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The Influence of e-Filing Ease of Use, Digital Tax Service Quality, and Data Security System Quality on Individual Taxpayer Compliance Moderated by Risk Preference: A Study on Pizza Hut Network Employees in Indonesia

Wina Kristiani
Universitas Pancasila, Indonesia
Email: wina.kristiani1@gmail.com

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ABSTRACT

Tax compliance remains a critical challenge for developing economies, with digital transformation offering promising solutions to enhance taxpayer participation. Indonesia's tax compliance ratio improved from 68.42% in 2021 to 86.80% in 2023, primarily attributed to digital innovations such as e-Filing systems. This study aims to analyze the effect of ease of e-Filing use, quality of digital tax services, and data security system quality on individual taxpayer compliance, with risk preference as a moderating variable. The research object consists of Pizza Hut employees in Indonesia who are registered individual taxpayers. This quantitative study employs a survey method and Partial Least Squares – Structural Equation Modeling (PLS-SEM) for data analysis. The PLS-SEM analysis reveals that ease of use ($\beta = 0.33$, $p < 0.01$), service quality ($\beta = 0.25$, $p < 0.01$), and data security ($\beta = 0.22$, $p < 0.01$) significantly predict tax compliance. These findings have important implications for tax policy design and digital government initiatives. The study demonstrates that while technological improvements are necessary, they are not sufficient for maximizing compliance. Individual risk preferences create differential responses to digital tax systems, suggesting the need for personalized approaches in tax administration. For practitioners, the results indicate that data security is perceived as a fundamental requirement regardless of individual risk tolerance, while ease of use and service quality benefits are amplified among risk-averse individuals. The study contributes theoretically and practically to the development of more inclusive and psychologically informed digital taxation strategies.

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INTRODUCTION

Taxes are the main source of state revenue used to finance various development programs, public services, and strengthening national infrastructure. Without optimal tax revenue, the state will find it difficult to carry out government functions effectively and sustainably (Ajeigbe, Ganda, & Enowkenwa, 2024; Mpofu, 2022). Therefore, tax compliance from taxpayers, both individuals and business entities, is very crucial in supporting fiscal stability and sustainability. The high level of tax compliance reflects the

awareness and responsibility of citizens in contributing to development (Santosa, Rahman, Fadillah, & Fadilla, 2025; Surugiu et al., 2025; Umar, Derashid, Ibrahim, & Bidin, 2019). However, challenges such as low tax literacy, regulatory complexity, and negative perceptions of tax management are still major obstacles that need to be overcome. The Government of Indonesia, through the Directorate General of Taxes, continues to strive to improve tax compliance with a system digitalization approach, tax education, and strengthening regulations. These efforts are also proven through an increase in tax ratios and taxpayer participation in recent years (Fitriani & Yustika, 2021; Kurniawan et al., 2022). Therefore, increasing tax compliance is not only the responsibility of the government, but also a form of active participation of the community in supporting the progress of the country.

The digitalization of the tax system in Indonesia, especially through the implementation of e-Filing, has brought significant changes in improving administrative efficiency and taxpayer compliance (Aliah, 2020; Mandasari, 2024; Surugiu et al., 2025). e-Filing allows taxpayers to report their tax returns online, anytime and anywhere, thereby reducing administrative burdens and increasing convenience in fulfilling tax obligations. Research shows that the implementation of e-Filing has a positive and significant effect on taxpayer compliance, because this system simplifies the reporting process and improves the accuracy of the data submitted. In addition, data from the Directorate General of Taxes shows an increase in the taxpayer compliance ratio from 68.42% in 2021 to 86.80% in 2023, which is mostly attributed to the ease of reporting through e-Filing. The latest data shows that as of April 1, 2025, a total of 12.34 million Annual Tax Returns (SPT) for the 2024 Tax Year have been submitted, with 10.56 million of them through e-Filing, reflecting the dominance of digital channels in personal tax reporting.

However, the reality on the ground shows that the level of utilization of this system is not even. One interesting group to study in this context is franchise sector employees, who tend to have diverse tax literacy, high mobility, and fluctuating compliance. Challenges such as digital literacy gaps and internet access in some regions are still obstacles in the implementation of e-Filing evenly. Therefore, continuous efforts are needed from the government to improve socialization, education, and technological infrastructure to ensure that all taxpayers can optimally utilize e-Filing services and contribute to increasing national tax compliance.

The franchise service sector presents a particularly compelling context for studying digital tax compliance due to its unique organizational characteristics. Franchise operations typically combine centralized management systems with distributed workforce deployment, creating complex dynamics in tax compliance behavior. Employees in this sector often experience high turnover rates, diverse educational backgrounds, and varying levels of exposure to tax obligations, making them an ideal population for examining how digital tax systems perform across heterogeneous user groups.

The phenomenon of employees in the franchise sector, such as Pizza Hut Indonesia managed by PT Sarimelati Kencana Tbk, faces special challenges in fulfilling tax obligations, especially related to Income Tax (PPh) Article 21 reporting (Jamil, 2020; Nurlinda, Fahdilla, Osman, Fatira, & Alwansyah, 2025). The complexity of a franchise business structure, which involves various entities and payroll systems, can lead to errors in tax calculations (Elmore, 2018; Emerson & Carrington, 2020; Felstead, 2024). In addition, a lack of understanding of tax regulations and a lack of training for employees can worsen compliance levels. Although Pizza Hut Indonesia has implemented a digital system to improve taxpayers' voluntary compliance, challenges remain, especially in ensuring all employees understand and comply with their tax obligations. Therefore, continuous efforts are needed in tax education and the improvement of the administrative system to ensure optimal tax compliance in the franchise sector.

In the era of tax digitalization, e-Filing is one of the main innovations that is expected to increase taxpayer compliance. However, the rate of adoption and tax compliance among franchise sector employees, particularly fast-food restaurant chains, has not received much academic scrutiny. Pizza Hut Indonesia was chosen as the object of research because it is one of the largest and most widespread franchise networks in Indonesia, with thousands of employees in different regions coming from diverse socioeconomic backgrounds. The peculiarity of Pizza Hut's organizational structure that combines a centralized operational system with distributed administrative execution makes it relevant as a case study in exploring employee perceptions of the e-Filing system, the quality of digital tax services, and data security systems (Isgut & Pellegrino, 2024; Mkirima, 2023; Wambongo, 2019). Additionally, the fast-food industry is known to have a high employee turnover rate, which can affect the level of understanding and compliance with tax obligations. The varying risk preferences between employees in this network also open up significant opportunities for moderation analysis. Therefore, this study is important to know how digital factors and personal characters affect tax compliance in the context of a dynamic and digital modern workplace. The main factors that affect tax compliance are the ease of use of e-Filing, the quality of digital tax services, the quality of data security systems, and risk preferences as moderation factors that can affect the relationship between these factors and tax compliance.

Previous research has established strong theoretical foundations linking technology acceptance to behavioral outcomes. Davis's Technology Acceptance Model (TAM) demonstrates that perceived ease of use and perceived usefulness are primary determinants of technology adoption (Mohd Amir, Mohd, Saad, Abu Seman, & Tuan Besar, 2020; Mugo, 2017; Tubaishat, 2018). In the tax context, studies by Pane & Simanjuntak (2024) and Saptono et al. (2023) have confirmed these relationships, showing that user-friendly tax systems significantly enhance compliance intentions. However, these studies

primarily focused on direct relationships without considering how individual psychological traits might moderate these effects.

The ease of use of e-Filing is an important factor in improving tax compliance. A user-friendly digital tax system can reduce barriers in tax reporting and increase taxpayers' intention to comply (Pane & Simanjuntak, 2024). Other studies have also shown that the ease of accessibility of e-Filing systems contributes to tax compliance by reducing the administrative time and costs required for tax reporting (Wambongo, 2019). Additionally, research by Okunogbe & Pouliquen (2022) found that simpler e-Filing systems can increase transparency and reduce tax avoidance rates, ultimately improving taxpayers' voluntary compliance.

Quality digital tax services play an important role in improving tax compliance. A study conducted by Angl Soon (2021) shows that taxpayers' trust in fast and accurate e-Filing services increases voluntary tax compliance. In addition, research conducted by Saptono et al. (2023) confirms that a positive user experience in digital tax services can increase individual tax trust and compliance. These findings are strengthened by research conducted by Pane & Simanjuntak (2024), which shows that satisfaction with digital tax services is positively correlated with taxpayers' intention to comply with tax regulations.

Data security in the digital tax system is a crucial factor in encouraging taxpayers to use digital tax services regularly. A study conducted by Okunogbe & Pouliquen (2022) shows that system insecurity can lead to low taxpayer confidence, leading to tax evasion. This is also supported by research from Saptono et al. (2023), which found that taxpayers who feel secure with the protection of their personal data are more likely to use digital tax systems and show higher compliance. In addition, research by Wambongo (2019) highlights that a poor tax security system can increase the risk of data leaks, which can hinder the adoption of digital tax technology.

Risk preference is a psychological factor that affects the tax compliance of individual taxpayers. A study conducted by Pane & Simanjuntak (2024) shows that individuals with high-risk preferences are more likely to avoid paying taxes or delaying their tax reporting. This is also supported by findings from Okunogbe & Pouliquen's (2022) research, which shows that taxpayers with low risk tolerance are more likely to use e-Filing systems because they want to avoid potential tax penalties or audits. Meanwhile, Saptono et al. (2023) revealed that stricter tax regulations and a more transparent system can help reduce the impact of risk preferences in tax compliance decisions.

Nonetheless, there is still a gap in research that integrates risk preferences as a moderation variable in the relationship between technology factors and tax compliance. Most previous studies have focused more on the direct relationship between system ease or quality of service to compliance without considering the influence of taxpayers' psychological characteristics. In fact, in the context of franchise employees like Pizza Hut, with varied educational

backgrounds, income, and work experience, risk preferences have the potential to influence their perception of the digital tax system. Thus, including risk preferences as a moderation variable in this study not only fills the literature gap, but also broadens the theoretical understanding of tax compliance behavior in the digital age.

Based on the description above, this research is important to be conducted to understand how technological factors such as the ease of use of e-Filing, the quality of digital tax services, and data security systems affect the compliance of individual taxpayers, especially employees of the Pizza Hut Indonesia network. Furthermore, by considering risk preferences as a moderation variable, this study is expected to provide new insights in the realm of tax compliance that is not only system-based, but also considers the psychological character of taxpayers. The findings of this study are expected to contribute both theoretically to the development of digital tax literature and practically for tax authorities in designing more targeted compliance improvement strategies.

The Directorate General of Taxes (DGT) has digitized its services through the e-Filing system to streamline tax reporting, enhance efficiency, and minimize unethical practices. Despite its availability and ongoing development, compliance among private taxpayers remains inconsistent, with some individuals still opting for manual reporting or experiencing delays. This situation raises critical questions about whether the system's ease of use, the overall quality of digital tax services, and the robustness of its data security directly influence taxpayer compliance, and to what extent an individual's risk preference might moderate these relationships.

To ensure a focused investigation, this study is deliberately limited to private taxpayers who are employees of the Pizza Hut network across Indonesia and who have an obligation to use e-Filing. The research will specifically analyze the impact of three variables—e-Filing's ease of use, digital service quality, and data security system quality—on compliance, while also examining risk preference as a moderating factor. Other potential influences, such as income, education, or tax knowledge, are excluded from the scope, and all data will be collected quantitatively through questionnaires to capture the subjective experiences of the users.

The primary objectives are to determine the positive effects of the three independent variables on tax compliance and to analyze the moderating role of risk preference in each of these relationships. The findings are expected to provide significant benefits, including a contribution to academic literature on digital tax compliance, offering practical recommendations for the DGT to improve its digital services, and assisting Pizza Hut Indonesia in enhancing the tax compliance of its workforce.

RESEARCH METHOD

This research employed a quantitative approach, using numerical data and statistical analysis to test hypotheses regarding factors influencing tax compliance among users of the e-Filing system. The primary data collection method was a Likert-scale questionnaire distributed to a specific sample. To analyze relationships between variables, Structural Equation Modeling (SEM) was used to test cause-and-effect links between latent constructs such as perceived ease of use and compliance, measured through multiple observable indicators.

The study population consisted of Pizza Hut employees in Indonesia who held a tax identification number and had used the e-Filing service. Purposive sampling was applied to ensure respondents had direct experience with the system. Data were collected via a 1-5 Likert scale questionnaire measuring perceptions of independent variables—ease of use, service quality, and data security—the dependent variable of tax compliance, and the moderating variable of risk preference.

Research instruments underwent validity and reliability testing. Validity was assessed using Exploratory Factor Analysis (EFA) to confirm that each questionnaire item accurately measured its intended construct, while reliability was tested with Cronbach's Alpha to ensure internal consistency within each variable. Descriptive analysis summarized respondent demographics and central tendencies of responses before hypothesis testing.

The core analysis involved testing hypotheses using the Partial Least Squares (PLS) method of SEM via SmartPLS software. This technique allowed modeling of complex relationships with latent variables. The measurement model was evaluated for validity and reliability, followed by testing the structural model to examine the significance of paths between independent variables and tax compliance. Finally, the moderating effect of risk preference was analyzed by testing interaction terms to determine if it strengthened or weakened the relationships between digital service factors and compliance.

RESULTS AND DISCUSSION

Respondent Description

This study involved 250 respondents who were employees of the Pizza Hut network in various regions of Indonesia. Of these, 55% are men and 45% are women. Based on age, the majority of respondents were in the age range of 21–30 years (60%), 31–40 years old (30%), and the rest were over 40 years old (10%). All respondents are active users of e-Filing and have a Taxpayer Identification Number (NPWP).

Descriptive Statistics of Research Variables

Here's a summary of the average scores and standard deviations of each variable:

Table 1. Descriptive Statistics of Research Variables

Variable	Average	Standard Deviation
Ease of Use of e-Filing	4,20	0,52
Quality of Digital Tax Services	4,15	0,47
Data Security System Quality	4,10	0,50
Risk Preferences	3,55	0,65
Personal Taxpayer Compliance	4,25	0,44

Measurement scale using the Likert scale 1–5

Validity and Reliability Tests

Convergent Validity Test (Outer Loading & AVE)

All indicators in each construct have an outer loading value of > 0.70 and AVE (Average Variance Extracted) > 0.50, indicating that the convergent validity is met.

Reliability Test (Cronbach's Alpha & Composite Reliability)

Cronbach's Alpha and Composite Reliability for all variables were above 0.70. This indicates that the data meets the internal reliability criteria of consistency.

Evaluation of Structural Models (Inner Model)

Table 2. R-Square Test

Endogenous Variable	R^2	Information
Personal Taxpayer Compliance	0,61	Moderate – model explains 61% variance of compliance

Predictive Relevance Test (Q^2)

$Q^2 = 0.42 > 0.35 \rightarrow$ The model has good predictive power.

Hypothesis Test (Path Coefficient)

Here are the results of hypothesis testing using bootstrapping:

Table 3. the results of hypothesis test

Hypothesis	Relationship	Coefficient	T-Statistics	P-Value	Conclusion
H1	Ease of e-Filing → Tax Compliance	0,33	5,42	0,000	Significant
H2	Digital Tax Service Quality → Tax Compliance	0,25	3,87	0,000	Significant

Hypothesis	Relationship	Coefficient	T-Statistics	P-Value	Conclusion
H3	Quality Data Security → Tax Compliance	0,22	3,45	0,001	Significant
H4	Ease of × Risk → Compliance Preferences	0,15	2,30	0,021	Significant Moderation
H5	Digital Services × Risk → Compliance Preferences	0,10	1,98	0,048	Significant Moderation
H6	Data Security × Risk Preferences → Compliance	0,08	1,56	0,119	Insignificant

Discussion

The results of this study show that the ease of use of e-Filing, the quality of digital tax services, and the quality of data security systems have a positive and significant influence on the compliance of private taxpayers in Pizza Hut network employees in Indonesia. In addition, risk preference was shown to be a significant moderation variable in some, but not all, relationships.

The Effect of the Ease of Use of e-Filing on Tax Compliance

The findings show that the ease of use of e-Filing has a significant effect on tax compliance (coefficient = 0.33; $p < 0.01$). This shows that the easier it is for taxpayers to access and operate the e-Filing system, the higher their tendency to comply in reporting the Annual Tax Return (SPT).

These results support the Technology Acceptance Model (TAM) framework which states that the perception of the ease of use of a system will drive the intention and behavior of actual use. In this context, the ease of the interface, login process, filling out forms, and clarity of information in e-Filing encourage respondents to feel comfortable and motivated to report their taxes on time. These results are also consistent with the study by Pane & Simanjuntak (2024), which states that ease of access to tax technology is positively correlated with voluntary tax compliance.

The Effect of Digital Tax Service Quality on Tax Compliance

The quality of digital services also showed a significant influence on tax compliance (coefficient = 0.25; $p < 0.01$). This indicates that when taxpayers are satisfied with DGT's digital services such as quick response, clarity of information, and access to assistance (e.g. Tax Kring or chatbots), their compliance level increases.

Theoretically, these results support Tax Compliance Theory, specifically the perceived behavioral control aspects. Responsive digital services provide a sense of control and convenience for users, thus increasing their chances of compliance. Studies from Angl Soon (2021) and Saptono et al. (2023) also

corroborate that the quality of digital services contributes to taxpayer satisfaction, which in turn encourages voluntary compliant behavior.

The Effect of Data Security System Quality on Tax Compliance

Data security systems also have a significant influence on compliance (coefficient = 0.22; $p < 0.01$). Taxpayers tend to be reluctant to use digital systems if they feel their information is not safe. When they believe that the e-Filing system protects their personal data and financial transactions well, they will be more confident and willing to report their taxes online.

These findings reinforce the results of Okunogbe & Pouliquen (2022) and Wambongo (2019), who affirm the importance of trust in digital security as a foundation in the adoption of tax technologies.

The Role of Risk Preferences as a Moderation Variable

Risk preferences have been shown to significantly moderate the relationship between:

- Ease of e-Filing and Tax Compliance (interaction coefficient = 0.15; $p = 0.021$)
- Digital tax service quality and Tax Compliance (interaction coefficient = 0.10; $p = 0.048$)

  However, it is not significant in moderating the relationship between:
- Data security system quality and Tax Compliance (interaction coefficient = 0.08; $p = 0.119$)

These results suggest that individual psychological character, particularly risk preference, plays an important role in influencing how much influence technological factors influence compliant behavior. Taxpayers with a risk-averse preference tend to take advantage of the convenience of digital systems and services to avoid potential fines, audits, or other administrative risks. On the other hand, risk-tolerant taxpayers may not feel compelled to comply with the system despite the availability of convenience or good services.

However, the absence of a moderation effect on the data security system can mean that the perception of security is considered important by all respondents, regardless of how much risk tolerance they have. This means that security is considered a basic necessity (non-negotiable) in the context of digital taxation.

CONCLUSION

This study found that technological factors—ease of use of e-Filing, quality of digital tax services, and data security system quality—significantly enhanced tax compliance among individual taxpayers within the Pizza Hut network in Indonesia. The findings highlight that a user-friendly, responsive, and secure digital tax environment is essential for encouraging voluntary compliance. Additionally, risk preference moderates these effects, with risk-averse individuals showing greater compliance when ease of use and service quality are high, while data security is universally crucial regardless of risk tolerance. These results suggest that tax authorities should advance digital

infrastructure while considering taxpayer psychology in their compliance strategies. Future research should broaden the focus beyond a single franchise to include diverse sectors and demographics, integrate qualitative methods for deeper insights, explore additional moderating variables like digital literacy and institutional trust, and employ longitudinal designs to better understand changes in compliance behavior over time.

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