

Enhancing Compliance in AI-Enabled Tax Systems for Malaysian SMEs: Role of Trust and Technological Reliability

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Abstract

This paper examines the enhancement of tax compliance among Malaysian small and medium-sized enterprises (SMEs) through AI-enabled tax systems, with particular emphasis on the roles of trust and technological reliability. Grounded in the Theory of Planned Behaviour (TPB), the study examines how trust in AI technologies and perceptions of system dependability influence SMEs' attitudes, subjective norms, perceived behavioural control and voluntary tax compliance intention. A quantitative research design was adopted using structured questionnaires administered to SME owners, directors and senior finance personnel across Malaysia. A total of 248 valid responses were retained for analysis using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results show that trust in AI and technological reliability significantly influence the TPB constructs. Attitude, subjective norms and perceived behavioural control also significantly affect compliance intention, with attitude and perceived behavioural control emerging as stronger predictors than subjective norms. The model explains 58.4% of the variance in tax compliance intention. The findings extend TPB by incorporating AI-related technological perceptions into tax compliance research and provide practical implications for tax authorities, SMEs and digital tax platform developers.

Keywords: *AI-enabled tax systems, Malaysian SMEs, Tax Compliance, Trust in AI, Technological Reliability, Theory of Planned Behaviour*

Introduction

Small and Medium-sized Enterprises (SMEs) in Malaysia constitute a cornerstone of the national economy by not only generating substantial employment opportunities but also by stimulating entrepreneurial activities and contributing significantly to economic diversification. Their agility and adaptability allow them to respond swiftly to market changes, thereby fostering innovation and competitiveness within various sectors. However, this dynamic role is accompanied by inherent challenges for tax authorities, primarily due to SMEs often limited financial and accounting expertise, which can impede accurate tax reporting and compliance. Additionally, disparities in digital literacy among SME operators further complicate the implementation and monitoring of tax regulations, as digital tools and platforms become increasingly integral to tax administration processes. Furthermore, the varying levels of compliance awareness among SMEs highlight the critical influence of organizational and behavioural factors on

tax compliance outcomes. Research underscores that organizational capability, which includes the availability of skilled personnel and robust internal controls, plays a pivotal role in determining how effectively SMEs meet their tax obligations. Audit exposure acts as a deterrent, encouraging adherence to tax laws by increasing the perceived risk of non-compliance. Behavioural intention, shaped by attitudes toward taxation and perceived fairness of the tax system, also significantly impacts compliance decisions. Together, these factors create a complex compliance landscape that requires tailored strategies from tax authorities to support SMEs, enhance their compliance capacity, and ultimately secure steady revenue flows for the government (Bani-Khalid et al., 2022; Mohamed & Gan, 2024).

Malaysia's tax landscape is swiftly evolving with the adoption of digital technologies such as electronic filing, e-invoicing, data analytics, and technology-driven compliance monitoring. Artificial intelligence (AI) holds the promise of enhancing tax administration by identifying discrepancies, automating routine verifications, minimizing manual tasks, and facilitating more prompt compliance actions. Nonetheless, the effectiveness of AI-powered tax systems is not solely reliant on technological implementation. It also hinges on whether SMEs have confidence in these systems, view them as dependable, and feel capable of adhering to compliance requirements through these platforms (Belahouaoui & Attak, 2024; Lim & Seng, 2024).

Previous research on tax compliance has often utilized psychological and behavioral theories to understand the reasons behind voluntary taxpayer compliance. The Theory of Planned Behaviour (TPB) is particularly significant as it accounts for intention through factors such as attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). However, the advent of AI-driven tax administration brings new technological factors into play. In an AI-driven context, SMEs might assess tax compliance not just as a legal duty, but also considering aspects like system transparency, algorithmic dependability, perceived fairness, data security, and user-friendliness (Lai et al., 2025; Mohd Rasdi, 2025).

There is a significant research gap in comprehending how trust in AI and the reliability of technology interact with the constructs of the Theory of Planned Behavior (TPB) to affect the intention of voluntary tax compliance among Malaysian SMEs. Although previous studies have explored digital taxation and technology adoption, there is a scarcity of empirical research that incorporates AI-specific trust and reliability perceptions into a tax compliance behavioral model (Bani-Khalid et al., 2022; Belahouaoui & Attak, 2024; Prastiwi & Diamastuti, 2023). This paper seeks to fill that gap by empirically testing an expanded TPB framework using PLS-SEM.

This research makes three significant contributions to existing literature. Firstly, it enhances the Theory of Planned Behaviour (TPB) by adding trust in artificial intelligence and the dependability of technology as precursors to behavioural beliefs within a digital tax context. Secondly, it concentrates on Malaysian small and medium-sized enterprises (SMEs), a crucial taxpayer group in the shift towards digital taxation. Lastly, it offers practical guidance for tax authorities and system developers on how trust and technological reliability can bolster the intention for voluntary compliance.

Review of Related Literature

Theory of Planned Behaviour in Tax Compliance

The Theory of Planned Behaviour posits that an individual's intention to perform a behavior is shaped by their attitude, the social norms they perceive, and their perceived control over the behavior (Ajzen, 1991). Attitude refers to how positively or negatively a person or organization regards a specific behavior. In terms of tax compliance, a positive attitude may arise when taxpayers view compliance as fair, beneficial, efficient, or a professional obligation. Research on SMEs utilizing the TPB framework also indicates that taxpayers' intentions are influenced by their evaluation of compliance, the social expectations they perceive, and their perceived ability to comply (Bani-Khalid et al., 2022).

Subjective norms refer to the social or institutional pressures that can either promote or deter certain behaviors. For small and medium-sized enterprises (SMEs), these pressures may come from various sources such as tax authorities, accountants, tax agents, auditors, peers in the industry, clients, suppliers, and financial institutions. Perceived behavioral control relates to how easy or difficult an individual believes it is to perform a particular action. In terms of tax compliance, this includes an SME's perceived ability to understand requirements, maintain records, use digital tools, and handle tax-related challenges.

The Theory of Planned Behavior (TPB) is appropriate for this study because voluntary compliance involves more than just an economic decision driven by fines and inspections. It is also influenced by beliefs, expectations, confidence, and perceived capability. In a tax landscape enhanced by AI, these psychological elements may become more significant as small and medium-sized enterprises (SMEs) are required to interact with systems they may not fully understand (Belahouaoui & Attak, 2024; Lai et al., 2025).

Trust in AI-Enabled Tax Systems

Trust is essential in digital public administration because taxpayers must rely on systems that manage, process, and evaluate sensitive financial information. This study examines trust in AI, focusing on how small and medium-sized enterprises view AI-powered tax systems as secure, fair, transparent, and efficient in ensuring accurate tax management. Trust becomes especially important when automated systems could influence risk assessment, compliance monitoring, or audit selection (Okanga, 2021; Prastiwi & Diamastuti, 2023).

When small and medium-sized enterprises (SMEs) trust AI-powered tax systems, they tend to view digital tax compliance more positively. This confidence can ease worries about random penalties, algorithmic bias, and data misuse. It might also enhance the perception that the tax authority is using technology to improve service quality rather than just ramping up enforcement actions. As a result, trust is expected to influence attitudes, subjective norms, and perceived behavioural control (Prastiwi & Diamastuti, 2023).

Technological Reliability

Technological reliability refers to the perceived accuracy, stability, consistency, and dependability of AI-powered tax systems. For small and medium-sized enterprises (SMEs), the dependability of these systems is a practical concern, as tax compliance often requires meeting deadlines, submitting documents, and conducting data matching and

reconciliation. System errors, downtime, incorrect prompts, or unclear algorithmic outputs can increase the compliance burden and erode trust. Previous studies on SME digitalization and AI adoption suggest that the perceived quality, usefulness, and reliability of a system influence both the adoption of technology and its ongoing use (Lai et al., 2025; Lim & Seng, 2024; Yang & Ming, 2024).

Reliable systems can improve SMEs' sense of control over their actions by making compliance tasks easier to perform. Furthermore, they can enhance positive attitudes towards digital tax compliance and strengthen the perception that digital compliance is a commonly accepted and professionally expected norm. As a result, technological dependability is viewed as an external factor affecting the core elements of the TPB (Mohd Rasdi, 2025; Soomro et al., 2025).

Hypotheses Development

H1a: Trust in AI systems significantly and positively influences SMEs' attitudes toward tax compliance.

H1b: Trust in AI systems significantly and positively influences SMEs' subjective norms toward tax compliance.

H1c: Trust in AI systems significantly and positively influences SMEs' perceived behavioural control toward tax compliance.

H2a: Technological reliability significantly and positively influences SMEs' attitudes toward tax compliance.

H2b: Technological reliability significantly and positively influences SMEs' subjective norms toward tax compliance.

H2c: Technological reliability significantly and positively influences SMEs' perceived behavioural control toward tax compliance.

H3a: Attitude significantly and positively influences tax compliance intention.

H3b: Subjective norms significantly and positively influence tax compliance intention.

H3c: Perceived behavioural control significantly and positively influences tax compliance intention.

Research Questions

The objectives of this study are to examine the effects of trust in AI and technological reliability on the TPB constructs and to evaluate the influence of attitude, subjective norms and perceived behavioural control on tax compliance intention among Malaysian SMEs.

RQ1: How does trust in AI influence attitude, subjective norms and perceived behavioural control among Malaysian SMEs?

RQ2: How does technological reliability influence attitude, subjective norms and perceived behavioural control among Malaysian SMEs?

RQ3: How do attitude, subjective norms and perceived behavioural control influence tax compliance intention among Malaysian SMEs?

Methodology

Research Design and Sample

This study used a cross-sectional quantitative research design to examine the structural relationships among trust in AI, technological reliability, TPB constructs and voluntary tax compliance intentions. The target population comprised Malaysian SME owners, directors, accountants, finance managers and senior officers involved in accounting, tax

reporting, e-invoicing or compliance-related decisions. Quantitative survey designs are commonly used in TPB-based compliance and SME technology adoption studies because they allow hypothesised relationships among latent constructs to be statistically tested (Bani-Khalid et al., 2022; Soomro et al., 2025).

A purposive sampling approach was adopted because the study required respondents with knowledge of SME compliance practices and digital tax administration. A total of 248 valid and complete SME responses were retained for analysis. The sample size is considered adequate for PLS-SEM because it exceeds the minimum requirement for assessing the structural model and is appropriate for a prediction-oriented model with multiple latent constructs and hypothesised paths.

Measurement of Constructs

The questionnaire measured all constructs using a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Trust in AI was measured using items related to confidence, fairness, security and reliance on automated tax systems. Technological reliability was measured using items related to accuracy, uptime, system stability and dependable automated processing. Attitude, subjective norms, perceived behavioural control and compliance intention were adapted from TPB-based compliance literature (Ajzen, 1991; Bani-Khalid et al., 2022; Prastiwi & Diamastuti, 2023).

Analysis

Data Analysis Method

The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The analysis involved two stages. First, the measurement model was evaluated for indicator reliability, internal consistency reliability, convergent validity and discriminant validity. Second, the structural model was assessed using bootstrapping with 5,000 resamples to evaluate path coefficients, t-values, p-values and hypothesis decisions. PLS-SEM is appropriate for prediction-oriented models involving multiple latent constructs and structural paths, particularly in SME technology and behavioural research (Soomro et al., 2025).

Conceptual Framework

The conceptual framework integrates trust in AI and technological reliability as AI-enabled tax system perceptions that influence the TPB constructs. Attitude, subjective norms and perceived behavioural control are then modelled as direct predictors of tax compliance intention.

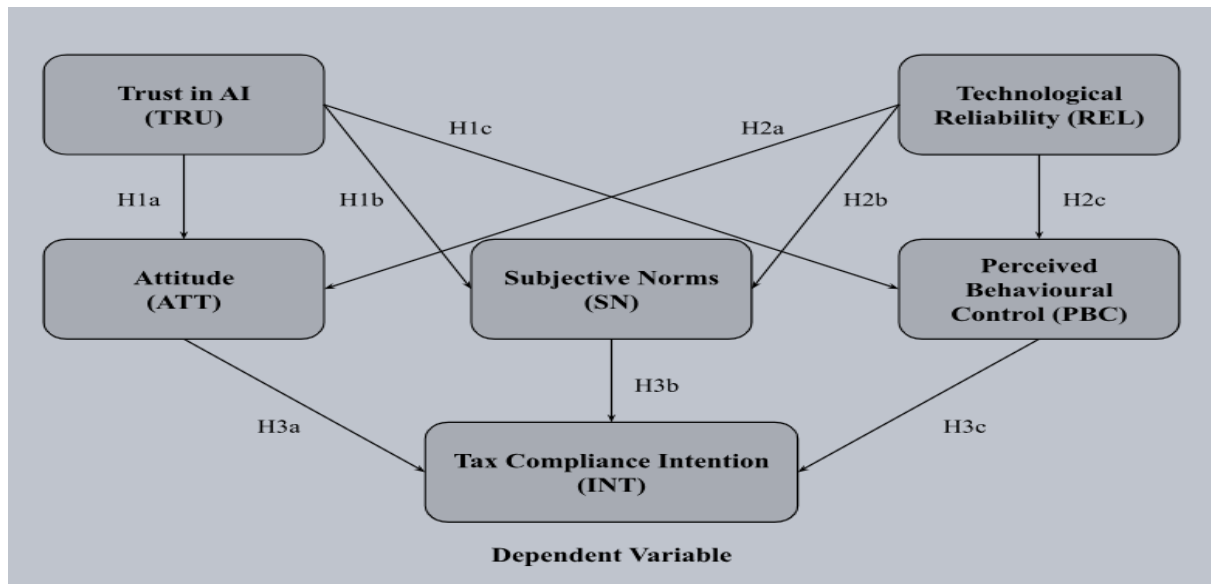


Figure 1. Conceptual Framework Integrating Trust in AI and Technological Reliability with TPB

Findings and Discussion

Measurement Model Assessment

The measurement model was assessed for reliability and validity. The results show that all factor loadings exceeded the recommended threshold of 0.70, indicating adequate indicator reliability. Cronbach's Alpha values ranged from 0.762 to 0.847, while Composite Reliability values ranged from 0.863 to 0.906. These values demonstrate satisfactory internal consistency across all constructs. Convergent validity was also established because all Average Variance Extracted values exceeded 0.50, ranging from 0.641 to 0.762.

Table 1. Measurement Model Assessment

Latent Construct	Indicators	Loading Range	Cronbach's Alpha	Composite Reliability	AVE
Trust in AI (TRU)	TRU1-TRU4	0.798-0.845	0.844	0.895	0.681
Technological Reliability (REL)	REL1-REL4	0.789-0.854	0.847	0.897	0.686
Attitude (ATT)	ATT1-ATT3	0.841-0.880	0.829	0.897	0.744
Subjective Norms (SN)	SN1-SN3	0.802-0.839	0.762	0.863	0.677
Perceived Behavioural Control (PBC)	PBC1-PBC4	0.765-0.834	0.813	0.877	0.641

Latent Construct	Indicators	Loading Range	Cronbach's Alpha	Composite Reliability	AVE
Compliance Intention (INT)	INT1-INT3	0.855-0.891	0.844	0.906	0.762

Discriminant Validity

Discriminant validity was assessed using the Heterotrait-Monotrait ratio. The reported HTMT results were below the recommended threshold, indicating that the latent constructs were empirically distinct. Therefore, the model satisfied the main reliability and validity requirements before proceeding to the structural model assessment.

Structural Model and Hypothesis Testing

The structural model was examined using bootstrapping with 5,000 resamples. The model explained 58.4% of the variance in voluntary tax compliance intention ($R^2 = 0.584$), indicating moderate to substantial explanatory power. The results show that all hypothesised relationships were positive and statistically significant.

Table 2. Structural Path Coefficients and Hypothesis Summary

Hypothesis	Structural Path	β	t-value	p-value	Decision
H1a	Trust in AI -> Attitude	0.412	6.541	< 0.001	Supported
H1b	Trust in AI -> Subjective Norms	0.284	3.912	< 0.001	Supported
H1c	Trust in AI -> Perceived Behavioural Control	0.335	4.881	< 0.001	Supported
H2a	Technological Reliability -> Attitude	0.356	5.233	< 0.001	Supported
H2b	Technological Reliability -> Subjective Norms	0.310	4.105	< 0.001	Supported
H2c	Technological Reliability -> Perceived Behavioural Control	0.462	7.129	< 0.001	Supported
H3a	Attitude -> Compliance Intention	0.388	5.922	< 0.001	Supported

Hypothesis	Structural Path	β	t-value	p-value	Decision
H3b	Subjective Norms -> Compliance Intention	0.195	2.844	0.005	Supported
H3c	Perceived Behavioural Control -> Compliance Intention	0.341	5.116	< 0.001	Supported

Interpretation of Findings

H1a is supported because trust in AI significantly and positively influences attitude ($\beta = 0.412$, $p < 0.001$). This indicates that SMEs that perceive AI-enabled tax systems as transparent, secure and fair are more likely to develop favourable evaluations of digital tax compliance.

H1b is supported because trust in AI significantly and positively influences subjective norms ($\beta = 0.284$, $p < 0.001$). This suggests that trust in AI strengthens perceived expectations from regulators, tax professionals and business stakeholders regarding compliance through digital tax systems.

H1c is supported because trust in AI significantly and positively influences perceived behavioural control ($\beta = 0.335$, $p < 0.001$). Trust therefore increases SMEs' confidence in their ability to comply using AI-enabled platforms.

H2a is supported because technological reliability significantly and positively influences attitude ($\beta = 0.356$, $p < 0.001$). Reliable systems encourage SMEs to view digital tax compliance more positively.

H2b is supported because technological reliability significantly and positively influences subjective norms ($\beta = 0.310$, $p < 0.001$). This implies that reliable digital infrastructure reinforces the perception that AI-enabled compliance is becoming an expected and accepted practice.

H2c is supported because technological reliability significantly and positively influences perceived behavioural control ($\beta = 0.462$, $p < 0.001$). This is the strongest relationship in the model, showing that system reliability is particularly important in improving SMEs' perceived capability to comply.

H3a is supported because attitude significantly and positively influences compliance intention ($\beta = 0.388$, $p < 0.001$). Favourable evaluations of AI-enabled tax systems increase SMEs' intention to comply voluntarily.

H3b is supported because subjective norms significantly and positively influence compliance intention ($\beta = 0.195$, $p = 0.005$). Although the effect is significant, it is weaker than the effects of attitude and perceived behavioural control, indicating that external pressure matters but is not the strongest driver.

H3c is supported because perceived behavioural control significantly and positively influences compliance intention ($\beta = 0.341$, $p < 0.001$). SMEs are more likely to comply when they believe they possess the knowledge, resources and digital capability required to fulfil tax obligations.

Analysis and Discussion

Empirical findings indicate that trust in artificial intelligence and the reliability of technology are crucial factors influencing how individuals respond to AI-driven tax systems. Trust in AI has the most significant impact on attitudes, implying that small and medium-sized enterprises are more inclined to view digital tax compliance positively when they perceive the system as secure, equitable, and reliable. This finding aligns with previous research suggesting that institutional trust, respectful treatment, and perceived fairness can enhance voluntary compliance behaviour (Okanga, 2021; Prastiwi & Diamastuti, 2023).

Technological dependability significantly influences perceived behavioural control. This insight is crucial for SMEs, as their ability to comply is often hindered by limited resources, insufficient technical knowledge, and worries about system complexity. When AI-driven tax systems are precise, reliable, and easy to use, SMEs feel more in control of their compliance duties. This finding is consistent with studies on SME technology adoption, which indicate that system quality, digital preparedness, and AI capabilities affect both adoption and performance results (Lai et al., 2025; Lim & Seng, 2024; Mohd Rasdi, 2025; Soomro et al., 2025).

Among the TPB constructs, attitude is the strongest predictor of voluntary tax compliance intention, followed by perceived behavioural control and subjective norms. This suggests that SMEs' internal evaluation of AI-enabled compliance and their confidence in using the system are more influential than external social pressure. Nevertheless, subjective norms remain statistically significant, showing that expectations from regulators, advisers and business networks continue to influence compliance intention. These results support the continued relevance of TPB in explaining SME tax compliance intention (Ajzen, 1991; Bani-Khalid et al., 2022).

The findings lend support to the expanded TPB model. Trust in artificial intelligence and the dependability of technology influence behavioural beliefs, societal expectations, and perceived abilities, which in turn affect the intention to comply voluntarily. Consequently, the results indicate that AI-driven tax compliance should not be viewed solely as a technological implementation task. Rather, it necessitates a comprehensive approach that integrates system reliability, taxpayer trust, digital proficiency, and institutional backing.

Conclusion

This study examined the influence of trust in AI and technological reliability on voluntary tax compliance intention among Malaysian SMEs using an extended TPB framework. Based on 248 valid SME responses and PLS-SEM analysis, all hypotheses were supported. The results indicate that trust in AI and technological reliability significantly influence attitude, subjective norms and perceived behavioural control. In turn, the TPB constructs significantly affect voluntary tax compliance intention. The model explains 58.4% of the variance in compliance intention, suggesting that the framework has meaningful explanatory power.

Theoretical Implications

This research enhances tax compliance literature by integrating the Theory of Planned Behaviour (TPB) into the realm of AI-driven tax administration. It highlights that perceptions related to AI, especially trust and reliability, play a crucial role in shaping behavioural intentions. Consequently, the study connects tax compliance research with digital transformation and AI governance by illustrating how technological perceptions impact compliance behaviour through established behavioural frameworks (Ajzen, 1991; Belahouaoui & Attak, 2024).

Practical and Policy Implications

The results indicate that tax authorities should develop AI-driven tax systems that emphasize transparency, fairness, and clarity. Small and medium-sized enterprises are more inclined to comply willingly when they have confidence in how the system handles data and aids in making compliance decisions. For those developing systems, the most compelling empirical evidence suggests that the dependability of technology is vital for perceived control over behaviour. Therefore, it is essential to focus on system uptime, precision, automated checks, user support, and mechanisms for resolving errors. The findings underscore the importance of small and medium-sized enterprises and their professional advisers to develop digital tax skills. Offering training, advisory services, and clear guidance on implementation can boost SMEs' confidence in adopting AI-driven tax systems.

Limitations and Future Research

This research is constrained by its cross-sectional approach and dependence on self-reported survey responses. Future investigations might employ longitudinal methods to explore if the intention to comply leads to compliance behaviour. Additionally, upcoming studies could compare different SME sectors, company sizes, or jurisdictions to assess whether the impacts of trust and technological reliability vary in different settings.

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