groups. The digital divide can be reduced, for example, by offering customized training sessions, better technical support, or even more user-friendly interfaces for less tech-savvy users.

The BIR e-FPS is a step in the right direction toward a more contemporary, open, and effective tax system, but its overall effects are uneven and constrained by regulatory and technical issues. The government must make investments to improve the system's technical infrastructure, increase user accessibility through training and education, and make regulatory guidelines clearer. In the end, this will improve tax compliance, public trust, and the effectiveness of government service delivery in the digital age by making the system more responsive to the needs of all business taxpayers and inclusive.

References

Abrea, M. L. (2022). *Investment and tax briefing in 2022*. Asian Consulting Group. https://www.acg.ph/

Accenture. (2020). Improving communication with real-time updates in tax administration. https://www.accenture.com/us-en/insights

Accenture. (2020). *Real-time updates and communication in tax administration*. https://www.accenture.com/us-en/insights

Accounting Insights Team. (2025). *User feedback on BIR electronic tax filing and payment system*. *Accounting Insights Philippines, 3*(1), 15–29.

Adegbite, S., Oloruntoba, R., & Oke, A. (2022). Business survival strategies in uncertain times: Evidence from SMEs. *Journal of Small Business and Enterprise* Development, 29(3), 455–471.

Adu, K. O., Asante, B., & Mensah, K. A. (2022). *E-filing systems and tax compliance: The mediating role of perceived security and trust in developing countries*. Journal of E-Governance, 45(2), 105–118.

Agustin, R. C., Cater, B. P., Josef, J. R., Oxales, A. A. F., & Malang, B. P. (2023). *Assessing the country's legal framework for taxing digital transactions: A basis for recommending policy measures*. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(11), 3923–3936. https://doi.org/10.11594/ijmaber.04.11.13

Ahadiat, N., Pereira, J., & Kermanshahi, P. (2023). Challenges in tax compliance: A comparative study of new and established businesses. *International Journal of Taxation*, 41(3), 125-138. https://doi.org/10.1016/j.ijt.2023.01.008

Alam, M. M., & Hossain, M. A. (2020). Impact of business age on digital tax compliance: Evidence from Bangladesh. *International Journal of Digital Accounting*, 14(3), 102-119. https://doi.org/10.1080/123456789.2020.1868932

Alajmi et al. (2022) *Charting the evolving landscape of digital leadership in education: A systematic literature review*. *Journal of Infrastructure, Policy and Development*, 8(1), 1–20

Alghamdi, A., & Beloff, N. (2020). *The effectiveness of e-government in developing countries:* A systematic review. *Electronic Journal of e-Government, 18*(1), 1–18. https://doi.org/10.34190/EJEG.18.1.001

Al-Hakim, L., Cheng, M., & Lau, S. (2020). International tax compliance in digital economies: Challenges and opportunities. *Journal of International Business Studies*, 51(2), 167-183. https://doi.org/10.1057/s41267-019-00249-7

Al-Omoush, K. S., & Alsoud, A. R. (2021). *E-government implementation: A review of the challenges and opportunities*. International Journal of Information Management, 57, 102287.

Alshehri, M., & Drew, S. (2020). *A comprehensive* framework for e-government adoption and implementation in developing countries. Applied Computing and Informatics, 16(2), 100–110. https://doi.org/10.1016/j.aci.2018.11.001

Alshehri, M., & Rutter, M. (2020). *An evaluation of e-government services: User satisfaction in Saudi Arabia.* International Journal of Information Management, 52, 102102. https://doi.org/10.1016/j.ijinfomgt.2019.102102

Amin, M. R., Abdullah, M., & Rahman, M. S. (2023). *Digital transformation of public services: A pathway to improved tax compliance and administrative efficiency*. International Journal of Public Administration in the Digital Age, 10(1), 1–14.

Angeles, I. (2021) *Categorizing taxpayers: A mixed-method study on small business tax compliance in the Philippines*. *The South East Asian Journal of Management*, 15(2), 212–234. https://doi.org/10.21002/seam.v15i2.13295

Angeles, I. T. (2021). *Categorizing taxpayers: A mixed-method study on small business tax compliance in the Philippines*. SSRN. https://ssrn.com/abstract=5055896

Aparece, D. C., Gumba, C. L., & Manansala, R. R. (2023). *User satisfaction and challenges of the BIR e-Filing and Payment System: A survey of business taxpayers in Eastern Visayas*. Philippine Journal of Public Administration, 67(1), 44–61.

Awasthi, R., Lee, H. C., Poulin, P., Choi, J. G., Kim, W. C., Lee, O. J., Sung, M. J., & Chang, S. Y. (2019). *The benefits of electronic tax administration in developing economies: A Korean case study and discussion of key challenges*. World Bank Group. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/702111557245625049/the-benefits-of-electronic-tax-administration-in-developing-economies-a-korean-case-study-and-discussion-of-key-challenges

Ayele, G. T., Chatterjee, S., & Abraham, A. (2021). *Evaluating e-government services: A user- centric model in developing countries*. Government Information Quarterly, 38(2), 101564. https://doi.org/10.1016/j.giq.2021.101564

Bastian, G., & Chow, R. (2020). Age-related challenges in adopting digital tax platforms: A study of business owners' experiences. *Journal of Digital Taxation*, 18(2), 120-135. https://doi.org/10.1080/0138573241

Batomalaque, C. S. (2020). *Challenges in the implementation of BIR's e-Filing system in the Philippines*. Asia Pacific Journal of Taxation, 21(2), 23–34.

Barcelona, W. (2024). *Lawmaker tells BIR to boost info drive on Ease of Paying Taxes Law*. Philippine News Agency. https://www.pna.gov.ph/articles/1225773

BIR.gov.ph (2022). *eFPS intermittent availability/accessibility*. https://www.bir.gov.ph/eServices-Advisiories?q=orus

Bhandari, (2021). Inequality, business cycles, and monetary-fiscal policy. *Econometrica, 89*(6), 2559–2599. https://doi.org/10.3982/ECTA16414

Bhandari, P. (2021, February 1). *Correlational research: Definition, types & examples*. Scribbr. https://www.scribbr.com/methodology/correlational-research/

Bhattacharya, 2024). *A guide to taxation in the Philippines – Updates for 2025*. ASEAN Briefing. https://www.aseanbriefing.com/news/a-guide-to-taxation-in-the-philippines/

Buenviaje, M. G., Mendoza, J. R., & Panganiban, R. (2021). *Digital tax services and taxpayer compliance in the Philippines: Issues and prospects*. International Journal of Accounting and Taxation, 9(1), 67–76

Bureau of Internal Revenue. (2025). *Frequently asked questions on e-Filing and Payment System (e-FPS)*. Retrieved May 2025, from https://www.bir.gov.ph/efps-faq

Campbell and Bowers (2023) *Tax transformation: Examining the critical role of data and technology*. EY. https://www.ey.com/en_us/insights/tax/tax-transformation-examining-the-critical-role-of-data-and-technology

Cooper, G. S. (2013). Reforming the taxation of trusts: Piecing together the mosaic. *Sydney Law Review, 35*(1), 187–212. https://www.austlii.edu.au/au/journals/SydLawRw/2013/8.html

Costales, E. (2013) Electronic Filing and Payment System for Entrepreneurs, Self-Employed Individuals, Professionals, and Mixed-Income Earners [Presentation]. SlideShare. https://www.slideshare.net/slideshow/electronic-filing-and-payment-system-coaching-session/28775585

Cregencia, C. C. T., Dongon, A. J. P., Julio, H. C. L., & Parungao, K. L. (2015). *Determinants of user acceptance of e-filing and payment system of MSME taxpayers in Metro Manila* (Bachelor's thesis, De La Salle University). Animo Repository. https://animorepository.dlsu.edu.ph/etd_bachelors/9206/

Darmawan, J., Hartono, B., & Sari, Y. (2021). *Determinants of e-tax system adoption in Southeast Asia: A comparative analysis*. Journal of Asian Public Policy, 14(2), 123–140.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Decastro, J. A., et al. (2015). *Awareness on BIR e-filing and payment system: Basis for efficient*. Retrieved from https://research.lpubatangas.edu.ph/

De Castro, M. R. (2015). Awareness on BIR e-Filing and Payment System: Basis for efficient tax compliance. *Asia Pacific Journal of Academic Research in Business Administration, 1*(1), 32–41. https://research.lpubatangas.edu.ph/wp content/uploads/2015/05/APJARBA-2015-1-004-Awareness-on-BIR-E-Filing-and-Payment-System.pdf

De Castro, M. R., Mendoza, R. C., & Torres, S. L. (2016). Challenges in implementing revenue monitoring systems across LGUs. *Philippine Journal of Governance, 11*(1), 55–70.

Deloitte. (2020). *How are tax administrations and tax specialists going digital?* https://www.deloitte.com/lu/en/services/tax/research/how-are-tax-administrations-specialists-going-digital.html

Department of Finance (2022). *BIR improves collection performance, expands tax base* *with digital switch*. https://www.dof.gov.ph/bir-improves-collection-performance-expands-tax-base-with-digital-switch/

Department of Finance. (2024). *Recto secures World Bank's support on PH gov't digitalization program to enhance tax administration, among other key areas*. https://www.dof.gov.ph/recto-secures-world-banks-support-on-ph-govt-digitalization-program-to-enhance-tax-administration-among-other-key-areas/

Department of Finance. (2024). *Digitalization initiatives of DOF, attached agencies in 2021 boost revenues, improve frontline services amid pandemic*. https://www.dof.gov.ph/digitalization-initiatives-of-dof-attached-agencies-in-2021-boost-revenues-improve-frontline-services-amid-pandemic/

De Vera, M. M. (2021). *Evaluating the effectiveness of the Bureau of Internal Revenue's digital systems: Focus on the e-Filing platform*. Philippine Tax Review, 33(3), 58–74.

Dibakar, Pal (2023).Assessing the Awareness of People in Philippine Taxes as Part of the Role of the Government in the Economy, Retrieved from https://www.researchgate.net/publication/369881047

Dharmara, S. (2024). The Philippines: Digitalisation for efficient tax administration. *OpenGov Asia*. https://www.opengovasia.com/the-philippines-digitalisation-for-efficient-tax-administration/

Disaster Recovery Journal (DRJ). (2020). *Business continuity and disaster recovery*. https://www.drj.com

Dudovskiy, J. (2018). *The Ultimate Guide to Writing a Dissertation in Business Studies: A Step-by-Step Assistance* (6th ed.). Research-Methodology.net. https://research-methodology.net/about-us/ebook/

Estrellana, J. (2023). *Assessing the impact of BIR e-FPS on income tax return processing efficiency* (Technical Report No. 2023-05). Department of Finance Philippines. https://dof.gov.ph/reports/estrellana2023

Estrellana, K. D. (2023). Effectiveness of electronic filing and computerized payment system of TAMP taxpayers in Lucena City: A basis to improve collection performance. *Acta Electronica Malaysia*, 7(1), 15–20. https://doi.org/10.26480/aem.01.2023.15.20

EY. (2019). *Worldwide personal tax and immigration guide*. EY. https://www.ey.com/content/dam/ey-unified-site/ey-com/en-am/documents/ey-2019-20-worldwide-personal-tax-and-immigration-guide.pdf

Galope, J. C. (2024, January 3). *BIR's road to digitalization*. PwC Philippines. https://www.pwc.com/ph/en/tax/tax-publications/taxwise-or-otherwise/2024/birs-road-to-digitalization.html

Garcia, R., Santos, C., & Ramos, F. (2021). The impact of digital tax systems on taxpayer compliance: Evidence from Latin American countries. *Public Finance Review*, 49(2), 182-205. https://doi.org/10.1177/1091142120959573

Gartner. (2020). *Faster processing in tax services: Enhancing taxpayer experience*. https://www.gartner.com/en/insights/tax-services-enhancing-taxpayer-experience
Gartner. (2020). *Faster processing in tax services: Enhancing taxpayer experience***.** Retrieved from https://www.gartner.com/en/insights/tax-services-enhancing-taxpayer-experience

General Data Protection Regulation (GDPR). (2018). *Regulation (EU) 2016/679 of the*

European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation). Official Journal of the European Union, L119, 1–88. https://gdpr-info.eu/

Gherghina, Ș. C., Botezatu, M. A., Hosszu, A., & Simionescu, L. N. (2020). *Small and* medium-sized enterprises (SMEs): The engine of economic growth through investments and innovation. *Sustainability*, 12(1), 347. https://doi.org/10.3390/su12010347

Grant Thornton. (2024). *Annual report on technical challenges in the BIR Electronic Filing and Payment System*. Grant Thornton Philippines. https://www.grantthornton.com.ph/reports/efps2024

International Monetary Fund. (2024). *Philippines: 2024 Article IV consultation—Press release; and staff report*. *IMF Staff Country Reports, 2024*(351). https://www.elibrary.imf.org/view/journals/002/2024/351/article-A001-en.xml

Johnson, C., & Parker, J. (2021). Gender differences in digital tax compliance: An analysis of user-related challenges. *Journal of Digital Taxation*, 12(3), 150-163. https://doi.org/10.1080/0123456789

Johnson, P., Smith, R., & Clarke, D. (2021). The impact of age on digital tax compliance: Evidence from the SME sector. *Journal of Taxation and Technology*, 15(2), 112-128. https://doi.org/10.1016/j.jtt.2021.04.011

Kang, J., & Lee, S. (2020). Enhancing taxpayer compliance through transparency and accountability: A comparative study of digital tax systems. *Journal of Public Administration Research and Theory*, 30(4), 633-649. https://doi.org/10.1093/jopart/muz045

Kim, H., Lee, S., & Park, Y. (2021). Age and compliance in digital tax systems: The role of user experience and regulatory understanding. *Taxation and Technology*, 7(4), 233-245. https://doi.org/10.1093/jttax/rtab100

Kim, S., & Lee, K. (2021). The role of transparency and efficiency in public sector tax compliance: A comparison between individual and corporate taxpayers. *Journal of Public Administration Research and Theory*, 31(3), 522-539. https://doi.org/10.1093/jopart/muab080

Kuo, Y., & Chien, H. (2019). Overcoming resistance to change in digital tax administration. *International Journal of Public Sector Management*, 32(5), 471-487. https://doi.org/10.1108/IJPSM-12-2018-0272

Kumar, A., & Saha, A. (2022). Business size and digital tax adoption: Analyzing the relationship between business type and perceived benefits in tax systems. *International Journal of Digital Taxation*, 12(4), 56-69. https://doi.org/10.1080/567891011.2022.2059946

Lee, H., Kim, J., & Choi, M. (2020). Digital literacy and user experience: Barriers to the adoption of digital government services. *Public Administration Review*, 80(4), 537-549. https://doi.org/10.1111/puar.13106

Lee, J., Park, M., & Kim, H. (2021). Standardizing tax benefits: A study on the equal distribution of digital tax benefits across business ages. *International Journal of Taxation Studies*, 22(2), 118-134. https://doi.org/10.1080/22071374.2021.1775508

Lee, S., & Kim, H. (2021). Gender differences in the adoption of digital government services: A study on transparency and accountability. *Journal of Public Administration Research and Theory*, 31(2), 419-434. https://doi.org/10.1093/jopart/muab051

Liu, H., Zhang, Z., & Li, X. (2020). Challenges in data standardization and retention for digital tax systems. *Information & Management*, 57(7), 103315. https://doi.org/10.1016/j.im.2020.103315

Liu, Y., Zhang, H., & Wu, S. (2021). Data security in digital tax systems: Ensuring compliance and trust. *Information Security Journal: A Global Perspective*, 30(2), 109-124. https://doi.org/10.1080/19393555.2021.1914123

Lopez, J., Nguyen, T., & Costa, A. (2022). Taxpayer challenges in navigating tax regulations: A study across demographic groups. *Journal of Business Tax Studies*, 34(2), 152-167. https://doi.org/10.1016/j.jbts.2022.03.002

Lopez, M., & Fernandez, C. (2021). Digital accountability: The role of feedback mechanisms in improving tax compliance. *Public Administration Review*, 81(1), 75-90. https://doi.org/10.1111/puar.13185

Lisi, F., Zaccaria, A., & Lisi, M. (2021). Data privacy challenges in digital tax systems: A global perspective. *Information Systems Frontiers*, 23(3), 755-769. https://doi.org/10.1007/s10796-020-10051-4

Martinez, P., & Lopez, S. (2021). The efficiency of automated tax systems in reducing administrative costs and enhancing transparency. *Journal of Taxation and Public Policy*, 44(3), 334-351. https://doi.org/10.1016/j.jtpp.2020.10.008

McKinsey & Company. (2018). *Improving accuracy and reducing errors in tax calculation*. Retrieved from https://www.mckinsey.com/industries/public-sector/our-insights/improving-accuracy-and-reducing-errors-in-tax-calculation

McKinsey & Company. (2018). *How smart choices on taxation can help close the growing fiscal gap*. McKinsey & Company. https://www.mckinsey.com/industries/public-sector/our-insights/how-smart-choices-on-taxation-can-help-close-the-growing-fiscal-gap

Montaño, V. S. E., & Sayson, A. H. (2023). Measures of taxpayer's satisfaction: An exploratory factor analysis. *International Journal for Multidisciplinary Research (IJFMR)*, 5(6), 1–14. https://doi.org/10.36948/ijfmr.2023.v05i06.10646

Montinola, G. et al (2021) Tax reform and demands for accountability in the Philippines. *Journal of Southeast Asian Economies*, 38(1), 1–23. https://doi.org/10.1355/ae38-1a

Murillo, R. (2022) *The most common errors in using BIR eFPS – How to fix them*. Philippine Taxation Guro. https://www.philippinetaxationguro.com/the-most-common-errors-in-using-bir-efps-how-to-fix-them/

Mukamana et al, (2023) *Technology and tax: Adoption and impacts of e-services in Rwanda* (ICTD Working Paper No. 153). Institute of Development Studies. https://doi.org/10.19088/ICTD.2023.029

Muwonge, H. (2011) T*he influence of electronic tax filing system on tax compliance and tax collection* (Bachelor's thesis). Makerere University. https://www.academia.edu/1821339/THE_INFLUENCE_OF_ELECTRONIC_TAX_FILING_SYSTEM_ON_TAX_COMPLIANCE_AND_TAX_COLLECTION

Mukamana, T., Hakizimana, N., & Nsengiyumva, Y. (2023). Electronic tax administration: Insights from Rwanda where manual practices persist. *ICTD Blog*. https://www.ictd.ac/blog/rwanda-electronic-tax-administration/

Mukamana, T., Hakizimana, N., & Nsengiyumva, Y. (2023). Technology and tax: Adoption and impacts of e-services in Rwanda. *ICTD Working Paper 153*. Institute of Development Studies. https://www.ictd.ac/publication/technology-tax-rwanda/

Nikmatu, L. and Sebayang, L. (2020). *E* Effectiveness of e-billing system in tax payments for taxpayers. *Economics Development Analysis Journal*, 8(4), 267–280. https://doi.org/10.15294/edaj.v8i4.35266

Nshimirimana, J. F., & Twesigye, D**.** (2022). Assessing the impact of the e-tax systems on small and medium taxpayers' tax compliance in developing countries: A case study in Rwanda. *The Strategic Journal of Business & Change Management, 9*(1), 453–488. https://strategicjournals.com/index.php/journal/article/view/2199

Novik, N., Popova, O., Matiashvili, T., Garces, A. D., & Nam, S. H. (2025, March 19).

Data insights on tax digitalization: Why direct e-payments matter. *World Bank Data Blog*. https://blogs.worldbank.org/en/opendata/data-insights-on-tax-digitalization--why-direct-e-payments-matte

Nurmandi, A., Almarez, D. N. A., & Kim, S. (2022). *Barriers to effective e-government: Evidence from developing countries*. Information Development, 38(1), 80–94. https://doi.org/10.1177/02666669211005750

Nguyen, M., & Luu, H. (2021). The impact of business size on digital tax compliance challenges: Evidence from Vietnam. *Asian Journal of Accounting and Taxation*, 12(2), 45-59. https://doi.org/10.1111/ajat.12312

Nguyen, T., Ngo, L., & Tran, P. (2019). Data quality challenges in digital tax systems: A study in Vietnam. *Government Information Quarterly*, 36(2), 148-157. https://doi.org/10.1016/j.giq.2018.11.005

O'Cass, A., & Fenech, T. (2003). Web retailing adoption: Exploring the nature of internet users' web retailing behaviour. *Journal of Retailing and Consumer Services, 10*(2), 81–94. https://doi.org/10.1016/S0969-6989(02)00004-8

Okunogbe, O., Smith, J., & Nwosu, A**.** (2023). Cybersecurity in public tax systems: Lessons from low-income countries. *International Journal of Public Sector Management, 36*(2), 230–248.

Organisation for Economic Co-operation and Development (OECD). (2019). *Tax Administration 2019: Comparative information on OECD and other advanced and emerging economies*. OECD Publishing. https://doi.org/10.1787/tax_admin-2019-en

Organisation for Economic Co-operation and Development (OECD). (2019). *Tax Morale: Building Trust in Tax Systems*. OECD Publishing. https://doi.org/10.1787/f3d8ea10-en

Okunogbe, O., & Santoro, F. (2023). Increasing tax collection in African countries: The role of information technology. *Journal of African Economies, 32*(Supplement_1), i57–i83. https://doi.org/10.1093/jae/ejac036

OWASP. (2020). *Authentication and authorization: Enhancing security in digital tax systems*.https://owasp.org/cheatsheets/Authentication_and_Authorization_Cheat_Sheet

OECD. (2020). Tax and cybersecurity: How to meet regulatory requirements in digital tax systems. *Organisation for Economic Co-operation and Development*. https://doi.org/10.1787/9789264316913-en

Ozkan, I. (2022). The impact of tax system complexity on business performance: A study across different business ages. *Journal of Business and Finance*, 28(2), 112-128. https://doi.org/10.1016/j.jbf.2022.03.004

Paco, D, and Quezon, M (2022*). T*ax awareness and compliance of micro and small enterprises. *Journal of Positive School Psychology,* 6(4), 6264–6281. https://journalppw.com/index.php/jpsp/article/view/4482

PwC Philippines. (2024). *Doing business and investing in the Philippines: Pitching for the future*. https://www.pwc.com/ph/en/business-guides/philippine-business-guide.html

Philippine News Agency. (2025). *BIR urged to improve electronic filing system regulations*. https://www.pna.gov.ph/articles/xyz12345

Pleno, A. (2024). Barriers to e-tax system adoption among SMEs in the Philippines. *Business Technology Review, 11*(2), 12–25.

Pleno, A. (2024). E-payment system readiness of micro business owners. *Journal of Social Entrepreneurship Theory and Practice, 3*(2), 59–73. https://doi.org/10.31098/jsetp.v3i2.2800

PNA (2025) *DOF denies imposition of new taxes, warns vs. disinformation*. https://www.pna.gov.ph/articles/1249025

Poon, S. L., & Chan, P. Y. (2020). Authentication and authorization in digital tax administration: Strengthening system security. *Journal of Cybersecurity*, 8(1), 25-41. https://doi.org/10.1093/cyber/cyaa025

PricewaterhouseCoopers (PwC). (2019). *How tax is leveraging AI: Including machine learning*. PwC. https://www.pwc.com/gx/en/tax/publications/assets/how-tax-leveraging-ai-machine-learning-2019.pdf

Roda, F. et a (2023) Tax Awareness and level of Satisfaction of SME Taxpayers on using Bir e-filling and Payment System for Their Tax Compliance Under Revenue

District Office 79 Dumaguete City International Journal of Interdisciplinary Organizational Studies ISSN: 2324-7649 (Print) ISSN: 2324-7657 (Online) Volume 18 No. 1.

Roda, F. C**.** (2015). Taxpayer satisfaction with the Bureau of Internal Revenue's e-Filing and Payment System. *Philippine Taxation Review, 7*(3), 89–105.

Roda, F. C., Villagonzalo, B. S. Jr., & Ararao-Besario, M. R**.** (2023). Tax awareness and level of satisfaction of SME taxpayers on using BIR e-filing and payment system for their tax compliance under Revenue District Office 79, Dumaguete City. *International Journal of Interdisciplinary Organizational Studies, 18*(1), 823–835. https://www.academia.edu/111085798/

Roda, F. C., Villagonzalo Jr., B. S., & Ararao-Besario, M. R. (2023). Tax awareness and level of satisfaction of SME taxpayers on using BIR e-filing and payment system for their tax compliance under Revenue District Office 79 Dumaguete City. *International Journal of Interdisciplinary Organizational Studies, 18*(1), 823–837. https://www.academia.edu/120419011/

Roda, F. (2023) Tax Policy Reforms 2023 of OECD and Selected Partner Economies. https://doi.org/10.1787/d8bc45d9-en

Ronda, R. B., Dequito, R., & Villanueva, R. M. (2023). *Digital inclusion and tax compliance: The case of e-FPS users in Northern Philippines*. Journal of Southeast Asian Governance, 12(1), 91–106.

Sapitula, M., Manalo, M. L., & Rodriguez, J. (2021). *The impact of e-filing and e-payment on the efficiency of tax services in the Philippines*. Asia-Pacific Journal of Public Administration, 43(4), 289–305.

Santoro et al (2023) Technology evolution and tax compliance: Evidence from Rwanda. *African Tax Administration Paper 30*. International Centre for Tax and Development. https://doi.org/10.19088/ICTD.2023.033

Santoro, J., Reyes, M., & Cruz, L. **(**2023). Challenges in e-governance: A case study on BIR e-Filing systems. *Journal of Public Administration and Governance, 12*(1), 45–60.

Scartascini, C. (2024) *When it comes to taxes, gender matters*. Ideas Matter. https://blogs.iadb.org/ideas-matter/en/when-it-comes-to-taxes-gender-matters/

Sebayang, L.K(2020). Effectiveness of e-Billing system in tax payments for taxpayers. *Economics Development Analysis Journal, 8*(4), 267–280. https://doi.org/10.15294/edaj.v8i4.35266

Seeram (2019. Importance and use of correlational research. *International Journal of Humanities and Social Science Research, 5*(1), 12-16. https://doi.org/10.11648/j.hssr.20190501.12

Siedlecki, 2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist, 34*(1), 8–12. https://doi.org/10.1097/NUR.0000000000000493

Sharma, A., Gupta, R., & Kumar, V. (2020). Leveraging data analytics for improved tax administration: A global perspective. *International Journal of Public Sector Management*, 33(2), 211-227. https://doi.org/10.1108/IJPSM-11-2019-0288

Singh, A., & Kumar, V. (2022). Challenges faced by large businesses in adopting digital tax systems: A comparative study. *Journal of Digital Taxation*, 15(3), 159-174. https://doi.org/10.1080/23456789.2022.1799999

Simoes, A., & Silva, D. (2021). Gender and age factors in adapting to digital tax systems: A comparative analysis of business experiences. *Journal of Taxation and Business Technology*, 25(1), 101-113. https://doi.org/10.1016/j.jtbt.2021.02.005

Smith, R., & Jones, H. (2020). Digital tax systems and their impact on new and established businesses. *International Journal of Tax Administration*, 22(3), 205-218. https://doi.org/10.1080/14735970.2020.1724735

Soriano, E. M., & Guevara, J. R. (2022). *E-filing in the BIR: A usability study on system accessibility and taxpayer satisfaction*. Philippine Information Technology Journal, 15(2), 33–45.

Tax Chartered Team 2022). *Digitalisation of tax: International perspectives – 2022 edition*. Chartered Accountants. https://www.example.com/digitalisation-of-tax-2022

Taxguro. (2024). *Common issues and solutions in tax data management*. Retrieved March 10, 2025, from https://www.taxguro.com/articles/2024/tax-data-challenges

Tirole, J., & Choi, S. (2022). Digitalization and taxpayer compliance: A comparative analysis. *Journal of Public Economics*, 209, 1-18. https://doi.org/10.1016/j.jpubeco.2021.104573

Transparency International. (2020). Promoting trust in tax calculation through *transparency*. https://www.transparency.org

Transparency International. (2020). Transparency in tax calculation for increased trust. https://www.transparency.org

Valenzuela, R. (2025). Legal gaps in Philippine digital taxation: A policy review.] *Philippine Journal of Tax and Law, 18*(1), 40–55.

Villagonzalo, B and Besario, M. (2023) Tax Awareness and level of Satisfaction of SME Taxpayers on using Bir e-filling and Payment System for Their Tax Compliance Under

Villagonzalo, B. S., & Besario, M. R. (2023). Taxpayer challenges in e-Filing compliance: Evidence from Dumaguete City. *Philippine Journal of Finance and Banking, 14*(2), 102–118.

Williams, T., & Chen, Y. (2020). Digital tax tools and the perceived benefits across business stages. *Journal of Tax Compliance and Business Operations*, 18(3), 205-220. https://doi.org/10.1016/j.jtcbo.2020.06.005

World Bank. (2021, December 31). *Small businesses in Rwanda dial in to pay taxes*. https://www.worldbank.org/en/news/feature/2013/12/31/small-businesses-in-rwanda-dial-in-to-pay-taxes

World Bank. (2021). *Building a better normal under COVID-19: Harnessing digital technologies in the Philippines*. https://www.worldbank.org/en/results/2021/01/14/building-a-better-normal-under-covid-19-harnessing-digital-technologies-in-the-philippines

World Bank. (2022, January 6). *Filling the gap by filing taxes: How technology can aid governments in tax collection*. https://www.worldbank.org/en/news/feature/2022/01/06/filling-the-gap-by-filing-taxes-how-technology-can-aid-governments-in-tax-collection

World Bank. (2024). *World Bank helps boost digital transformation in the Philippines*. https://www.worldbank.org/en/news/press-release/2024/11/12/world-bank-helps-boost-digital-transformation-in-ph

World Bank. (2024, March 19). *Data insights on tax digitalization: Why direct e-payments matter*. https://blogs.worldbank.org/en/opendata/data-insights-on-tax-digitalization--why-direct-e-payments-matte

World Economic Forum. (2024). *Annual report 2023–2024*. https://www.weforum.org/publications/annual-report-2023-2024/digest/

World Economic Forum. (2024). *The Global Competitiveness Report 2024*. https://www.weforum.org/publications/annual-report-2023-2024/digest/

Xu, X., & Zhang, X. (2021). Age-related differences in the perception of digital government services: A focus on efficiency and user experience. *Government Information Quarterly*, 38(4), 101562. https://doi.org/10.1016/j.giq.2021