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Determinants of Taxpayer Compliance in Indonesia's Integrated Identification System: Literacy, Socialization, Digital Services, and Security

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ABSTRACT

Purpose – This paper seeks to examine the factors influencing MSME taxpayer compliance during the transitional era of National Identity Number (NIK) and Taxpayer Identification Number (NPWP) integration. Specifically, it analyzes the roles of tax literacy, personal data security, digital service quality, and tax socialization in shaping compliance among small business owners.
Methodology/approach – A quantitative approach was employed, collecting primary data through surveys. The sample consisted of 200 MSME entrepreneurs operating in the DKI Jakarta region, predominantly dominated by young, female digital-native entrepreneurs within the food and beverage sector. The collected data were analyzed using structural equation modeling via SmartPLS 4 to test the proposed hypotheses.
Findings – This study shows that personal data security, tax socialization, tax literacy, and the quality of digital services all have a positive and significant impact on encouraging MSME tax compliance. Among all these factors, personal data security turns out to be the strongest driver. These findings confirm that cyber protection and simplifying the digital tax system are really important for building voluntary compliance during regulatory transitions.
Novelty/value – As Indonesia undergoes a major structural shift toward a unified identity system (NIK-NPWP), this study offers timely empirical insights into how structural data security concerns and digital infrastructure readiness directly dictate compliance behavior among micro and small enterprises.

INTRODUCTION

Taxation plays a crucial role in Indonesia's State Budget (APBN), serving as the primary funding source for national development and economic stabilization. To optimize state revenue, ensuring taxpayer compliance is highly critical, particularly within the Micro, Small, and Medium Enterprises (MSMEs) sector, which accounts for the vast majority of business actors in the country. However, recent empirical data from the Directorate General of Taxes (DJP) reveals a severe compliance crisis in the submission of Annual Income Tax Returns (SPT Tahunan PPh). The formal compliance ratio of Individual Non-Employee Taxpayers in the MSME sector dropped sharply by more than 39%, plummeting from 67.41% in 2023 to a mere 27.96% in 2024. This dramatic decline presents an urgent empirical phenomenon that demands deep academic investigation.

To address the narrow tax base and enhance administrative efficiency, the government through the DJP implemented a major policy transformation by integrating the National Identification Number (NIK) as the Taxpayer Identification Number (NPWP). This single identity system aims to streamline tax administration and offer greater convenience, enabling taxpayers to fulfill their obligations without managing multiple tax identification cards. Nevertheless, this massive data integration process has triggered substantial hurdles on the ground. MSME actors frequently struggle to comprehend the activation procedures and experience administrative anxieties regarding the systematic changes. The sharp decline in the 2024 compliance rate suggests a strong correlation between this policy transition period and the lack of taxpayer readiness, where procedural confusion and administrative ambiguities severely hinder voluntary compliance.

The urgency to re-evaluate tax literacy in this digital transition is further amplified by inconsistent empirical findings in previous literature. A study by (Yulianti & Fauzi, 2020) revealed that tax literacy does not yield a significant impact on tax compliance among MSME entrepreneurs. Corroborating this view, a recent study by (Kristanti & Anggraeni, 2026) also determined that tax literacy and perceptions of tax fairness are insufficient to directly drive higher compliance levels. Conversely, (Triansyah & Putra, 2025) presented a conflicting insight, demonstrating that tax literacy significantly influences taxpayer compliance, with digital understanding acting as a powerful booster to this relationship. This noticeable research gap underscores the clear necessity for further exploration, particularly in evaluating how literacy functions when small business owners are forced to navigate structural system shocks like the NIK-to-NPWP integration.

Beyond internal literacy, the success of transitioning into an integrated tax environment relies heavily on external safeguards, specifically the security of taxpayer information. Accelerating tax digitalization by utilizing NIK as NPWP requires robust personal data protection protocols to build institutional trust among taxpayers. However, public anxiety over data safety has intensified due to real-world breaches. According to (Purnama & Della, 2025), a massive data breach occurred in 2024 involving approximately 6 million NIK and NPWP records, sparking widespread threats of identity theft and financial fraud. This incident generated severe friction, as cybersecurity uncertainties discourage taxpayers especially MSMEs from utilizing digital platforms. While (Erasashanti et al., 2025) argued that positive cybersecurity perceptions significantly elevate tax compliance, guaranteeing strict data protection during this transition is critical to ensuring that the integration is viewed as a secure administrative convenience rather than a privacy threat.

Furthermore, digital service quality plays a decisive role in defining taxpayer satisfaction and ease of compliance. In the context of the NIK-NPWP integration, service quality translates into system reliability and interface simplicity for MSME actors who often operate with limited technological proficiency. (Erasashanti et al., 2025) indicated that system simplicity exerts a positive and significant effect on a taxpayer’s ability to comply, implying that user-friendly digital tax systems encourage compliance. However, empirical inconsistencies persist, as (Yulianti & Fauzi, 2020) found that service quality has no significant effect on MSME taxpayer compliance. This contradiction offers a critical opportunity to investigate whether current digital services adequately support taxpayers during policy shifts or if they act as technical barriers that alienate small business compliance in the field.

In the midst of these complex policy shifts, tax socialization serves as a vital determinant to minimize information asymmetry and mitigate administrative confusion among MSMEs. Intensive and widespread socialization conducted by fiscal authorities does not merely deliver top-down regulatory updates; it acts as a direct catalyst to raise awareness, dismantle tax stigmas, and foster intrinsic compliance values. The weight of this factor is supported by (Wulandari et al., 2020), who found that tax socialization exerts a positive and significant effect on MSME tax compliance. Similarly, (Aini et al., 2025) reaffirmed that intensive socialization correlates strongly with improved compliance rates. Therefore, continuous and strategic tax socialization must operate in tandem with tax literacy, digital services, and data security to drive voluntary compliance.

Despite the extensive literature on digital taxation, a profound research gap remains unresolved. Prior studies heavily focus on tax compliance under stable digital environments, largely overlooking how compliance behaves during abrupt, mandatory identity-data integrations like the NIK-NPWP transition. Existing models fail to synthesize internal cognitive factors (tax literacy) and external operational factors (digital service quality and tax socialization) with critical risk-perceptive elements (personal data protection) in a single framework. Consequently, there is an incomplete understanding of how these variables interact when taxpayers face heightened administrative vulnerabilities and systemic anxieties.

This study directly addresses both practical and theoretical problems emerging from this policy shift. Practically, the staggering 39% decline in Indonesian MSME tax compliance within a single year signals a critical failure in policy adoption and field readiness, threatening national revenue and formal tax ratios. Theoretically, this phenomenon exposes a conceptual mismatch; while traditional acceptance theories suggest that structural digitalization inherently increases compliance through efficiency, empirical reality shows that without robust data protection and intensive socialization, structural shifts can trigger compliance resistance due to information asymmetry and perceived security risks.

To bridge these gaps, the primary objective of this research is to empirically analyze and evaluate the determinants of MSME taxpayer compliance during the structural NIK-NPWP integration era. Specifically, this study aims to assess the simultaneous and partial effects of personal data protection, digital service quality, tax literacy, and tax socialization on voluntary tax compliance among MSME actors. By doing so, this study clarifies the conflicting mechanisms that dictate small business compliance behavior during high-stakes regulatory transitions.

The fundamental novelty of this research lies in its empirical timing and comprehensive model integration. Conducted during the active transition of the NIK-NPWP unification, this study captures real-time behavioral responses to a live regulatory shock. Furthermore, by introducing personal data protection as a core determinant alongside digital service quality and socialization, this study expands the traditional compliance paradigm. It shifts the academic conversation from general digital utility to data-security trust, providing a novel framework for analyzing small business tax compliance in developing economies undergoing digital national identity integration.

Based on the alarming drop in compliance rates and the documented research gaps in preceding studies, a comprehensive empirical re-examination is highly necessary. The ambiguous impacts of tax literacy and digital service quality, compounded by the pressing demands for data security and fiscal socialization, justify the execution of an integrated model. Given that MSME actors face severe technological adaptation barriers and administrative risks during this transition, the researcher is compelled to conduct a study titled: **Determinants of Taxpayer Compliance in Indonesia's Integrated Identification System: Literacy, Socialization, Digital Services, and Security**

LITERATURE REVIEW (if any)

Theoretical Framework and Hypotheses Development

Attribution theory is a theoretical concept that explains the process of how individuals try to find, interpret, and determine the motives and reasons behind the behavior or actions of others as well as themselves (Erasashanti et al., 2023). Basically, this theory argues that the actions and decisions a person makes don’t happen in a vacuum, but are shaped by the dynamic interaction between two main forces: internal factors that come from within the individual and external factors that come from the surrounding environment (Erasashanti et al., 2023).

Taxpayer Compliance

Compliance is generally an action by an individual or group that follows existing rules, norms, and regulations, whether official or unofficial. Taxpayer compliance in this study is evaluated through dimensions taken from the research (Do et al., 2022), which include: Our company declares all taxes when filing returns, Our company reports all income to the tax authorities for tax assessment, Our company pays taxes before other expenses, files returns through the e-tax system and at the same time submits (printed copies) to the tax authorities, Our company pays taxes assessed by the tax authorities, When our accounts are not audited by the return due date, we file a due date extension, After the due date is approved, we file within the given period, Our company has been exempted from paying withheld income tax.

Tax Literacy

In this study, tax literacy is understood as the ability and knowledge that taxpayers have regarding existing tax regulations. Indicators applied from the research (Triansyah & Putra, 2025) include: understanding of General Tax Provisions, Tax Procedures (KUP), taxpayers' understanding of tax sanctions, knowledge of Service Quality, and Tax Sanctions on Taxpayer Compliance. Then, tax literacy indicators from the research (Kumanireng & Bayu Utomo, 2023) include: Tax Awareness, Contextual Knowledge, and making meaning or informed decision-making.

Tax Socialization

Tax socialization is an organized and continuous effort by the tax authorities to provide information, instill values, and give knowledge to taxpayers regarding the applicable tax rules and systems. Indicators from research (Diamonalisa & Noraza, 2023) include: Views on filing tax reports, Socialization as a means of delivering information, Socialization as a motivational tool, Socialization after issues arise, Frequency, Frequency of taxpayer participation, Information through print media, Information through electronic media, Direct information from officers.

Digital Service Quality

Digital service quality is a representation of external factors coming from the tax system environment and strongly affects taxpayers' perceptions and actions. Indicators from researchers (Naulian et al., 2025) include: Tangible items, Reliability, Responsiveness, Assurance, Empathy. Other indicators from researchers (Bintang Maharani et al., 2025)) include: Responsive and friendly staff, Service facilities and infrastructure, Information technology, and Payment procedure effectiveness.

Personal Data Security

The protection of personal data during the integration of NIK as NPWP is a form of external attribution (external forces) that is crucial in shaping taxpayers' sense of security. Indicators used by the researchers (Meiliyah et al., 2025) include: Data security is guaranteed during transactions, User data protection with passwords and usernames, Data confidentiality is guaranteed, Obtaining information with user consent. Other indicators from the researchers (Erasashanti et al., 2025) include: My data is safe, Trusted system security, Safe online payments, Data is not lost, Strong data protection.

Tax Literacy and Taxpayer Compliance

Research (Aini et al., 2025) shows that tax literacy has a significant and positive impact on taxpayer compliance, where a good understanding serves as the basis for individuals to voluntarily fulfill their tax obligations. This finding aligns with research (Putri et al., 2023) which states that tax literacy is one of the main factors that positively influence individual taxpayer compliance.

H1: Tax Literacy has a positive effect on Taxpayer Compliance

Tax Socialization and Taxpayer Compliance

The urgency of the importance of this socialization function is also supported by various previous empirical evidence. Research conducted by (Diamonalisa & Noraza, 2023) revealed that tax socialization has a positive and significant effect on taxpayer compliance, where the clarity of messages through communication media channels is the key to its success. In line with that, findings from (Tambunan, 2021) study showed that tax socialization has a negative effect on taxpayer compliance. These differing results reinforce the urgency of this study to re-examine the role of tax socialization in today's digital era.

H_2: Tax Socialization has a positive effect on Taxpayer Compliance

Digital Service Quality and Taxpayer Compliance

Research conducted by (Bintang Maharani et al., 2025) states that the quality of tax services has a positive effect on taxpayer compliance, where optimal and adequate services are preferred external factors that can encourage awareness and compliance levels. However, the study by (Nitasari et al., 2023) offers a different perspective, suggesting that service quality alone does not always have a direct impact if it is not accompanied by adequate education or literacy levels.

H_3: Digital Service Quality has a positive effect on Taxpayer Compliance

Personal Data Security and Taxpayer Compliance

Research (Barri & Hidayat, 2025) revealed that in the implementation of digital systems, data security factors can actually boost taxpayers' awareness and responsibility in fulfilling their obligations. This is supported by findings from study (Purnama & Della, 2025) showing that data breaches significantly affect taxpayer compliance levels. If data security assurance is low, taxpayers' willingness to comply tends to drop due to a loss of sense of safety.

H_4: Personal Data Security has a positive effect on Taxpayer Compliance

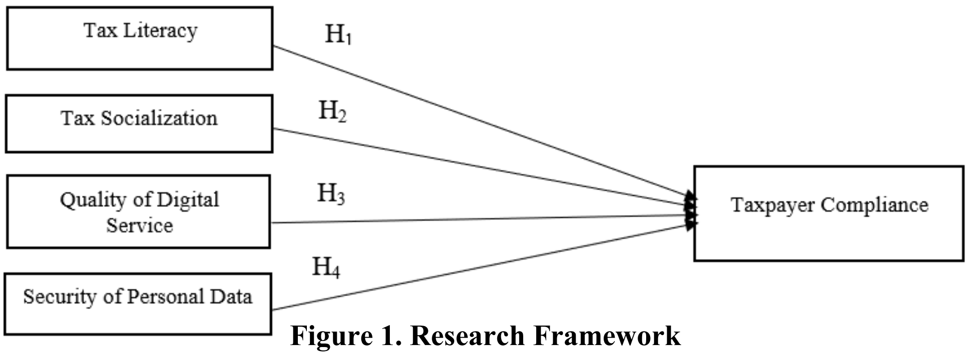

Figure 1. Research Framework

METHOD

This study applies a quantitative approach with a causal research design to examine the relationships between personal data protection, digital service quality, tax literacy, tax socialization, and taxpayer compliance among MSME owners, which aims to explain cause-and-effect relationships between the studied variables (Sugiyono, 2022). The primary objective is to analyze the direct and structural influences of these variables within the context of the NIK-to-NPWP integration era. The target population of this study comprises individual MSME taxpayers operating in East Jakarta. This location was specifically selected as it represents a highly dynamic urban economic zone with a substantial concentration of MSME actors undergoing the digital tax transition. The sampling technique utilized is purposive sampling, establishing specific respondent criteria based on certain considerations to fit the research objectives (Sugiyono, 2022). The criteria include: respondents must be individual MSME owners registered in East Jakarta, minimum 17 years of age, and actively utilizing the digital tax platform during the NIK-NPWP integration transition period.

A sample size of 200 respondents is determined to ensure adequate statistical representation. Primary data collection is carried out through online questionnaires distributed via Google Forms. The research instrument is developed using indicator items adapted from relevant previous literature, measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to measure the attitudes and opinions of the respondents (Sugiyono, 2022). The measured variables include personal data protection, digital service quality, tax literacy, tax socialization, and taxpayer compliance. The collected data are analyzed using Structural Equation Modeling with Partial Least Squares (PLS-SEM) assisted by SmartPLS software. This method is selected for its high capability in handling complex multi-variable structural models, robustness against non-normal data distributions, and efficiency in processing institutional sample sizes. In accordance with the statistical analysis stages outlined by (Sugiyono, 2022), the analytical procedure is conducted through a multi-stage evaluation framework, encompassing descriptive statistical analysis, outer model evaluation (convergent validity via outer loadings, discriminant validity, and reliability tests including Composite Reliability and Cronbach's Alpha), inner model evaluation (R^2, Q^2, and f^2), and final hypothesis testing through bootstrapping.

RESULT AND DISCUSSION

Respondents' Profile

Prior to evaluating the structural model, a descriptive analysis of the respondents' demographic characteristics was conducted. The empirical data was successfully gathered from 200 MSME respondents. The detailed demographic profile of the respondents, including gender, age, business sector, and duration of business operation, is summarized in Table 1 below:

Table 1. Respondents' Demographic Characteristics

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	157	78,5%
	Female	43	21,5%
Age	18-25 years	172	86%
	26-35 years	24	12%
	36-45 years	2	1%
	>45 years	2	1%
Residence	East Jakarta	44	22%
	North Jakarta	26	13%
	South Jakarta	75	37,5%
	West Jakarta	34	17%
	Central Jakarta	21	10,5%
Business Sector	Culinary (F&B)	117	58,5%
	Fashion / Apparel	49	24,5%
	Basic necessities	18	9%
	School supplies	14	7%
	And Others (Like; Laundry, Salon, Tutoring/Private Lessons, Online)	37	18,5%
Business Duration	1-5 years	179	90%

Characteristics	Category	Frequency	Percentage (%)
	6-10 years	15	7%
	11-15 years	4	2%
	> 15 years	2	1%

he table 1 presents the demographic and business characteristics of the 200 respondents involved in the study. In terms of gender, the majority of respondents were male, accounting for 157 respondents (78.5%), while female respondents represented 43 respondents (21.5%). This indicates a substantial male predominance among the business owners or participants surveyed.Regarding age, most respondents were relatively young. A total of 172 respondents (86%) were aged 18–25 years, followed by 24 respondents (12%) aged 26–35 years. Only 2 respondents (1%) were aged 36–45 years and another 2 respondents (1%) were over 45 years old. This distribution suggests that the sample was dominated by young entrepreneurs.Based on residence, the largest proportion of respondents lived in South Jakarta, with 75 respondents (37.5%), followed by East Jakarta with 44 respondents (22%), West Jakarta with 34 respondents (17%), North Jakarta with 26 respondents (13%), and Central Jakarta with 21 respondents (10.5%).In terms of business sector, culinary businesses dominated the sample, comprising 117 respondents (58.5%), followed by fashion/apparel businesses with 49 respondents (24.5%). Basic necessities accounted for 9%, school supplies 7%, and other businesses, including laundry, salons, tutoring, and online businesses, represented 18.5%.

Table 2. Measurement Model Assessment (Validity and Reliability Results)

Variables	Indicators	Loading	CR	CA	AVE
Taxpayer Compliance	Y1.1	0,738	0,836	0,739	0,561
	Y1.2	0,780			
	Y1.3	0,749			
	Y1.4	0,729			
Tax Literacy	X1.1	0,715	0,876	0,827	0,587
	X1.2	0,789			
	X1.3	0,836			
	X1.4	0,716			
	X1.5	0,767			
Tax Socialization	X2.1	0,749	0,848	0,764	0,583
	X2.2	0,716			
	X2.3	0,790			
	X2.4	0,794			
Digital Service Quality	X3.1	0,718	0,864	0,793	0,614
	X3.2	0,792			
	X3.3	0,815			
	X3.4	0,806			
Personal Data Security	X4.1	0.820	0,850	0,766	0,588
	X4.2	0.767			
	X4.3	0.721			
	X4.4	0.754			

Table 2 summarizes the measurement model evaluation results. All indicator loadings exceed the recommended threshold of 0,70, ranging from 0,715 to 0,836, confirming adequate indicator reliability. Likewise, all constructs achieve Composite Reliability (0,836–0,876), Cronbach's Alpha (0,739–0,827), and Average Variance Extracted (0,561–0,614) values above the recommended thresholds, indicating satisfactory internal consistency and convergent validity. Therefore, the measurement model fulfills the validity and reliability requirements for further structural model evaluation.

Table 3. Fornell-Larcker Criterion Results

Variables	Personal Data Security	Taxpayer Compliance	Digital Service Quality	Tax Literacy	Tax Socialization
Personal Data Security	0,766				
Taxpayer Compliance	0,391	0,749			
Digital Service Quality	0,373	0,281	0,784		
Tax Literacy	0,248	0,276	0,075	0,766	
Tax Socialization	0,200	0,284	0,189	0,053	0,763

Table 3 presents the results of the Fornell-Larcker criterion for assessing discriminant validity. The square root of the Average Variance Extracted (AVE) for each construct (ranging from 0,749 to 0,784) is greater than its correlations with other constructs, indicating that all constructs are empirically distinct. Therefore, the discriminant validity requirement based on the Fornell-Larcker criterion has been satisfied.

Table 4. Heterotrait-Monotrait Ratio (HTMT) Results

Variables	Personal Data Security	Taxpayer Compliance	Digital Service Quality	Tax Literacy	Tax Socialization
Personal Data Security					
Taxpayer Compliance	0,513				
Digital Service Quality	0,475	0,353			
Tax Literacy	0,316	0,334	0,117		
Tax Socialization	0,259	0,368	0,241	0,146	

Furthermore table 4, to strengthen the assessment of discriminant validity as requested, the Heterotrait-Monotrait (HTMT) ratio was evaluated. As shown in Table 4, all HTMT values between the constructs range from 0,117 to 0,513. Since all of these values are well below the conservative threshold of 0,85, the discriminant validity of the measurement model is fully established, confirming that the constructs are distinct and ready for structural model evaluation.

Structural Model Evaluation (Inner Model)

Table 5. Model Fit Results

Value	***Estimated Model***
SRMR	0,059

Table 5 presents the structural model fit assessment based on the Standardized Root Mean Square Residual (SRMR). The estimated model yields an SRMR value of 0.059, which is well below the standard conservative threshold of 0.08. This indicates that the proposed empirical model possesses a good fit and matches the observed data sample adequately.

Table 6. Coefficient of Determination (R-Square) Results

Variabels	***R-square***	*R – Square adjusted*
Taxpayer Compliance (Y)	0,246	0,231

The coefficient of determination evaluation is summarized in Table 6. The R-square value for Taxpayer Compliance (Y) is 0,246 (with an R-square adjusted of 0,231), indicating that 24,6% of the variance in MSME taxpayer compliance can be explained simultaneously by Tax Literacy, Tax Socialization, Digital Service Quality, and Personal Data Security. Meanwhile, the remaining 75,4% is explained by other external variables not included in this structural framework.

Table 7. f-Square *(f^2)* Effect Size Results

Line	***f-square***	***Effect Size***
Tax Literacy → Taxpayer Compliance	0,046	Kecil
Tax Socialization → Taxpayer Compliance	0,049	Kecil
Digital Service Quality → Taxpayer Compliance	0,020	Kecil
Personal Data Security → Taxpayer Compliance	0,068	Kecil

Table 7 outlines the practical contribution of each exogenous construct toward the endogenous variable through the f^2 effect size test. The analysis reveals that Personal Data Security exerts the highest effect size (f^2 = 0,068), followed closely by Tax Socialization (f^2 = 0,049) and Tax Literacy (f^2 = 0,046), all of which fall into the small effect category. Concurrently, Digital Service Quality shows the minimum threshold impact with an f^2 value of 0,020.

Table 8. Path Coefficients and Hypothesis Testing

Hipotesis	**Structural Relationship Between Variables**	**Koefisien Jalur (OriginalSample)**	**T-Statistik**	**P-Value**	**Conclusion**
H1	Tax Literacy → Taxpayer Compliance	0.193	2.686	0.007	Signifikan
H2	Tax Socialization → Taxpayer Compliance	0.198	2.008	0.045	Signifikan
H3	Digital Service Quality → Taxpayer Compliance	0.134	2.034	0.042	Signifikan
H4	Personal Data Security → Taxpayer Compliance	0.253	3.166	0.002	Signifikan

The empirical results of the hypothesis testing detailed in Table 8 reveal that all four proposed hypotheses are statistically supported. The first hypothesis (H1), which posits that Tax Literacy positively influences Taxpayer Compliance, is accepted as indicated by a positive and significant path coefficient (β = 0,193; T = 2,686; p = 0,007). Similarly, Tax Socialization (H2) exhibits a positive and significant direct effect on Taxpayer Compliance (β = 0,198; T = 2,008; p = 0,045), confirming the acceptance of H2. Regarding the technological and service aspects, Digital Service Quality (H3) is shown to significantly and positively drive Taxpayer Compliance (β = 0,134; T = 2,034; p = 0,042), thereby supporting H3. Lastly, Personal Data Security (H4) is also accepted as a significant predictor of Taxpayer Compliance (β = 0,253; T = 3,166; p = 0,002). Since all T-statistics consistently exceed the critical value of 1,64 for a one-tailed test (α = 5%) and all p-values are well below the 0,05 significance threshold, it is concluded that all independent variables successfully drive MSME taxpayer compliance in this integration era, with Personal Data Security exerting the strongest direct influence.

The Critical Role of Tax Literacy

The structural model evaluation presented in Table 8 demonstrates that Tax Literacy has a positive and significant direct effect on Taxpayer Compliance (β = 0,193; T-statistics = 2,686; P-value = 0,007), thereby validating H1. This finding implies that increasing cognitive capacity and independent knowledge cuts down on information asymmetry in society. MSME actors who are literate will understand the function of integrating NIK into NPWP as a form of bureaucratic simplification, rather than as a coercive tool that harms their business climate. The positive influence of Tax Literacy shows that compliance cannot just be forced through a system, but must be accompanied by mature legal understanding at the grassroots level so that taxpayers know their rights and obligations rationally.

This empirical outcome is highly consistent with the study by (Aini et al., 2025), which shows that tax literacy has a significant and positive effect on taxpayer compliance, confirming that a good understanding becomes the basis for individuals to voluntarily fulfill their tax obligations. However, these results differ from the findings of (Mardhatilla et al., 2023), who reported that Tax Literacy only has a positive but non-significant effect on taxpayer compliance. In the specific context of the live NIK-NPWP transition, this research proves that tax literacy shifts from being a secondary trait to a vital internal capability that allows small business operators to adapt to mandatory identity-system migrations.

The Contribution of Tax Socialization

Based on the statistical parameters summarized in Table 8, Tax Socialization exerts a positive and significant direct influence on Taxpayer Compliance (β = 0,198; T-statistics = 2,008; P-value = 0,045), successfully supporting H2. This finding reveals that massive tax education and information campaigns serve as an interactive learning bridge. Clear and engaging socialization can help reduce ignorance and ease public uncertainty during the transition to new regulations. The significant positive contribution indicates that when fiscal authorities deliver material in an easy-to-understand way, it successfully turns MSME players' confusion into real actions to validate their tax data. Active institutional socialization transforms complex administrative amendments into understandable daily rules. Once MSMEs grasp the mechanisms through continuous socialization, their procedural ambiguity drops, and they realize that the integration is designed to reduce long-term compliance costs.

This discovery contradicts the historical findings of (Yulianti & Fauzi, 2020), who argued that formal socialization has marginal effects on small businesses. Conversely, the result strongly expands the empirical views of (Triansyah & Putra, 2025), validating that intensive regulatory comprehension driven by systemic tax socialization directly underpins voluntary tax actions during major national policy transitions.

The Optimization of Digital Service Quality

As illustrated by the empirical metrics in Table 8, Digital Service Quality has a positive and significant direct impact on Taxpayer Compliance (β = 0,134; T-statistics = 2,034; P-value = 0,042), confirming H3. This statistical result indicates that the quality of information systems and digital services is a vital external stimulus. When the tax platform is considered highly reliable and responsive, operational obstacles for MSME players are immediately reduced, and this technical ease automatically turns administrative burdens into compliant actions. For MSME players in East Jakarta who exhibit high mobility, the convenience and structural reliability of digital systems serve as a crucial factor in their willingness to report taxes.

This finding strongly aligns with the insights of (Erasashanti et al., 2025), which emphasize that digital transformation can boost voluntary compliance by strengthening taxpayers' trust and comfort while reducing reliance on coercive enforcement mechanisms like audits, fines, and administrative sanctions. On the other hand, research by (Nitasari et al., 2023) offers a different perspective, suggesting that service quality alone does not always have a direct impact if it is not accompanied by adequate education or baseline literacy levels among the targeted taxpayers.

The Contribution of Personal Data Security

According to the path coefficients detailed in Table 8, Personal Data Security exhibits a positive and highly significant direct effect on Taxpayer Compliance (β = 0,253; T-statistics = 3,166; P-value = 0,002), validating H4. Remarkably, this variable carries the largest path coefficient among all predictors in the structural framework, sending a strong signal that cyber privacy assurance acts as the main foundation for building compliance trust. When data protection is seen as strong, the psychological fear of MSME actors about the risk of financial information leaks or misuse of digital identity in the era of NIK-NPWP can be effectively eliminated. Feeling secure about digital identity privacy is a crucial asset for fiscal authorities to foster voluntary compliance from the public.

This pivotal benchmark result is highly compatible with the study by (Barri & Hidayat, 2025), which reveals that in the implementation of public digital systems, data security factors significantly boost taxpayers' awareness and responsibility in fulfilling their obligations. Furthermore, this outcome is heavily supported by the empirical evidence from (Purnama & Della, 2025), showing that the historical occurrence of data breaches has a severe, direct impact on the level of public taxpayer compliance. Consequently, securing integrated system privacy is proved to be the most powerful strategic leverage point to prevent compliance resistance during the mandatory NIK-NPWP integration era.

CONCLUSION

This study shows that the quality of digital services is the most dominant and significant factor in influencing MSME taxpayers' compliance during the transition from NIK to NPWP integration. Although personal data security, tax literacy, and tax socialization also have a positive and significant impact, their structural influence is not as strong as the quality of services provided by the DJP digital platform. These findings emphasize that optimizing the performance, accessibility, and convenience of the digital tax system acts as a crucial external force in turning administrative burdens into voluntary compliance among MSME actors.

Practically speaking, the Directorate General of Taxes (DJP) is advised to prioritize improving the quality of its digital tax portal services, especially by maintaining server uptime stability, simplifying the interface, and strengthening cybersecurity to ensure the security of taxpayers' sensitive data. DJP also needs to carry out more targeted outreach, like special educational programs for young digital-native entrepreneurs and mapping business segments based on their level of digital readiness. Theoretically, future research is recommended to expand the sample area beyond Jakarta to capture cultural and regional variations across Indonesia, while also adding new psychological or institutional variables such as trust in the government, perception of tax fairness, or public awareness to deepen the understanding of compliance behavior dynamics when major structural policy changes occur.

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