



Taxpayer compliance: Effect of tax administration system modernization and NPWP ownership through service quality mediation

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Abstract: *Modernizing the tax administration system and expanding NPWP ownership are the government's main strategies to increase tax compliance. However, both aspects often don't work optimally without adequate support for service quality. This study aims to determine the effect of the modernization of the tax administration system and NPWP ownership on taxpayer compliance, with service quality as a mediator. A quantitative approach was applied using PLS-SEM. Data were gathered from 135 respondents who carry out tax activities at KPP Pratama Bantul and Yogyakarta, using purposive sampling. The results showed that the modernization of the tax administration system has no effect on taxpayer compliance, whereas NPWP ownership has a positive effect. In addition, service quality was shown to mediate the relationship between system modernization and NPWP ownership and taxpayer compliance. This finding indicates that technological sophistication will not optimally increase taxpayer compliance without being accompanied by high service quality. This study enriches the understanding of the Theory of Planned Behavior and Attribution Theory in tax compliance. In practice, this study encourages tax officers not only to focus on technology development but also to serve taxpayers, as the key to shaping taxpayers' intentions and awareness of compliance.*

Keywords: *Modernization; NPWP; Service quality; Tax compliance.*

1. Introduction

Taxation is the largest source of state revenue and plays a key role in the development of a nation and its states, as it can finance all state expenditures (Nдалu & Wahyudi, 2022). One factor that can increase tax revenue comes from taxpayer compliance; for this reason, taxpayers play a crucial role in Indonesia's development by contributing to compliance with their tax obligations (Josua & Ismail, 2025). However, low levels of taxpayer compliance remain a major challenge today. Based on data from the Directorate General of Taxes, the number of taxpayers who have filed their Annual Tax Return has not reached the predetermined target, indicating that some taxpayers have not complied with their tax obligations (Florence & Suhartono, 2023). Growth is projected to decline by 3.5% in 2024, or Rp1,932.4 trillion, which is considered insufficient to meet the target set in the State Budget (APBN). To mitigate the risk of a continued downward trend, the government has set a relatively optimistic tax revenue target of Rp2,183.31 trillion for 2025, representing 13.27% growth over the previous year. However, the data show that the formal compliance ratio in 2025 will only reach 76.06%. This figure is under significant pressure due to the previous year's performance and is unlikely to reach the target of 81.92% (Directorate General of Taxes, 2026).

The Directorate General of Taxes has launched various modernization initiatives to improve the efficiency and effectiveness of tax service (Vemirozan & Adeyani, 2024). The transformation of the tax administration system is a modernization that utilizes information technology, making it easier for taxpayers to report and pay their taxes (Ayu et al., 2025). Modernization of the tax administration system is an important factor influencing taxpayer compliance (Sari & Utomo, 2026). Online NPWP registration is also one of the many modifications made by the tax authorities to modernize the tax system (Josua & Ismail, 2025). Given that effective tax administration requires official taxpayer identification, the Taxpayer Identification Number (NPWP) policy has been optimized by integrating the National Identification Number (NIK). This digital transformation represents a strategic effort to facilitate access to taxpayer identities, thereby strengthening fiscal oversight in an automated, integrated manner. Taxpayer Identification Number (NPWP) registration directly contributes to expanding the tax base and optimizing state revenues by increasing the number of registered taxpayers (Saga et al., 2025). However, in practice, the effectiveness of digitalization in modernizing the tax administration system has not fully increased compliance to an optimal level without the support of other factors (Zaskia & Umaimah, 2025). Therefore, service quality plays a crucial role in bridging the gap between system modernization and taxpayer compliance. This quality of service can affect taxpayers' comfort and security, as well as their willingness to continue paying taxes (Octavianti et al., 2025).

The level of taxpayer compliance remains low because many taxpayers delay payments or deliberately avoid taxes. The process is considered complicated, with the system often error-prone and taxpayers not understanding how to obtain an NPWP. This phenomenon can be explained through the theory of planned behavior and attribution theory. According to the theory of planned behavior, taxpayers' tax compliance obligations are influenced by their intentions and perceptions of the e-tax system's ease of use (Ndalu & Wahyudi, 2022). In addition, attribution theory is closely related to tax compliance. Attribution theory explains that a person's behavior is influenced by internal and external factors, which shape taxpayers' compliance with their tax obligations (Intan et al., 2025). By adopting an attribution theory perspective, this study can explore in depth the situational and psychological factors that may influence taxpayer compliance. This theory provides a strong basis for detailing the complexity of tax compliance dynamics (Ayu et al., 2025).

Several previous studies have examined tax compliance factors and found that modernization of the tax administration system has a positive effect on taxpayer compliance (Ayu et al., 2025; Fabian & Herianti, 2025; Putra et al., 2024; Utama, 2025; Yuliani & Ratnasari, 2025). In addition, the research results showed that NPWP ownership positively affects taxpayer compliance (Istiqomah & Putriyanti Zifi, 2021; Riantini & Sanulika, 2023; Saga et al., 2025). Other research showed that modernizing the tax administration system and having a Taxpayer Identification Number (NPWP) have not been proven effective in improving taxpayer compliance, meaning errors still frequently occur, and taxpayers have difficulty accessing tax applications (Primastiwi & Dwi, 2021; Santioso & Daryatno, 2025;

Wensy et al., 2022; Zaskia & Umaimah, 2025). This difference creates a research gap, necessitating the use of a connecting variable to address these discrepancies.

The emergence of digital systems such as CoreTax creates new opportunities to investigate how system modernization affects people's tax behavior (Josua & Ismail, 2025). Furthermore, service quality is seen as a factor that can mediate the relationship between system modernization and NPWP ownership in increasing tax compliance. The quality of tax services plays an important role in the effectiveness of the online tax system (Dewi et al., 2024). Providing outstanding tax services will increase taxpayer compliance with tax reporting requirements. However, the role of service quality as a mediating variable has not been widely discussed in prior research on tax compliance. Therefore, this research is very important and represents a novelty in the literature on tax compliance in the digital era. Based on the background description above and the references found, this study aims to examine the role of service quality as a mediating variable in mediating the influence of modernization of the tax administration system and NPWP ownership on taxpayer compliance.

2. Literature Review & Hypothesis development

2.1. Theory of Planned Behavior

In the theory of planned behavior, intention is the primary determinant of a person's behavior, shaped by three main pillars: attitude toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). This theory strongly supports research on tax compliance (Febriyanto & Faisol, 2023). The theory of planned behavior is a psychological framework based on the basic assumption that individuals act consciously and attend to information describing factors that motivate them to decide on certain actions (Maxuel & Primastiwi, 2021). This theory can explain various factors that influence, predict, and change taxpayer compliance behavior (Intan et al., 2025). Tax compliance is a condition in which taxpayers fulfill all their tax obligations (Febriyanto & Faisol, 2023). System modernization is designed to make it easier for taxpayers to fulfill their tax obligations. This will motivate taxpayers to fulfill their tax obligations and increase taxpayer compliance.

2.2. Attribution Theory

Attribution theory explains how an individual defines and observes events, and how this process aims to determine the causes of behavior, both internal and external. The causes of behavior are believed to come from within the individual, such as nature, character, abilities, while behavior comes from outside or environmental situations beyond the individual's control. This theory is highly relevant to tax compliance because it explains that a person's behavior is influenced by internal and external factors, leading taxpayers to comply with their tax obligations (Intan et al., 2025). Internal factors are behaviors believed to occur under an individual's influence or personal control. Meanwhile, external factors are behaviors caused by external factors or perceived as the indirect result of external parties (Wensy et al., 2022). Through attribution theory, taxpayer compliance can be linked to a taxpayer's attitude toward the tax and to individual assessments of the tax itself (Ayem & Staquf, 2022).

2.3. Hypotheses

2.3.1. The Influence of Modernization of the Tax Administration System on Service Quality

The government is striving to manage the tax administration system by integrating information technology and providing reliable digital facilities. Advanced features, such as the taxpayer portal, can facilitate taxpayers' access to tax services without waiting for manual confirmation from tax officials. This automated service will reduce the risk of human error. Taxpayers will increase their trust and be encouraged to comply with tax regulations as a result of the quality of the services provided. This increased compliance intention occurs because service quality directly strengthens taxpayers' behavioral control. According to the theory of planned behavior, a person's intention is shaped by attitudes, subjective norms, and behavioral control. If taxpayers believe that modernization can deliver benefits through the conveniences it offers, they will develop a positive attitude, which in turn will improve their perception of service quality, as it is seen as providing real solutions. Previous studies have found that a modern tax administration system has been empirically proven to improve the quality of service in the digitalization era (Agustin & Umaimah, 2025; Florence & Suhartono, 2023; Vemirozan & Adeyani, 2024). The better and more modern the tax administration system implemented, the more the quality of tax services will significantly improve.

H₁: Modernization of the tax administration system has a positive effect on service quality.

2.3.2. The Influence of Taxpayer Identification Number Ownership on Service Quality

A Taxpayer Identification Number (NPWP) is a taxpayer administration tool used to identify taxpayers (Febriyanto & Faisol, 2023). Having an NPWP facilitates administrative processes at various agencies. In addition to serving as identification for exercising tax rights and obligations, many agencies now require an NPWP for services they provide. NPWP ownership is the first step in tax imposition and oversight. Increasing NPWP ownership will directly expand the fiscal database, which projects a significant increase in potential state revenue. Based on attribution theory, increasing the number of NPWP holders and meeting state revenue targets are viewed by tax officials as external demands that must be met. This perception of external responsibility motivates agencies to improve service performance to achieve these targets. Previous research shows that NPWP ownership significantly improves tax compliance and revenue. Increased tax revenue will impact service quality (Indriani & Norhamida, 2024; Riantini & Sanulika, 2023; Saga et al., 2025).

H₂: Ownership of a taxpayer identification number positively influences service quality.

2.3.3. The Influence of Modernization of the Tax Administration System on Taxpayer Compliance

Modernization of the tax administration system is a crucial factor influencing taxpayer compliance. A modern tax information system must support various tax administration functions, from registration and reporting to tax payment (Vemirozan & Adeyani, 2024). This modernization aims to facilitate taxpayers in fulfilling their tax obligations through

technology-based systems, such as Coretax. The more sophisticated and user-friendly the system, the greater the likelihood of taxpayer compliance (Sari & Utomo, 2026). This system modernization is considered a pillar of tax reform because it is highly effective at increasing taxpayer compliance and facilitating tax collection efforts (Ayu et al., 2025). The use of increasingly sophisticated technology is expected to facilitate taxpayers in exercising their tax rights and obligations, thereby encouraging taxpayer compliance. The theory of planned behavior posits that attitudes and perceived behavioral control are influenced by internal and external factors. In the context of taxation, if the services provided by the tax system are of high quality, such as providing convenience, efficiency, and integrity without any obstacles, this will build trust and positive attributions from taxpayers, which in turn will increase taxpayer compliance. Previous results show that modernization of the tax administration system has a positive effect on taxpayer compliance (Fabian & Herianti, 2025; Oktari & Yulita, 2025; Yuliani & Ratnasari, 2025).

H₃: Modernization of the tax administration system influences taxpayer compliance.

2.3.4. The Influence of Taxpayer Identification Number Ownership on Taxpayer Compliance

In the self-assessment system, a NPWP serves not only as an administrative requirement but also as a means of expanding the tax base and strengthening fiscal oversight. Increasing NPWP ownership also increases tax reporting and payments (Saga et al., 2025). In terms of taxpayer behavior, individuals with NPWPs generally demonstrate greater discipline in filing annual tax returns and paying taxes on time than those without NPWPs (Yuliatiningsih & Priono, 2026). The theory of perceived behavioral control, part of the theory of planned behavior (TPB), suggests that a person will take action if there is a strong perception or belief of control that supports it. Taxpayers with a Taxpayer Identification Number (NPWP) will find it easier to save on their taxes because they are given a lower rate than those without one. The benefits experienced by taxpayers with an NPWP will further increase taxpayer compliance with their tax obligations. Previous research shows that the obligation to own an NPWP has a positive effect on taxpayer compliance (Indriani & Norhamida, 2024; Riantini & Sanulika, 2023; Yuliatiningsih & Priono, 2026).

H₄: Ownership of a taxpayer identification number influences taxpayer compliance.

2.3.5. The Influence of Service Quality on Taxpayer Compliance

Service quality in the context of taxation can be defined as the services provided by the Directorate General of Taxes (DGT) to taxpayers to assist them in fulfilling their tax obligations and fulfilling their tax rights. Service quality can be interpreted as the extent to which a service meets customer expectations or needs. Service is considered high quality if it provides products or services that meet customer needs and expectations (Ermawati et al., 2022). The quality of tax services is one of the factors that determines the level of taxpayer compliance. Quality services will increase taxpayer satisfaction, thereby encouraging taxpayers to comply with their tax obligations (Istiqomah & Putriyanti Zifi, 2021). Service quality plays a crucial role in shaping the perceptions and satisfaction of service users, including taxpayers. In this study, tax service quality is defined as taxpayers' perceptions of

the effectiveness, efficiency, and ease of the tax office's services, both in direct interactions and in digital services (Wirawan & Sjarif, 2025).

Tax compliance is defined as the condition in which taxpayers fulfill their tax obligations (Febriyanto & Faisol, 2023). Tax compliance is the awareness of fulfilling tax obligations, reflected in situations where taxpayers understand and strive to comprehend all provisions of tax laws and regulations, complete tax forms completely and clearly, calculate the amount of tax owed correctly, and pay taxes on time (Ermawati et al., 2022). It can be concluded that taxpayer compliance is an attitude of obedience by taxpayers to fulfill their tax rights and obligations in accordance with applicable laws and regulations. There are two categories related to taxpayer compliance, namely formal compliance, which refers to the situation in which the bound individual or entity has fulfilled their tax responsibilities based on regulations, and material compliance, namely the condition where the taxpayer has fulfilled all material tax requirements of applicable regulations (Fabian & Herianti, 2025). Attribution theory aligns with this research because it holds that a person's actions stem from their perception of an event's cause. Taxpayers will perceive quality service as a manifestation of professionalism from tax officials. This assessment fosters positive perceptions among taxpayers, which in turn builds taxpayer trust and encourages them to comply with their tax obligations voluntarily. The higher the quality of service, the greater the likelihood of taxpayer compliance. Previous research shows that the quality of tax services has a significant positive effect on taxpayer compliance (Dewi et al., 2024; Hartanto et al., 2025; Wirawan & Sjarif, 2025).

H₅: Service quality has a positive influence on taxpayer compliance.

2.3.6. The Influence of Service Quality Mediating the Modernization of the Tax Administration System on Taxpayer Compliance

Tax modernization in Indonesia aims to create a fair, transparent, and efficient tax system. Modernization of the tax administration system integrates digitalization with a restructuring of service standards based on speed, accuracy, and transparency. Attribution theory shapes excellent service quality into positive perceptions among taxpayers regarding the professionalism of tax officials. Improved service quality will lead to greater taxpayer compliance. Therefore, service quality can mediate the modernization of the tax administration system and taxpayer compliance. Previous research shows that service quality can contribute to taxpayer satisfaction and mediate the relationship between the tax administration system and taxpayer compliance (Agustin & Umaimah, 2025; Florence & Suhartono, 2023). Service quality and digital taxation play a significant role in improving taxpayer compliance (Kamil et al., 2025). Although research that places service quality as a mediating variable in the relationship between system modernization and taxpayer compliance is still limited, based on the logic of system linkages and attribution theory, the author suspects that:

H₆: Service quality mediates the modernization of the tax administration system on taxpayer compliance.

2.3.7. The Influence of Service Quality Mediating Ownership of Taxpayer Identification Number on Taxpayer Compliance

Increasing NPWP ownership will potentially increase state revenue. Increased revenue will enable the government to provide better facilities and services to the public. The theory of planned behavior posits that positive attitudes are highly effective at encouraging actual behavior when supported by adequate facilities. In reality, many taxpayers still do not intend to obtain an NPWP because they perceive no benefits, and the quality of service is inadequate. Therefore, improving service quality will strengthen the positive attitudes of taxpayers who already have NPWPs, thereby significantly increasing taxpayer compliance. Previous research found that NPWP ownership provides benefits and influences taxpayer compliance, and service quality has a positive effect on taxpayer compliance (Istiqomah & Putriyanti Zifi, 2021; Lende et al., 2021). Although research that places service quality as a mediating variable in the relationship between NPWP ownership and taxpayer compliance is still limited, based on the logic of system linkages and attribution theory, the author suspects that:

H7: Service quality mediates the effect of taxpayer identification number ownership on taxpayer compliance.

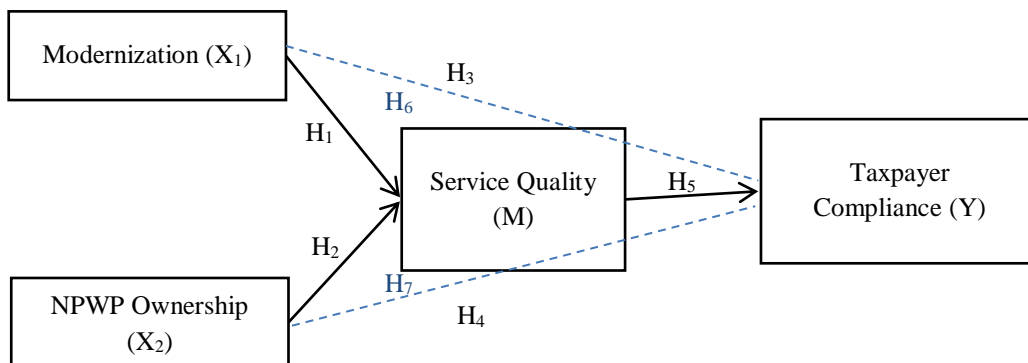


Figure 1. Research Framework

3. Method

This study employed a quantitative method with primary data sources. Data were obtained by distributing questionnaires directly to taxpayers engaged in tax activities at KPP Pratama Bantul and Yogyakarta. The study population comprised all taxpayers registered with the KPP in the Special Region of Yogyakarta. This study selected the Bantul and Yogyakarta Tax Offices as research sites to obtain comprehensive data from two distinct regional characteristics: the city center and the buffer zone. In addition to ensuring representation of the taxpayer population in the Yogyakarta region, the selection of these locations was also based on considerations of time efficiency, cost, and ease of access for researchers to collect data.

The sampling technique used was purposive sampling, with the criteria of taxpayers who have an active NPWP and have previously used digital tax applications such as Coretax. Measurement of this variable was conducted using a Likert-scale questionnaire to ensure

accurate data. The *Likert scale* is a measure used to assess how strongly subjects agree with a statement on a 5-point scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree (Ayu et al., 2025).

Table 1. Research Instrument

Variables	Instrument
Modernization of the Tax Administration System (X1) (Ayu et al., 2025)	1. (MTAS1) The service access can be done anytime and everywhere.
	2. (MTAS2) The language and instructions in the tax application are very clear and easy to understand.
	3. (MTAS3) With a modernization system, the time needed to report taxes becomes more effective and efficient.
	4. (MTAS4) The modernization system provides benefits for taxpayers in carrying out tax administration easily.
Ownership of Taxpayer Identification Number (X2) (Febriyanti et al., 2023)	1. (OTN1) NPWP functions as an official identity in carrying out tax rights and obligations.
	2. (OTN2) Having an NPWP is very useful in managing tax administration.
	3. (OTN3) Having an NPWP makes it easier to access tax administration system services.
	4. (OTN4) NPWP registration is done voluntarily without coercion from any party.
	5. (OTN5) NPWP can be deleted or deactivated if the taxpayer no longer meets the subjective and objective requirements.
	6. (OTN6) Delays or deliberate failure to obtain a NPWP may be subject to sanctions in accordance with applicable law.
Taxpayer Compliance (Y) (Ayem & Deo, 2024)	1. (TC1) As a taxpayer, I understand the rules of tax law.
	2. (TC2) As a taxpayer, I comply with providing the data required in the tax audit process.
	3. (TC3) As a taxpayer, I voluntarily register myself at the tax office.
	4. (TC4) I do bookkeeping and recording correctly and honestly.
	5. (TC5) I calculate and report the taxes owed correctly and honestly.
	6. (TC6) I am always on time in paying the taxes owed.
	7. (TC7) I always deposit and report my periodic tax returns on time every month.
Service Quality (M) (Triono et al., 2022)	1. (SQ1) Tax officers have reliable and professional performance to increase taxpayer trust.
	2. (SQ2) Tax officers have reliable knowledge in providing information regarding the use of the new system.
	3. (SQ3) Tax officers are responsive in serving taxpayers and helping to resolve problems faced by taxpayers.
	4. (SQ4) Tax officers guarantee the confidentiality of data from each taxpayer.
	5. (SQ5) Tax officers provide a high level of attention and empathy in providing services.
	6. (SQ6) Physical facilities such as waiting rooms, parking areas, forms, etc., available at the tax office are very adequate.

In this study, data quality testing was conducted through an outer model evaluation to assess whether the instruments used were valid and reliable, as the accuracy of the processed data strongly determines the quality of the research results (Fajrin, 2024). The data analysis employed a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach using SmartPLS4 to test the significance of path coefficients for both direct and indirect effects via mediating variables. Three criteria were used in measuring the outer model: convergent

validity, discriminant validity, and composite reliability (Agustiani et al., 2022; Budiarto et al., 2021). After testing the outer model, the next step is to test the inner model. Inner model testing is conducted to determine the extent of the independent variables' impact on the dependent variable. The higher the R-square value, the better the research model is considered. In the R-square test, there are generally three criteria used: an R^2 value > 0.67 is considered strong, an R^2 value > 0.33 is considered moderate, and an R^2 value < 0.19 is considered weak (Fajrin, 2024). The path coefficient test is considered significant if the T-statistic exceeds 1.96 and the P-value is less than 0.05. In this case, the proposed hypothesis can be indicated as accepted. However, if the T-statistic is less than 1.96 and the P-value is greater than 0.05, the proposed hypothesis is indicated as unacceptable or rejected (Fajrin, 2024).

4. Result

This study involved 135 respondents who were active taxpayers registered at the KPP Pratama in the Special Region of Yogyakarta. Before analyzing the structural model, this section presents a general overview of the respondents' characteristics. The respondents consisted of 73 men (54.1%) and 62 women (45.9%). This study categorized the respondents' characteristics based on age, education level, occupation, registered KPP region, and taxpayer status.

Table 2. Respondent Characteristics

No	Information	Amount	Percentage
1.	Gender:		
	a. Man	73	54.1%
	b. Woman	62	45.9%
2.	Age:		
	a. 21-35	57	42.1%
	b. 36-45	29	21.4%
	c. > 45	46	34.1%
3.	Last education:		
	a. High School/Equivalent	37	27.4%
	b. Diploma	15	11.1%
	c. Bachelor's	65	48.1%
	d. Master	14	10.3%
	e. Other	4	2.9%
4.	Work:		
	a. Civil servant	12	8.8%
	b. Private	61	45.1%
	c. Businessman	27	20%
	d. Trader	3	2.2%
	e. Other	32	23.7%
5.	Registered KPP Area:		
	a. Yogyakarta	41	30.3%
	b. Sleman	16	11.8%
	c. Bantul	77	57.1%
	d. Wates	-	-
	e. Wonosari	1	0.7%
6.	Taxpayer Status:		
	a. Private person	122	90.4%
	b. Company	13	9.6%

Table 2 summarizes the characteristics of the respondents and shows that the majority are taxpayers aged 21-35 years, totaling 57 people (42.1%), indicating that most taxpayers are in the productive age group. Regarding respondents' highest level of education, the majority were Bachelor's graduates, totaling 65 (48.1%). Regarding occupation, the majority were private-sector workers, totaling 61 people (45.1%). Viewed from the registered KPP area, as many as 41 people are registered at KPP Pratama Yogyakarta, 16 at KPP Pratama Sleman, 77 at KPP Pratama Bantul, and 1 at KPP Pratama Wonosari. In terms of taxpayer status, 122 people (90.4%) are individual taxpayers, and 13 (9.6%) are corporate taxpayers.

Convergent validity is assessed by the loading factor of each indicator on its construct; an indicator is considered valid if the loading factor is greater than 0.70. However, for initial research on developing a measurement scale, a loading factor between 0.50 and 0.60 is still acceptable (Ghozali, 2014). Based on Table 3, the test results show that all indicators for each variable, such as tax administration system modernization, NPWP ownership, taxpayer compliance, and service quality, have loading factor values ranging from 0.50 to 0.87. This value is already above 0.50. Therefore, all constructs in this study meet the requirements for convergent validity.

Table 3. Outer Loading Factor Values

Variables	Indicator	Loading Factor Value
Modernization (X1)	MTAS1	0.747
	MTAS2	0.713
	MTAS3	0.830
	MTAS4	0.855
NPWP Ownership (X2)	NO1	0.755
	NO2	0.816
	NO3	0.818
	NO4	0.684
	NO5	0.573
	NO6	0.500
Taxpayer Compliance (Y)	TC1	0.626
	TC2	0.815
	TC3	0.745
	TC4	0.809
	TC5	0.855
	TC6	0.826
	TC7	0.800
Service Quality (M)	SQ1	0.848
	SQ2	0.871
	SQ3	0.871
	SQ4	0.768
	SQ5	0.866
	SQ6	0.635

A variable will be said to be valid and meet the requirements of discriminant validity if the cross-loading value of each variable indicator is the largest compared to other variables, and the AVE value of each indicator has a value > 0.50 (Ghozali, 2014). Based on the test results, all indicators for each variable have the highest cross-loadings, and the AVE is > 0.50 . In addition, discriminant validity is assessed by examining HTMT values

across variables; it is considered satisfied if HTMT values are < 0.90. Thus, it can be concluded that each variable indicator in this study has good discriminant validity. A variable is considered reliable and meets the composite reliability criterion if it has a value > 0.70 (minimum > 0.60), and this can be strengthened by a Cronbach's alpha value > 0.70 (Ghozali, 2014).

Table 4. Discriminant Validity (HTMT)

	Taxpayer Compliance	NPWP Ownership	Service Quality	Modernization
Taxpayer Compliance				
NPWP Ownership	0.671			
Service Quality	0.599	0.677		
Modernization	0.473	0.744	0.704	

Table 5. Composite Reliability Values

Variables	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Results
Modernization (X1)	0.795	0.799	0.867	Reliable
NPWP Ownership (X2)	0.782	0.793	0.849	Reliable
Taxpayer Compliance (Y)	0.895	0.895	0.918	Reliable
Service Quality (M)	0.895	0.901	0.921	Reliable

Table 6. Path Coefficient Test

Hypothesis	Beta	T statistics	P values	Results
Modernization => Service Quality	0.404	4,313	0.000**	H ₁ : Supported
NPWP Ownership => Service Quality	0.328	3,637	0.000**	H ₂ : Supported
Modernization => Taxpayer Compliance	-0.019	0.195	0.845	H ₃ : Not Supported
NPWP Ownership => Taxpayer Compliance	0.391	4,776	0.000**	H ₄ : Supported
Service Quality => Taxpayer Compliance	0.325	4,008	0.000**	H ₅ : Supported

** Sig < 1%

The results of the hypothesis testing in Table 6 indicate that one hypothesis, the system modernization variable, is not supported. This means that the modernization of the tax administration system does not positively affect taxpayer compliance. This suggests that a modernized administration system does not necessarily increase taxpayer compliance. Although the system is considered sophisticated and digital, tax compliance levels do not automatically increase. This finding indicates that technological sophistication is merely a tool. Therefore, tax officials are required to bridge the gap between system modernization and taxpayer compliance.

Table 7. Specific Indirect Effect

Hypothesis	Beta	T-stat.	Sig	Results
Modernization => Service Quality => Taxpayer Compliance	0.132	2.914	0.004**	H ₆ : Supported
NPWP Ownership => Service Quality => Taxpayer Compliance	0.107	2.581	0.010*	H ₇ : Supported

** Sig < 1%; * Sig < 5%

Based on Table 7, the results of the hypothesis test indicate that the modernization of the tax administration system has a positive indirect relationship with taxpayer compliance through service quality, meaning that service quality significantly mediates the effect of the modernization of the tax administration system on taxpayer compliance. In addition, NPWP ownership has a positive indirect relationship with taxpayer compliance through service

quality, indicating that service quality significantly mediates the effect of NPWP ownership on taxpayer compliance.

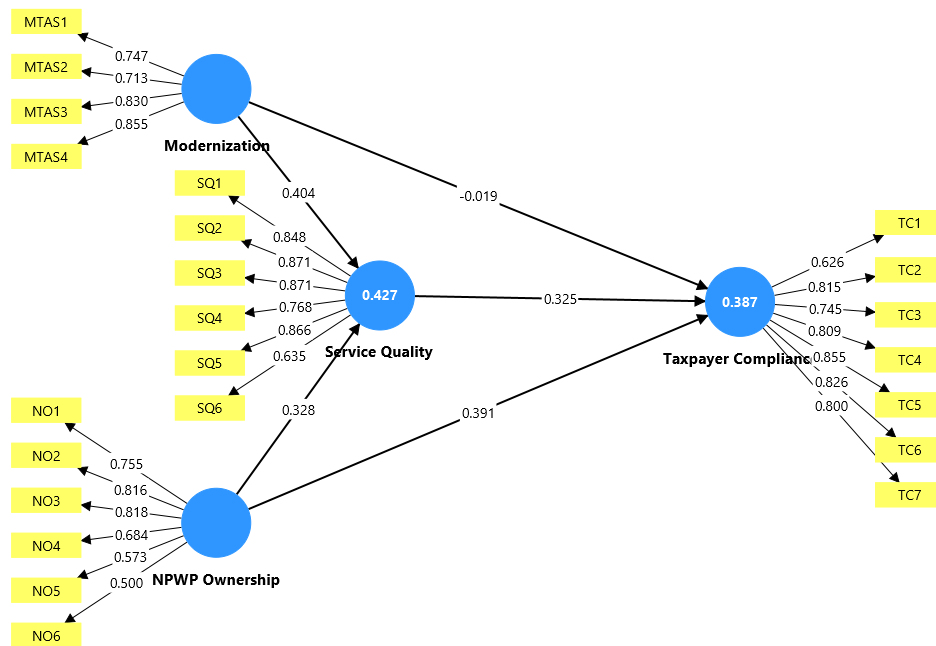


Figure 2. PLS-SEM Algorithm Output

This study successfully proved H₁, indicating that the better and more modern the tax administration system implemented, the higher the quality of tax services will be. Conversely, the more obstacles encountered in system modernization, the more it will hinder the effectiveness of services to taxpayers. This research aligns with the theory of planned behavior (TPB), where a person's intentions are shaped by attitudes and behavioral control. If taxpayers perceive that the system's modernization offers benefits through the conveniences it provides, they will develop a positive attitude toward fulfilling their tax obligations (Vemirozan & Adeyani, 2024). Modernization has a significant impact on the quality of public services by encouraging a shift from slow, manual bureaucracy to a more efficient, transparent, and community-centered system (Agustin & Umaimah, 2025; Florence & Suhartono, 2023).

This study successfully proved hypothesis H₂, which indicates that taxpayers who already have a Taxpayer Identification Number (NPWP) will find it easier to obtain services in managing and fulfilling their tax obligations because having a Taxpayer Identification Number (NPWP) is the main requirement for obtaining tax administration services. The more complete the taxpayer's identity, the more accurate the service provided by tax officers will be, because the system already clearly records the taxpayer's data. This is in line with attribution theory, which explains how a person's perception can influence their behavior. If taxpayers perceive that having a Taxpayer Identification Number (NPWP) provides benefits and ease of access to tax administration services, they will be encouraged to increase their compliance and voluntarily register for an NPWP (Indriani & Norhamida, 2024; Saga et al., 2025).

This study rejects hypothesis H₃, which indicates that a modernized administration system does not necessarily increase taxpayer compliance. Although the system is considered sophisticated and digital, tax compliance levels do not automatically increase. This finding indicates that technological sophistication is merely a tool. This is in line with the theory of planned behavior used in this study, which posits that attitudes, subjective norms, and perceived behavioral control are shaped by both internal and external factors. Taxpayers will increase compliance if external factors, such as good and quality service, are present, making system modernization easier to implement (Primastiwi & Dwi, 2021; Santioso & Daryatno, 2025). Implementing a digital-based tax system may not fully improve tax compliance unless accompanied by a strong understanding and ability to use the system (Zaskia & Umaimah, 2025).

This study successfully proved hypothesis H₄, which indicates that having an NPWP will encourage taxpayers to comply with tax regulations. Not only does NPWP serve as a taxpayer identification number, but it also provides various conveniences when accessing tax services, such as opening accounts, obtaining business permits, and saving on taxes due to lower rates. This aligns with the theory of planned behavior, which states that a person will take action if they have a supportive perception or belief in control (Yuliatiningsih & Priono, 2026). The Taxpayer Identification Number (NPWP) has a significant impact on taxpayer compliance because it serves as a single identifier that records tax activities and restricts access to various administrative services and public services, thereby making taxpayers more orderly and easier to monitor (Indriani & Norhamida, 2024). NPWP has a significant influence on taxpayer compliance because it serves as a single official identifier that links a person or business entity directly to their tax obligations (Riantini & Sanulika, 2023).

This study successfully proved hypothesis H₅, which indicates that the better the quality of service provided, the higher the taxpayer compliance. The results of this study indicate that taxpayers tend to make external attributions for tax officers' behavior. Taxpayers agree that having tax officers with reliable service performance will increase taxpayers' trust. When taxpayers believe their officers can provide good or excellent service, they develop a positive perception and increased trust in the officers, which, in turn, encourages taxpayer compliance (Hartanto et al., 2025). Excellent and transparent service will make the obligation to pay taxes feel easier and fairer, so that taxpayers feel appreciated and motivated to fulfill their obligations voluntarily (Wirawan & Sjarif, 2025). Fast, easy, and friendly service will increase taxpayer awareness. Conversely, complicated procedures and disappointing service will actually trigger reluctance to fulfill tax obligations (Dewi et al., 2024).

This study successfully proved hypothesis H₆, which stated that service quality has a positive influence and mediates the relationship between modernization of the tax administration system and individual taxpayer compliance at the Bantul and Yogyakarta Pratama Tax Offices. This indicates that service quality can bridge the relationship between system modernization and taxpayer compliance. The results of this study indicate that without excellent service quality from tax officers and the system, a modern administration

system alone will be in vain due to a lack of taxpayer understanding and desire to access the service. This supports the existence of attribution theory, in which a person's perception influences behavior. If service quality is poor, taxpayers will blame the system or tax officials for non-compliance. Conversely, if service is good and the system provides high-quality services, this will create a positive perception among taxpayers as a form of professionalism, thereby increasing taxpayer trust and increasing their intention to comply with tax regulations (Agustin & Umaimah, 2025; Florence & Suhartono, 2023). Service quality and digital tax play significant roles in improving taxpayer compliance (Kamil et al., 2025).

This study successfully proved hypothesis H₇, which posits that service quality has a positive influence and mediates the relationship between NPWP ownership and taxpayer compliance at KPP Pratama Bantul and Yogyakarta. This shows that service quality can mediate the relationship between NPWP ownership and taxpayer compliance. These results support the theory of planned behavior, indicating that a positive attitude is highly effective in encouraging actual taxpayer behavior. These findings indicate that taxpayers who already have an NPWP will further increase their compliance if the quality of service they receive is good. The better the quality of service received, the more likely taxpayers are to comply, encouraging them to register voluntarily (Lende et al., 2021). NPWP ownership can provide benefits and influence taxpayer compliance, and service quality positively affects taxpayer compliance (Istiqomah & Putriyanti Zifi, 2021).

5. Conclusion

Overall, the seven hypotheses are supported, and the results of this study indicate that modernization of the tax administration system and ownership of a Taxpayer Identification Number (NPWP) have a positive effect on service quality. Furthermore, ownership of a Taxpayer Identification Number (NPWP) positively affects taxpayer compliance. Conversely, the modernization of the tax administration system has not improved taxpayer compliance. This is because many elderly taxpayers still struggle to use the digital tax system due to insufficient public outreach. Therefore, service quality has been shown to mediate the relationship between system modernization and taxpayer compliance. This finding indicates that without service quality, modernization will not run optimally in improving compliance. Furthermore, service quality positively affects compliance and mediates the relationship between NPWP ownership and taxpayer compliance. This means that NPWP ownership can influence taxpayer compliance directly and indirectly through the intermediary of service quality. This study enhances understanding of the Theory of Planned Behavior and Attribution Theory in tax compliance. In practice, this study encourages tax officials to focus not only on technology development but also on serving taxpayers. Service Quality will build public trust and taxpayer awareness, thereby encouraging taxpayer compliance.

This study has limitations that warrant further development in future research. This study's limitation is its focus solely on the variables of tax administration system modernization and NPWP ownership as mediators of tax compliance, with service quality as the mediating variable. Therefore, a more in-depth analysis of other factors that may

influence taxpayer compliance is still needed. Future studies are encouraged to include variables such as tax authority competence, tax sanctions, and transparency in tax use, which can help explain taxpayer compliance (Santioso & Daryatno, 2025). In addition, this study does not differentiate between individual and corporate taxpayers; researchers are advised to separate these categories to examine whether compliance behavior or perceptions differ between the two groups.

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