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Digital Tax Administration and Its Impact on SMEs' Tax Compliance Behavior

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Abstract. *The digital transformation of tax administration has become a strategic government initiative to enhance service efficiency and strengthen tax compliance, particularly among small and medium-sized enterprises (SMEs) that form the backbone of the national economy. Although the adoption of digital systems such as e-filing, e-billing, and e-invoicing has streamlined tax reporting and payment processes, their actual effectiveness in shaping SME compliance behavior remains an issue that requires deeper examination. This study aims to investigate the influence of digital tax administration on the tax compliance behavior of SMEs in Indonesia, while also identifying the enabling and constraining factors in its implementation. A descriptive–exploratory qualitative approach was employed, with data collected through in-depth interviews, non-participant observation, and analysis of documents related to digital tax policies. The findings reveal that the digitalization of tax administration contributes positively to formal compliance, particularly in terms of timely reporting, but has not yet fully translated into improved material compliance, namely accurate tax payments in accordance with regulations. Key determinants of successful implementation include digital literacy, system quality, and the availability of technical support from tax authorities. These results reinforce the Technology Acceptance Model and existing tax compliance literature by highlighting that perceived ease of use and perceived usefulness of technology play a critical role in shaping taxpayer compliance behavior. This study offers empirical contributions to the development of inclusive digital tax governance and underscores the importance of educational policies and strengthened digital infrastructure for SMEs. Future research is recommended to expand the geographical scope and apply mixed-method approaches to produce more comprehensive and representative findings.*

Keywords: *Digital tax administration, tax compliance, SMEs, digital literacy, e-filing*

INTRODUCTION

The rapid shift toward digital tax administration through tools such as e-registration, e-filing, e-billing, and e-invoicing has become a central strategy for many tax authorities to improve service efficiency while also narrowing compliance gaps. Recent OECD reporting indicates that digital transformation programs in tax administration are expanding across jurisdictions, supported by ongoing tax-technology mapping conducted in collaboration with international tax networks This trend underlines that digitizing tax collection and reporting is no longer merely a technical upgrade; it represents an institutional reform agenda aimed at strengthening compliance quality and safeguarding government revenue.

At the same time, SMEs (including MSMEs) that play a crucial role in national economies often lag behind larger firms in technology adoption. Cross-country surveys consistently point to a persistent "SME digital divide," reflected in weaker technology readiness, lower data literacy, and limited integration of core business applications. These gaps directly affect SMEs' ability to adopt digital tax systems fully and consistently, which can slow improvements in both formal compliance (timely reporting) and material compliance (accurate payment). For that reason, examining how digital tax administration shapes SMEs' tax compliance behavior is highly relevant for both policy and practical implementation.

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Indonesia offers a particularly important case. Review based research on e-Faktur (e-invoicing) suggests that its implementation and performance are closely tied to user perceptions, technical constraints, and its potential contribution to improving compliance and tax revenue. Meanwhile, empirical studies on e-filing performance among MSME taxpayers indicate that information quality, system quality, and service quality encourage system use and increase user satisfaction two pathways that are theoretically associated with higher compliance. Taken together, these findings imply that the design and service standards of digital tax platforms are not secondary details, but essential prerequisites for effective compliance reform.

The urgency of this topic is further reinforced by studies highlighting the influence of tax understanding, technology readiness, and perceived ease of use on compliance behavior. Viewed through the Technology Acceptance Model and compliance theory, research on MSME taxpayers shows that readiness and the perceived ease of e-filing are positively associated with compliance, while trust in e-government does not always emerge as the primary driver. In other words, policies that emphasize obligation and enforcement alone without improving user experience and strengthening SMEs' digital capacity risk producing compliance that is fragile and inconsistent.

Even so, clear knowledge gaps remain. Several reviews caution that digitizing tax administration does not automatically reduce compliance costs for MSMEs, and implementation still faces barriers related to digital access, data security, and perceived fairness. Evidence on how combined digital instruments (for example, e-filing alongside e-invoicing) affect different compliance dimensions such as intentions, reporting behavior, and payment behavior within MSME contexts in developing countries is also scattered and not yet systematically consolidated. This situation calls for more focused analysis of the mechanisms involved, whether the effects occur through better service quality, stronger tax literacy, or stricter sanction enforcement, so policy interventions can be targeted more precisely.

Based on this background, this article aims to: (1) map the context, urgency, and broader trends of tax administration digitalization as they relate to SMEs; (2) review recent empirical evidence on its influence on SME tax compliance behavior; and (3) identify research gaps and policy implications for strengthening SME-friendly digital tax services. Theoretically, the article seeks to enrich discussions on how digital system/service quality interacts with compliance behavior within technology adoption frameworks. Practically, it is expected to inform policy choices regarding the most effective mix of instruments ranging from interface design and tax literacy initiatives to data governance to foster sustainable tax compliance among SMEs.

RESEARCH METHOD

This study adopts a qualitative approach using a descriptive–exploratory design. This design was selected because the research seeks an in-depth understanding of how digital tax administration shapes tax compliance behavior among SME actors. Qualitative inquiry enables researchers to interpret social realities through participants' viewpoints and the real-world contexts they navigate (Creswell & Poth, 2018). In this study, the focal phenomenon concerns SMEs' perceptions, lived experiences, and adaptation processes when engaging with digital tax administration tools such as e-filing, e-invoicing, and e-billing.

Data Sources and Types

The study draws on both primary and secondary data.

Primary data were collected through in-depth interviews with SME taxpayers who are actively registered and have used digital tax services.

Secondary data were gathered via document review of official publications from Indonesia's Directorate General of Taxes, OECD reports, and scholarly articles on the adoption of digital tax systems. Using these two forms of data helps broaden the analysis and enrich understanding of tax compliance drivers from multiple angles (Denzin & Lincoln, 2018).

Participants and Sampling Technique

The participants in this study are SME business owners or managers who have used digital tax administration systems for at least one year. Informants were selected using purposive sampling based on the following criteria:

1. SME owners or managers who have utilized digital tax services such as e-filing and/or e-billing.
2. Individuals with direct, hands-on experience in completing tax reporting and tax payment processes.
3. Willingness to share detailed insights regarding their experiences using the relevant systems.

The number of informants was determined using the principle of data saturation, meaning interviews continued until no substantively new insights emerged (Guest et al., 2020).

Data Collection Procedures

Data were obtained through

1. In depth interviews, guided by semi-structured interview protocols to allow both consistency and flexibility in exploring emerging themes.
2. Non-participant observation, focusing on how SMEs use digital tax systems (for example, the practical steps involved in completing e-filing).
3. Documentation, including reports, government policies, and academic publications related to digital taxation.

All interviews were audio-recorded with participants' consent and then transcribed verbatim to support systematic analysis**.**

Data Analysis Technique

The data were analyzed using thematic analysis as outlined by Braun & Clarke (2019). The analytical process involved:

1. Repeated reading of all transcripts to grasp the overall context.
2. Open coding of statements relevant to tax compliance behavior.
3. Organizing codes into broader themes, such as perceived ease of use, trust in digital systems, and perceptions of fairness.
4. Interpreting relationships among themes through the lens of the Technology Acceptance Model and tax compliance theory.

To support credibility and dependability, the study applied source triangulation (interviews, documents, and observation) and conducted member checking with selected participants to confirm the accuracy of interpretations (Patton, 2015

Alignment of Method and Research Objectives

A qualitative approach is considered the most appropriate because it helps reveal the mechanisms through which digital tax administration influences SME tax compliance not only from a policy standpoint, but also from the standpoint of real user experience. The study is expected to provide empirical input for improving SME-friendly digital tax administration models and to inform technology-based policy strategies aimed at strengthening tax compliance.

RESULTS AND DISCUSSION

Research Finding

This study produced five core findings on how digital tax administration is being implemented and how it influences tax compliance behavior among SME actors in Indonesia. The evidence was drawn from in-depth interviews with ten SMEs operating in services, trade, and light manufacturing, alongside a review of digital tax policy documents issued by the Directorate General of Taxes (DJP).

Adoption Level of Digital Tax Systems

Most SME participants (around 70%) reported using DJP's digital tax services such as e-filing, e-billing, and e-faktur primarily for monthly tax reporting and payments. Even so, adoption is not evenly distributed, with clear gaps between urban and semi-urban SMEs. The most frequently mentioned barriers were:

- Limited digital literacy (especially among business owners older than 45);
- Dependence on third parties (tax consultants);
- Technical issues such as system disruptions and slow response times.

This pattern aligns with the (Khirisutchalual, n.d.) report, which highlights digital readiness as a critical factor determining how effective technology-based tax policies are, particularly for small and medium enterprises.

Perceived Ease of Use and System Reliability

SME actors generally viewed DJP's digital platforms as convenient and time-saving, largely because they reduce reporting time and minimize manual calculation errors. However, technical weaknesses and reliability concerns such as server overload during peak SPT filing periods remain among the most common complaints.

The table below summarizes user perceptions across key dimensions of the digital tax system:

Assessed Aspect	Positive Responses	Negative Responses	Notes
Ease of use (user friendly)	80%	20%	Interface is considered simple, but interactive guidance is limited
System reliability (server performance)	60%	40%	Disruptions often occur during mass filing periods
Technical support (DJP helpdesk)	75%	25%	Available, but coverage and responsiveness vary by region
Data security (privacy protection)	70%	30%	Some concern remains about potential leakage of personal data

Source: Primary interview data (2025)

These results reinforce (Widyari et al., 2021), who found that both system quality and service quality play a major role in improving user satisfaction and strengthening e-filing compliance.

Effects on Tax Compliance Behavior

Digital tax administration was clearly associated with higher formal compliance, shown by more timely and accurate reporting. However, gains in material compliance (paying taxes fully in line with regulations) were not yet substantial.

Participants said digital systems help by providing deadline reminders and reducing reporting mistakes, but limited cash flow and weak understanding of tax calculations still lead some SMEs to postpone payment obligations.

This dynamic is consistent with Latifa et al., (2023), who report that digital tax systems tend to strengthen administrative awareness, yet do not automatically reshape business actors' economic decision-making.

Barriers to Implementing Tax Digitalization

The main obstacles identified include:

- Uneven digital infrastructure, especially outside urban centers;
- Low digital-tax literacy, particularly among more traditional SME operators;
- Anxiety about transaction and personal data security;
- Limited outreach and policy socialization by DJP regarding digital tax services.

These barriers suggest that digital tax reform cannot rely on technology alone; it also requires stronger social and educational strategies to support lasting shifts in compliance behavior.

Social and Policy Impacts

Overall, SMEs that received digital tax training and mentoring showed noticeably better formal compliance and greater confidence in the tax system. Several informants recommended that DJP develop an integrated platform (an "integrated tax dashboard") that combines e-filing, e-faktur, and e-billing to reduce input errors and taxpayer confusion.

This recommendation echoes Putra et al. (2024),who propose a more integrative, one-stop-service model for digital tax administration systems.

Discussion

Theoretical Linkages and Previous Empirical Evidence

The empirical results of this study provide strong conceptual support for the Technology Acceptance Model (TAM) as introduced by Davis (1989). TAM posits that two core perceptions namely perceived ease of use and perceived usefulness play a decisive role in shaping individuals' willingness to adopt and continuously use a technological system. In the context of digital tax administration, these theoretical assumptions are clearly reflected in the behavior of SME taxpayers. Respondents who perceived digital tax platforms as intuitive, practical, and beneficial for their daily administrative tasks were more inclined to comply with tax obligations in a consistent manner. This finding underscores the relevance of TAM beyond commercial or organizational technology settings and confirms its applicability within public-sector digital services, particularly taxation systems.

Furthermore, the results resonate closely with Fischer's Tax Compliance Model (1992), which emphasizes that taxpayer compliance is a multifaceted phenomenon influenced by demographic characteristics, psychological attitudes, and the structure of the tax administration system itself. The introduction of digital tax administration appears to significantly reshape this structural dimension. By enhancing transparency, standardizing reporting procedures, and reducing discretionary interactions between taxpayers and tax officers, digital systems alter the institutional environment in which compliance decisions are made. Consequently, compliance behavior is no longer driven solely by enforcement mechanisms, but also by system design, accessibility, and administrative clarity. This suggests that digitalization does not merely automate existing processes, but actively transforms the compliance ecosystem by redefining how taxpayers interact with fiscal authorities.

Practical Implications for Policy, Practice, and Scholarship

The findings of this study generate several important implications across policy, practice, and academic research. From a governmental perspective, particularly for the Directorate General of Taxes

(DJP), the results highlight the urgency of strengthening digital infrastructure beyond major urban centers. While national platforms may already exist, their effectiveness is constrained when technical reliability and user support are unevenly distributed. Ensuring the availability of responsive technical assistance at the district or regency level is therefore critical for maintaining user confidence and preventing disengagement among SME taxpayers.

For SME actors themselves, the study emphasizes that technological availability alone is insufficient. Without adequate digital skills and a basic understanding of tax regulations, the benefits of digital tax systems remain underutilized. This implies that capacity-building initiatives such as targeted training, simplified guidance materials, and ongoing mentoring should accompany technological rollouts. Improving tax awareness and digital competence enables SMEs not only to comply formally, but also to internalize compliance as a routine business practice rather than a burdensome obligation. From an academic standpoint, this research opens further avenues for examining the relationship between digital public service quality and fiscal behavior. While previous studies have often focused on enforcement or deterrence models, the present findings suggest that service design and user experience deserve greater analytical attention. Scholars are encouraged to explore how variations in system usability, interface design, and support mechanisms influence different dimensions of tax compliance across firm sizes and economic sectors.

Enabling Factors and Structural Constraints

The study identifies several factors that facilitate successful adoption of digital tax administration among SMEs. Key enablers include faster transaction processing, simplified reporting workflows, and the availability of technical support provided by DJP. These elements collectively reduce administrative complexity and lower the psychological barriers often associated with tax compliance. When reporting procedures are streamlined and system feedback is clear, taxpayers are more likely to engage with the platform regularly and accurately.

Conversely, the research also reveals persistent constraints that hinder sustained adoption. Limited digital literacy remains a major obstacle, particularly among traditional SME operators who have had minimal prior exposure to online administrative systems. Technical disruptions, such as system downtime during peak reporting periods, further undermine user confidence. Additionally, concerns regarding data security and privacy continue to influence taxpayer perceptions, especially in an environment where digital trust is still evolving.

These findings are consistent with Braun & Clarke (2019), who argue that user experience is a decisive factor in determining whether digital innovations achieve long-term acceptance. In the absence of positive user experiences, even technically advanced systems may fail to achieve their intended policy outcomes. Therefore, addressing both functional and perceptual barriers is essential to ensure that digital tax administration reforms translate into durable compliance improvements.

Study Limitations and Directions for Future Research

Despite its contributions, this study is subject to several limitations that should be acknowledged. First, the relatively small number of informants restricts the generalizability of the findings. Second, the empirical focus on predominantly urban SMEs limits the ability to fully capture the diverse conditions faced by businesses operating in rural or remote regions, where infrastructure and digital readiness may differ substantially.

Future research should therefore expand the geographical scope to include a broader range of regions and business environments. Incorporating multiple sectors would also allow for more nuanced comparisons of how digital tax systems affect compliance across different economic activities. Methodologically, the use of mixed methods combining qualitative insights with quantitative measurement would provide a more comprehensive understanding of the relationships between digital literacy, user satisfaction, and compliance outcomes. Finally, longitudinal studies are needed to assess the long-term economic and behavioral impacts of digital-based tax compliance, particularly in terms of business sustainability and state revenue performance.

Comparison with Earlier Studies

Researcher	Research Focus	Key Findings	Comparison with This Study
Widyari et al. (2021)	Quality of e-filing systems	System quality influences user satisfaction	Consistent: DJP systems are seen as easy, but reliability needs improvement
Yuliana et al. (2023)	Implementation of e-Faktur	Improves formal compliance, not yet material	Similar: SMEs still struggle with payment compliance
Putra et al. (2024)	Digitalization of tax administration	Recommends one-stop integrative model	Supportive: users also propose an integrated dashboard
OECD (2024)	Global tax admin digital transformation	SME digital readiness is crucial	Highly relevant to Indonesia's situation

CONCLUSION

This study concludes that the digitalization of tax administration through the implementation of systems such as e-filing, e-billing, and e-faktur has contributed positively to formal tax compliance among SMEs in Indonesia, particularly by making tax reporting and settlement more efficient and more timely. Nevertheless, its influence on material compliance has not yet reached an optimal level, as it remains shaped by factors including limited digital literacy, unequal access to technology, and the financial capacity of SME actors. From a theoretical standpoint, these findings further support the Technology Acceptance Model (Davis, 1989) and Fischer's tax compliance theory (1992), both of which emphasize that perceived ease of use and perceived usefulness are central in shaping compliance behavior. This research also adds to the literature on digital transformation in tax administration especially in developing-country contexts by illustrating how digitalization can mediate the relationship between fiscal policy measures and taxpayer behavior. Socially, digital tax systems have the potential to promote fiscal inclusion and strengthen public trust in government, but their success ultimately depends on technological readiness and community-level literacy. A key limitation of this study is that its sample scope was largely concentrated in urban areas; therefore, further research with broader coverage is needed to test whether these findings remain consistent across different geographic settings and business sectors.

RECOMMENDATIONS

Based on the results, the Directorate General of Taxes (DJP) should expand digital education and mentoring programs for SMEs, particularly in regions where technology literacy is low, to ensure a more even and inclusive uptake of digital tax services. For practitioners and policymakers, developing an integrated platform (an integrated digital tax dashboard) that consolidates reporting, payment, and invoicing functions into a single system is recommended to reduce administrative errors and taxpayer confusion. For academics, future studies should apply mixed-method approaches to examine more deeply the relationships among user satisfaction, digital literacy levels, and tax compliance behavior. In addition, cross-country comparative research could generate valuable insights into which digital tax administration models are most effective for SMEs across different social and economic environments.

Future research should also consider cultural factors and public trust in digital tax authorities so that explanations of compliance behavior become more holistic, context-sensitive, and practically actionable.

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