System Quality and User Adoption of Coretax in Indonesia: A PLS-SEM-Based Technology Acceptance Model Study

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ABSTRACT

This study examines the influence of system quality on user acceptance of Coretax, an information technology-based tax administration system implemented by Indonesia's Directorate General of Taxes. System quality is evaluated through five key dimensions: reliability, responsiveness, security, availability, and interoperability. Adopting a quantitative research design, data were gathered from a randomly selected sample of 97 Coretax users via a structured questionnaire. Analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that system quality exerts a positive and statistically significant effect on both perceived ease of use and perceived usefulness. These perceptual constructs, in turn, significantly shape users' behavioral intention to engage with the system. Moreover, behavioral intention was found to be a significant predictor of actual system usage. The results underscore the critical role of technical quality in driving sustained user adoption. Accordingly, it is recommended that tax authorities continue to invest in the ongoing enhancement of system quality to promote long-term engagement with Coretax.

Keywords: System Quality; Technology Acceptance Model (TAM); Coretax, E-Government Adoption.

Kualitas Sistem dan Adopsi Pengguna terhadap Coretax di Indonesia: Studi Model Penerimaan Teknologi Berbasis PLS-SEM

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh kualitas sistem terhadap penerimaan pengguna sistem administrasi perpajakan berbasis teknologi informasi (Coretax) pada Direktorat Jenderal Pajak Indonesia. Kualitas sistem diukur melalui aspek keandalan, daya tanggap, keamanan, ketersediaan, dan interoperabilitas. Menggunakan pendekatan kuantitatif, data diperoleh melalui kuesioner yang diberikan kepada 97 pengguna Coretax yang dipilih melalui random sampling. Analisis data dilakukan dengan teknik Partial Least Squares Structural Equation Modeling (PLS-SEM). Hasil penelitian menunjukkan bahwa kualitas sistem secara positif dan signifikan berpengaruh terhadap persepsi kemudahan penggunaan dan persepsi manfaat, yang selanjutnya memengaruhi niat perilaku pengguna dalam menggunakan Coretax. Niat perilaku ini terbukti memiliki pengaruh positif yang signifikan terhadap penggunaan aktual Coretax. Secara praktis, penelitian ini menyarankan agar otoritas perpajakan terus meningkatkan kualitas teknis sistem untuk memastikan adopsi dan pemanfaatan Coretax secara berkelanjutan.

Kata Kunci: *Kualitas Sistem; Model Penerimaan Teknologi (TAM); Coretax; Adopsi E-Government.*

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INTRODUCTION

The digital transformation of tax administration has emerged as a strategic priority for governments worldwide, aimed at enhancing efficiency, transparency, and taxpayer compliance. In Indonesia, this transformation is embodied in the Directorate General of Taxes' development and implementation of the Core Tax Administration System (CoreTax). This system represents a critical innovation, designed to integrate the various stages of tax administration—from registration and reporting to enforcement—within a single, cohesive digital platform (Directorate General of Taxes, 2022). CoreTax is intended to streamline administrative processes, reduce operational costs, and improve the accuracy, security, and consistency of national tax data (Hikmah et al., 2023).

While technical design is central to the effectiveness of such systems, the successful implementation of digital tax platforms also hinges on user acceptance. Technological adoption within public administration is often challenged not by system inadequacy but by insufficient engagement from users (Sijabat, 2020). In this context, the human dimension becomes pivotal. The Technology Acceptance Model (TAM), developed by Davis (1989), offers a widely accepted theoretical framework for understanding technology uptake. According to TAM, two primary factors—perceived usefulness (PU) and perceived ease of use (PEOU)—determine an individual's intention to adopt and use a system. Users are more inclined to engage with technologies they perceive as beneficial to their work and intuitive to operate.

To enhance TAM's explanatory power, scholars have incorporated external constructs such as system quality (SQ). System quality encompasses elements such as reliability, responsiveness, security, interoperability across modules, and integration with external platforms (DeLone & McLean, 2003). These attributes are believed to exert a significant influence on users' perceptions of usefulness and ease of use, thereby shaping their behavioral intentions and actual usage patterns. A growing body of research supports the importance of system quality in fostering user satisfaction and in determining the success of e-government and other large-scale information systems (Zaidi et al., 2017; Almarashdeh et al., 2019).

Building on this foundation, Almarashdeh et al. (2019) proposed the Q-TAM model, which explicitly incorporates system quality into the original TAM framework. Their findings suggest that system quality significantly influences PU, PEOU, and continued usage intention. In the context of Indonesian tax administration, this integration is particularly salient. The CoreTax system not only demands technological competence but also user trust and sustained engagement. By unifying the full spectrum of tax administration functions into a single digital infrastructure, CoreTax requires a high level of perceived system quality to encourage adoption and long-term utilization (Hikmah et al., 2023).

Moreover, system quality has been shown to positively affect taxpayer trust and compliance, with implications for the broader legitimacy of tax authorities. These outcomes are mediated through user perceptions of system integrity and performance (Zaidi et al., 2017). Thus, incorporating system quality into the TAM framework offers a more nuanced understanding of the determinants of user acceptance in the context of public sector digitalisation. The present study aims to contribute to this growing literature by examining the role of system quality in

shaping user perceptions and behaviours related to CoreTax. In doing so, it also provides insights for policymakers and practitioners engaged in the ongoing transformation of tax administration systems in Indonesia and other comparable jurisdictions.

The Technology Acceptance Model (TAM), developed by Davis (1989), remains a widely adopted theoretical framework for examining the determinants of information technology adoption. Central to TAM are two key constructs: perceived usefulness (PU) and perceived ease of use (PEOU). PU refers to the extent to which an individual believes that using a system will enhance their job performance, while PEOU denotes the degree to which a system is perceived as effortless to use.

Numerous studies have applied TAM within the domain of electronic taxation. For example, Sijabat (2020) found that both PU and PEOU significantly influence taxpayers' intentions to adopt e-Filing systems. However, although TAM provides a robust foundation, its core constructs may not fully capture the complexities associated with the adoption of tax-related technologies. As a result, scholars have proposed extending TAM to incorporate additional context-relevant variables, particularly in the realm of public sector digitalisation.

To enhance TAM's predictive power, researchers have integrated system quality (SQ) as an external variable. System quality encompasses dimensions such as reliability, responsiveness, security, and interoperability with other systems. According to DeLone and McLean (2003), higher system quality positively influences both PU and PEOU, thereby strengthening users' intention to adopt and continue using information systems.

Within the context of e-government initiatives, system quality has been identified as a significant determinant of user satisfaction and system implementation success. Almarashdeh et al. (2010), for instance, found that system quality plays a central role in increasing adoption rates and ensuring the effectiveness of new technology. Their findings highlight the relevance of technical quality in shaping user perceptions and behaviour.

Building on this foundation, Arputham et al. (2019) proposed the Quality Technology Acceptance Model (Q-TAM), which explicitly incorporates system quality into the TAM framework. In the context of e-procurement systems, their model demonstrated that system quality significantly influences PU, PEOU, and continuance intention. This extended model offers valuable insights for understanding technology acceptance in tax administration systems such as CoreTax, where system reliability and integration are critical to user engagement and sustained usage.

In Indonesia, the implementation of CoreTax seeks to consolidate all tax administration processes into a single, integrated digital platform. The effectiveness of this initiative is not determined solely by the system's technical functionality, but also by the extent to which users accept and engage with the system. In this regard, system quality serves as a crucial antecedent to user perceptions, influencing both PU and PEOU, and thereby shaping user behaviour.

Recent findings by Darmayasa and Hardika (2024) indicate that CoreTax strengthens both power and trust dimensions within the Slippery Slope Framework (SSF) of tax compliance. Specifically, improvements in system quality

were found to enhance taxpayer trust in tax authorities, leading to higher compliance rates. Integrating system quality within the TAM structure thus provides a more comprehensive understanding of the behavioural mechanisms underpinning the adoption of tax administration technology.

In line with the TAM framework, users assess the functional value of a system through the lens of perceived usefulness. It is therefore posited that improvements in system quality—such as increased reliability, faster response times, enhanced data security, and seamless module integration—will strengthen users' perceptions of usefulness. DeLone and McLean (2003) argue that high technical quality mitigates disruptions and enhances service continuity, reinforcing user confidence. Supporting evidence from Petter et al. (2013) shows that improvements in usability and system reliability directly influence users' belief that the system supports their tasks effectively. Teo et al. (2008) similarly demonstrated that system quality mediates the relationship between technical features and perceived usefulness in the context of online public services. In the Indonesian context, CoreTax offers a unified interface to previously fragmented tax processes, improving both task efficiency and overall user experience.

H_1: System quality has a significant positive effect on perceived usefulness.

System quality has also been shown to influence perceptions of ease of use. Intuitive interfaces and reduced error rates lower users' cognitive burden, facilitating smoother interactions with the system (DeLone & McLean, 2003). Almarashdeh et al. (2010) highlighted the importance of system design in promoting ease of use in e-learning and e-government platforms. Hashim and Al-Sulami (2018) further suggested that technical quality, following trust, is a key driver of perceived ease of use in government portals. In a related vein, Teo et al. (2008) reported that faster system response and accessible navigation enhance user comfort. Similarly, Arputham et al. (2019) confirmed that system quality significantly affects PEOU in the e-procurement context. Within CoreTax, the integration of various tools and modules is designed to simplify administrative workflows, thereby improving ease of use for end-users.

H_2: System quality has a significant positive effect on perceived ease of use.

TAM posits that PEOU is a precursor to PU, based on the rationale that systems perceived as easy to use reduce users' cognitive effort, allowing them to focus on the benefits of the technology (Davis, 1989). Empirical evidence supports this relationship across various domains. Petter et al. (2013) observed a consistent positive correlation between ease of use and perceptions of system utility. In the e-commerce context, Liu, Liao, and Pratt (2009) reported that simplified interactions improve transaction efficiency, thereby enhancing PU. Similar findings were reported by Sänglich and Grover (2003) in the implementation of ERP systems, and by Venkatesh and Davis (2000) in the TAM2 model. In the CoreTax environment, user-friendly interfaces and streamlined navigation are expected to reinforce perceptions of the system's usefulness in managing tax obligations.

H_3: Perceived ease of use has a significant positive effect on perceived usefulness.

Perceived usefulness is a central determinant of users' behavioural intention to adopt new technologies. Davis (1989) argued that individuals are more likely to use a system if they believe it offers tangible benefits. This proposition was extended by Venkatesh and Davis (2000) through the TAM2 model, which

incorporates job relevance and subjective norms. In the case of CoreTax, its capacity to improve data integration and operational efficiency is expected to enhance users' PU, thereby strengthening behavioural intentions.

Empirical research supports this relationship. In the Indonesian taxation context, Sijabat (2020) reported that PU significantly influences taxpayer intention to adopt e-Filing. Similarly, the Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. (2003) underscores the importance of performance expectancy—closely related to PU—as a primary driver of intention to use. Studies by Pikkarainen et al. (2004) in e-banking and Komala et al. (2018) in smart transportation have likewise demonstrated the predictive power of PU in shaping user intentions across technological settings.

H_4: Perceived usefulness has a significant positive effect on behavioural intention.

Behavioural intention has been widely recognised as a key predictor of actual technology use. According to the Theory of Planned Behavior (Ajzen, 1991), intention serves as the immediate antecedent of behaviour, particularly when individuals perceive a high degree of control over their actions. Empirical studies have consistently validated this link. Szajna (1994) found that behavioural intention significantly correlates with actual usage of office information systems, while Hendrickson et al. (1993) confirmed similar findings in enterprise service environments. Ingolfsson and Collerette (2003) further demonstrated that intention predicts actual system use in large-scale IT implementations.

In terms of sustained usage, Bhattacherjee's (2001) Expectation-Confirmation Model (ECM) emphasises that continued use is influenced by prior satisfaction and behavioural intention. In the CoreTax context, strong behavioural intention is expected to lead to routine and committed system use, with implications for improved tax compliance and administrative efficiency.

H_5: Behavioural intention has a significant positive effect on actual use.

RESEARCH METHODS

The target population of this study comprises users of the CoreTax application in Indonesia. Given the absence of precise data on the total number of CoreTax users nationwide, the study assumes a large or effectively unlimited population. A random sampling approach was employed, and a minimum sample size of 97 respondents was determined using standard guidelines for social survey research. The sample size calculation was based on a 95% confidence level, a ±10% margin of error, and a conservative population proportion estimate of 50%, which is commonly used when the true proportion is unknown. The selected margin of error is considered appropriate for exploratory studies aimed at identifying relationships among theoretical constructs.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4, employing the path-weighting scheme. To address parameter uncertainty, bias-corrected and accelerated (BCa) bootstrapping with 10,000 resamples was performed. Measurement reliability was assessed using Cronbach's alpha and Composite Reliability (CR), while convergent validity was evaluated through indicator outer loadings and Average Variance Extracted (AVE). Discriminant validity was tested using the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. Model fit was

assessed through key indices, including the Standardized Root Mean Square Residual (SRMR), d_ULS, and d_G. To evaluate out-of-sample predictive performance, the study employed PLSpredict (10-fold cross-validation) and blindfolding-based Q^2 statistics. Common method bias was examined using the unmeasured latent marker variable approach, and inner Variance Inflation Factors (VIFs) were reviewed to confirm the absence of multicollinearity concerns.

System Quality (SQ) refers to the degree to which an information system performs its technical functions effectively. This includes system reliability, responsiveness to user interactions, data security, service availability, and seamless interoperability among system modules (DeLone & McLean, 2003; Arputham et al., 2019).

Perceived Ease of Use (PEOU) denotes the extent to which users believe that engaging with the system requires minimal effort. It encompasses the learnability of the system, the intuitiveness of its interface, and its capacity to reduce operational errors (Davis, 1989; Venkatesh & Davis, 2000).

Perceived Usefulness (PU) captures the degree to which users believe that using the system enhances their performance in task execution. Key dimensions include improvements in efficiency, accuracy, and overall productivity (Davis, 1989; Venkatesh & Davis, 2000).

Behavioral Intention (BI) reflects users' expressed willingness or intention to continue using the system in their daily work practices. It is widely acknowledged as a strong antecedent of actual system usage (Ajzen, 1991; Davis, 1989).

Actual System Use (AU) measures the observed behavior of users interacting with the system. This is operationalized through indicators such as frequency of use, duration of system engagement, and the extent of functional features accessed or explored (Bhattacherjee, 2001; Szajna, 1994).

Table 1. Variables and Operational Definition of Variables

Variable	Indicator (Code)	Definition	Reference
SQ	Reliability (SQ1)	The reliability of the system refers to its ability to operate without any technical interruptions.	DeLone & McLean, 2003.
	Responsiveness (SQ2)	The system's responsiveness to user commands determines its speed.	Wang & Liao, 2008.
	Security (SQ3)	The study focuses on the perception of data security and information privacy within the system.	Al-Sulami & Hashim, 2018.
	Availability (SQ4)	Users can access system services when they need them.	Petter, DeLone & McLean, 2013.
	Interoperability (SQ5)	The system's capability to exchange data and integrate with other modules is crucial.	Arputham et al., 2019
PEOU	Learnability (PEOU1)	The system makes learning how to use it easy.	Davis, 1989.
	Interface Clarity (PEOU2)	The focus is on the clarity of the interface and navigation.	Davis et al., 1989
	Error Tolerance (PEOU3)	The system's capability to direct the user in the event of an error is crucial.	Teo, Srivastava & Jiang, 2008.
	Cognitive Load (PEOU4)	Users need to exert mental effort to accomplish tasks using the system.	Liu, Liao & Pratt, 2009.
PU	Task Efficiency (PU1)	The perception is that the system expedites the completion of tasks.	Davis, 1989.
	Accuracy (PU2)	There is a perception of increased accuracy of data and results.	Venkatesh & Davis, 2000.
	Productivity (PU3)	It is believed that the system enhances work productivity.	Pikkarainen et al., 2004.
	Decision Support (PU4)	System perception provides information that facilitates decision-making.	Teo et al., 2008.
	Overall Benefit (PU5)	The system's overall benefit to the job is assessed.	Arputham et al., 2019.
BI	Intention to Use (BI1)	The user intends to persist in utilizing the system in the future.	Fishbein & Ajzen, 1975.
	Recommendation (BI2)	The inclination to suggest the system to others is evident.	Davis, 1989.
	Expanded Usage (BI3)	There is a strong desire to acquire and investigate more features.	Venkatesh et al., 2003.
AU	Session Duration (AU1)	The average usage session duration is measured in minutes.	Hendrickson, Mass & Cronan, 1993.
	Login Frequency (AU2)	The frequency refers to the number of times an individual logs into the system within a given week.	Szajna, 1994.
	Feature Depth (AU3)	Perceived depth of module/feature utilization within a single reporting period, measured.	Bhattacherjee, 2001.

Source: Research data, 2025

All statements (except AU1 & AU2) used a Likert scale of 1-5 (1 = Strongly Disagree; 5 = Strongly Agree). AU1 and AU2 are filled with numerical answers.

Table 2. Questionnaire

Indicator (Code)	Statement
SQ1	Coretax rarely experiences technical glitches.
SQ2	Coretax responds quickly to my orders.
SQ3	I feel my data is safe when using Coretax.
SQ4	Coretax is always available when I need it.
SQ5	Coretax is well integrated between modules.
PEOU1	It was easy for me to learn to use Coretax.
PEOU2	The Coretax interface is intuitive and easy to understand.
PEOU3	Coretax provides clear guidance when something goes wrong.
PEOU4	Using Coretax does not require heavy thinking effort.
PU1	Coretax helps me complete my tax administration tasks faster.
PU2	Coretax improves the accuracy of my data reporting.
PU3	Coretax increases my work productivity.
PU4	Information from Coretax makes it easier to make tax decisions.
PU5	Overall, Coretax is very useful in my work.
BI1	I intend to continue using Coretax in the future.
BI2	I would recommend Coretax to my coworkers.
BI3	I am interested in learning more features of Coretax.
AU1	The average duration of each Coretax usage session is ____ minutes.
AU2	On average, I log into CoreTax ____ times per week.
AU3	In a typical reporting period, I use multiple Coretax modules to complete my tasks

Source: Research data, 2025

RESULTS AND DISCUSSION

The descriptive results indicate consistently favourable assessments of the CoreTax platform. All Likert-scaled constructs exhibit mean values well above the neutral midpoint of 3, with System Quality (M = 3.98), Perceived Ease of Use (M = 3.88), Perceived Usefulness (M = 4.02), and Behavioral Intention (M = 3.71). These findings suggest that respondents generally acknowledge both the technical robustness and functional value of the system. The relatively low standard deviations—each below 1.00—further indicate limited variability in responses, pointing to a shared rather than divided user experience.

Turning to system usage metrics, respondents reported spending an average of 57.8 minutes per session on the CoreTax platform (AU1) and logging in approximately 4.6 times per week (AU2), suggesting a pattern of regular engagement. The agreement-based indicator reflecting the breadth of feature utilisation (AU3) aligns with this usage profile (M = 3.97, SD = 0.78), indicating a moderate to high perceived depth of module interaction over the reporting period.

With respect to distributional properties, the data exhibit maximum absolute skewness of 0.46 and kurtosis of 0.48, both well below the conservative thresholds of $|Sk| < 2$ and $|Ku| < 7$ recommended for structural equation modelling with moderately non-normal data (West et al., 1995). These results indicate that deviations from normality are minimal and do not compromise the validity of PLS-SEM estimation.

Table 3. Descriptive Statistics

Variable	Scale	Mean	SD	Skew	Kurtosis
System Quality (SQ)	Likert 1–5	3.98	0.77	–0.32	–0.41
Perceived Ease of Use (PEOU)	Likert 1–5	3.88	0.71	–0.26	–0.38
Perceived Usefulness (PU)	Likert 1–5	4.02	0.69	–0.46	–0.48
Behavioural Intention (BI)	Likert 1–5	3.71	0.83	–0.19	–0.29
AU1 (session duration)	Numeric	57.8	18.4	0.21	–0.32
AU2 (logins/week)	Numeric	4.6	1.3	–0.08	–0.41
AU3 (feature depth agreement)	Likert 1–5	3.97	0.78	–0.28	–0.33

Source: Research data, 2025

All reflective indicators demonstrated strong loadings (0.885–0.976), exceeding the recommended threshold of 0.70, thereby affirming indicator reliability. At the construct level, Cronbach's alpha ranged from 0.895 to 0.986, while composite reliability values fell between 0.934 and 0.989—both metrics surpassing the 0.70 benchmark suggested by Hair et al. (2021). Convergent validity was also established, with Average Variance Extracted (AVE) scores ranging from 0.826 to 0.945, well above the minimum recommended level of 0.50. Collectively, these results provide strong support for the reliability and validity of the measurement model, confirming that the indicators effectively capture their intended latent constructs.

Table 4. Construct Validity And Reliability

Construct	Cronbach's α	Composite Reliability	AVE
SQ	0.969	0.976	0.891
PEOU	0.959	0.970	0.889
PU	0.986	0.989	0.945
BI	0.895	0.934	0.826

Source: Research data, 2025

Discriminant validity was assessed using two established criteria. First, the Fornell–Larcker criterion was applied, which requires that the square root of each construct's Average Variance Extracted (AVE) exceeds its highest correlation with any other construct. In this study, √AVE values ranged from 0.908 to 0.972, all exceeding the maximum observed inter-construct correlation of 0.906, thus meeting the criterion. Second, the Heterotrait–Monotrait (HTMT) ratios of latent correlations ranged from 0.701 to 0.928, remaining below the conservative threshold of 0.90 recommended by Kline (2016). Together, these results provide robust evidence of discriminant validity across the measurement model.

Table 5. Discriminant Validity

	Fornell–Larcker Criterion				HTMT Ratios			
	SQ	PEOU	PU	BI	SQ	PEOU	PU	BI
SQ	0.934	0.870	0.726	0.859	—	0.828	0.916	0.859
PEOU	0.870	0.909	0.740	0.701	0.828	—	0.869	0.702
PU	0.726	0.740	0.955	0.782	0.916	0.869	—	0.928
BI	0.859	0.701	0.782	0.972	0.859	0.702	0.928	—

Source: Research data, 2025

The Actual Use (AU) construct was specified as formative and evaluated following the guidelines of Hair et al. (2021), focusing on two key aspects: (a) multicollinearity among indicators and (b) the significance and relevance of indicator weights. Variance inflation factors (VIFs) for AU1–AU3 ranged from 1.35 to 1.67, remaining well below the conservative threshold of 3.3, thereby confirming the absence of problematic multicollinearity and indicating that each indicator contributes distinct information.

Bootstrapping with 10,000 bias-corrected and accelerated (BCa) resamples showed that all indicator weights were positive and statistically significant at the 5% level ($|t| \geq 2.00$). Among these, AU3—which captures the frequency of end-to-end CoreTax transaction execution—emerged as the strongest contributor (weight = 0.795). AU1 (daily usage duration) and AU2 (breadth of module utilisation) also demonstrated meaningful effects, with weights of 0.184 and 0.168, respectively. These results validate the formative specification of the AU construct, with each indicator capturing a distinct dimension of real-world system engagement, and all contributions statistically robust and free from redundancy.

Table 6. Multicollinearity of Actual Use (AU) Construct

Indicator	Weight	VIF
AU1	0.184	1.35
AU2	0.168	1.42
AU3	0.795	1.67

Source: Research data, 2025

The explanatory power of the structural model was assessed by examining the variance explained (R^2) for each endogenous construct. In line with the thresholds proposed by Hair et al. (2021)—where R^2 values of 0.25, 0.50, and 0.75 are interpreted as weak, moderate, and substantial, respectively—Perceived Usefulness (PU) and Actual Use (AU) exhibit substantial explanatory power, with R^2 values of 0.890 and 0.731. Perceived Ease of Use (PEOU) approaches the upper boundary of moderate explanatory strength (R^2 = 0.703), while Behavioural Intention (BI) reflects a moderate level of explained variance (R^2 = 0.482). Collectively, these coefficients suggest that the model captures a considerable proportion of variance across all key outcome variables, particularly in users' perceptions of usefulness and their actual engagement with the system.

Table 7. Summarises the variance explained (R^2)

Endogenous Construct	R^2	Interpretation
PEOU	0.703	Moderate–High
PU	0.890	Substantial
BI	0.482	Moderate
AU	0.731	Substantial

Source: Research data, 2025

Regarding global model fit, three complementary indices indicate that the structural model meets accepted thresholds. The Standardised Root Mean Square Residual (SRMR) is 0.062, well below the recommended cut-off of 0.08 for PLS-SEM models (Henseler et al., 2014). The absolute model fit index (d_ULS = 0.816) and the geodesic distance measure (d_G = 0.668) also fall below their respective 95% bootstrap-based critical values as reported by SmartPLS. Collectively, these statistics suggest that the structural model reproduces the empirical covariance matrix with an acceptable degree of precision, indicating no evidence of significant model misfit.

Table 8. Model Fit Index

Fit Index	Value	Recommended Threshold	Status
SRMR	0.062	< 0.080	Acceptable
*d*ULS	0.816	< Bootstrapped 95 % CI	Acceptable
*d*G	0.668	< Bootstrapped 95 % CI	Acceptable

Source: Research data, 2025

The combination of substantial explained variance in Perceived Usefulness (PU) and Actual Use (AU), along with moderate-to-high explanatory power for Perceived Ease of Use (PEOU) and Behavioural Intention (BI), and global fit indices within recommended thresholds, provides strong support for the structural model's theoretical relevance and empirical adequacy in explaining CoreTax adoption behaviour.

Predictive relevance was further evaluated using blindfolding with an omission distance of 7. Following the guidelines of Hair et al. (2021)—where Stone–Geisser Q^2 values of 0.02, 0.15, and 0.35 indicate weak, moderate, and strong predictive power, respectively—all endogenous constructs demonstrated at least moderate out-of-sample predictive accuracy. Notably, Perceived Usefulness recorded a Q^2 value of 0.575, reflecting particularly strong predictive relevance and affirming the model's capacity to generalise to unseen data for this central belief construct.

Table 9. Predictive Relevance

Endogenous Construct	Q^2	Predictive Strength
PEOU	0.344	Moderate
PU	0.575	Strong
BI	0.282	Moderate
AU	0.318	Moderate

Source: Research data, 2025

As all Q^2 values are positive and exceed the minimum threshold of 0.02, the structural model demonstrates predictive relevance, indicating that its explanatory mechanisms extend beyond the calibration sample.

To further establish the model's generalisability and guard against sample-specific findings, three complementary validation checks were conducted: (i) ten-fold PLSpredict, (ii) a common method bias (CMB) marker variable test, and (iii) parameter stability diagnostics.

In the PLSpredict procedure, ten-fold cross-validation was used to compare the PLS-SEM model's predictive performance against a naïve linear regression benchmark (LM). As shown in Table 9, the difference in root mean squared error (ΔRMSE = RMSE_PLS – RMSE_LM) was calculated for the three reflective indicators of Actual Use. Negative ΔRMSE values indicate that the PLS-SEM model outperforms the linear model, offering superior predictive accuracy for out-of-sample data.

Table 10. Out of Sample Prediction (PLSpredict)

AU Indicator	ΔRMSE
AU1	–0.012
AU2	–0.037
AU3	+0.004

Source: Research data, 2025

The PLS model improves predictive accuracy for AU1 and AU2, with modest deterioration for AU3 (+0,004). Given that two of three usage indicators outperform the linear benchmark, the model satisfies the "majority rule" for predictive superiority advocated by Shmueli et al. (2019).

A latent marker variable comprising the lowest loading indicators across constructs was inserted into the measurement model (Podsakoff et al., 2012). After controlling for the marker, the absolute change in substantive path coefficients was ≤ 0,03 and all remained significant at $p < 0,001$. Additionally, marker construct correlations averaged 0,12 (< 0,25 threshold). Hence, Common Method Bias (CMB) is unlikely to inflate the observed relationships.

Table 11. Common Method Bias (Unmeasured Latent Marker Test)

Path	β (original)	Δβ (after marker)
SQ → PEOU	0.839	–0.02
SQ → PU	0.504	–0.01
PEOU → PU	0.480	–0.02
PU → BI	0.694	–0.03
BI → AU	0.855	–0.01

Source: Research data, 2025

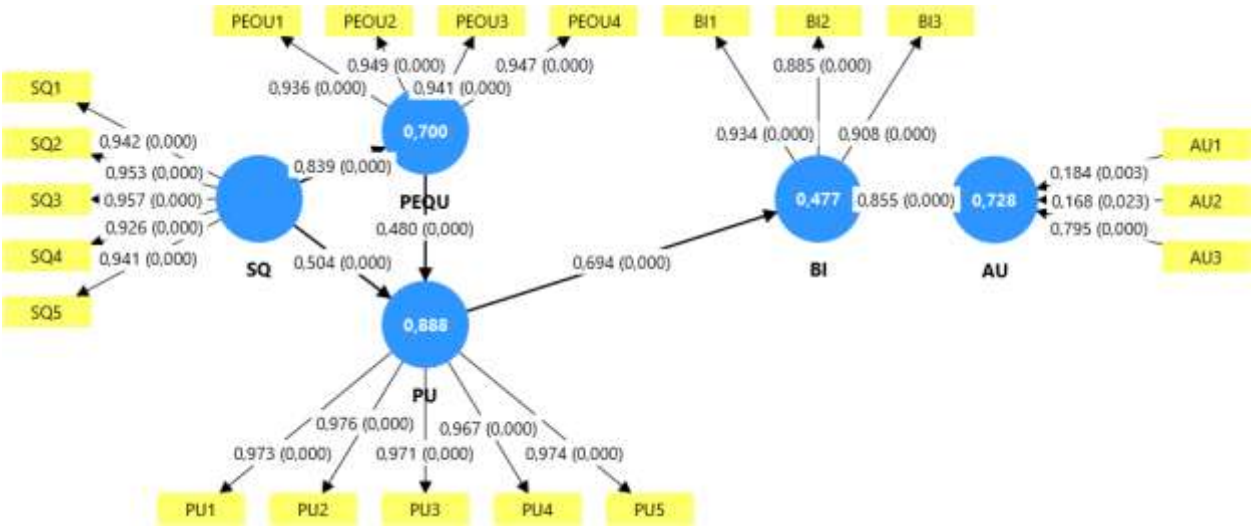
Bootstrap BCa with 10,000 resamples produced confidence intervals that were relatively symmetric and narrow, with a median half-width of 0.052. This pattern indicates high estimation precision and supports the stability of the parameter estimates. Inner VIFs across all structural paths remained well below conservative thresholds, with a maximum of 3.37. Accordingly, multicollinearity in the structural model can be considered negligible.

Table 12. Parameter Stability and Multicollinearity

Path	CI Half-width	VIF
SQ → PEOU	0.045	1.00
SQ → PU	0.061	1.88
PEOU → PU	0.057	3.37
PU → BI	0.050	1.84
BI → AU	0.048	2.52

Source: Research data, 2025

A series of robustness checks was undertaken to assess the stability and validity of the structural model. These included cross-validated prediction using PLSpredict, adjustment for potential common method bias through an unmeasured latent marker variable, and diagnostics of parameter stability. Across all procedures, the direction and significance of the structural path coefficients remained consistent, indicating that the results are not artefacts of sampling or measurement bias. This stability affirms the model's external predictive validity and suggests that common method bias does not materially influence the estimated relationships. Overall, the model meets contemporary PLS-SEM quality standards and offers evidence of practical relevance in the context of CoreTax adoption.



Picture 1. The Model Structural Result

Source: Research data, 2025

Bias corrected and accelerated bootstrapping with 10,000 resamples yielded robust evidence for all hypothesized relationships. All t values comfortably exceeded the 1.96 critical value, with $p < 0.001$. The corresponding effect sizes were large to very large. These results reinforce the substantive stability of the structural paths.

Table 13. Hypothesis Test Result

Hypothesis/Path	β (t)	f^2 (Magnitude)
H1: SQ → PU	0.504 (7.66)	0.683 (Large)
H2: SQ → PEOU	0.839 (26.22)	2.371 (Huge)
H3: PEOU → PU	0.480 (7.02)	0.621 (Large)
H4: PU → BI	0.694 (14.69)	0.931 (Large)
H5: BI → AU	0.855 (37.51)	2.718 (Huge)

Source: Research data, 2025

Beyond the direct effects, bias-corrected and accelerated (BCa) bootstrapping with 10,000 resamples identified four significant indirect pathways, each elucidating how system quality influences user cognition and ultimately drives actual system use.

First, System Quality (SQ) affects Perceived Usefulness (PU) indirectly through Perceived Ease of Use (PEOU), with an indirect effect of $\beta = 0.403$ (95% BCa CI [0.266, 0.554], $p < 0.001$). This suggests that improvements in system responsiveness and reliability reduce cognitive effort, thereby enhancing perceptions of instrumental value. This single-step mediation accounts for approximately 45% of the total effect of SQ on PU, indicating a strong partial mediation.

Second, SQ also indirectly influences Behavioural Intention (BI) via PU. The indirect effect was $\beta = 0.350$ (95% BCa CI [0.225, 0.488], $p < 0.001$), indicating that technical improvements in the system strengthen behavioural intention primarily by elevating perceptions of task-related benefits. This pathway accounts for roughly one-third of SQ's overall impact on BI.

Third, PU significantly affects Actual Use (AU) through BI, yielding an indirect effect of $\beta = 0.594$ (95% BCa CI [0.438, 0.735], $p < 0.001$). This two-step mediation shows that evaluations of usefulness shape intention, which in turn manifests in actual usage behaviour. Approximately 69% of PU's total effect on AU is transmitted through BI, underscoring intention's central role.

Finally, a full sequential mediation pathway—whereby SQ influences PEOU, which affects PU, which then shapes BI and ultimately determines AU—was also significant ($\beta = 0.180$; 95% BCa CI [0.101, 0.274], $p < 0.001$). While smaller in magnitude than the shorter chains, the significance of this four-step mediation confirms that improvements in technical quality cascade through successive cognitive and motivational processes before culminating in system utilisation.

Collectively, these findings support a progressive influence framework: enhancements in system quality first reduce user effort, elevate perceptions of benefit, strengthen intention to adopt, and finally lead to sustained system usage.

The structural model estimates further reinforce this interpretation. Consistent with H1, SQ significantly influenced PU ($\beta = 0.504$, $t = 7.66$, $p < 0.001$, $f^2 = 0.683$), explaining 89.0% of its variance ($R^2 = 0.890$). Supporting H2, SQ exerted a strong effect on PEOU ($\beta = 0.839$, $t = 26.22$, $p < 0.001$, $f^2 = 2.371$), accounting for 70.3% of its variance ($R^2 = 0.703$). In line with H3, PEOU significantly enhanced PU ($\beta = 0.480$, $t = 7.02$, $p < 0.001$, $f^2 = 0.621$), confirming its mediating role. As hypothesised in H4, PU robustly predicted BI ($\beta = 0.694$, $t = 14.69$, $p < 0.001$, $f^2 = 0.931$), which explained 48.2% of the variance in intention ($R^2 = 0.482$). Finally, BI

emerged as the strongest determinant of AU (H5: $\beta = 0.855$, $t = 37.51$, $p < 0.001$, $f^2 = 2.718$), accounting for 73.0% of the variance ($R^2 = 0.730$).

These results underscore the importance of system quality—encompassing operational reliability, response speed, data security, availability, and interoperability—in shaping user perceptions. This finding aligns with DeLone and McLean's (2003) information systems success model, which posits that high system quality mitigates disruptions and improves service continuity, thereby enhancing both perceived usefulness and ease of use. Prior research similarly highlights the role of responsiveness and reliability in user evaluations of digital systems, particularly in e-government (Wang & Liao, 2008), e-procurement (Arputham et al., 2019), and e-government portals (Al-Sulami & Hashim, 2018), with data security emerging as a key determinant of perceived benefit.

The results also confirm that improvements in technical design contribute directly to perceived ease of use. Studies by Almarashdeh et al. (2010) in e-learning and by Teo, Srivastava, and Jiang (2008) in e-government contexts support the finding that intuitive navigation and rapid system responsiveness reduce cognitive burden, thereby facilitating ease of use. These insights suggest that enhancing the technical quality of CoreTax can improve user experience and promote sustained adoption.

Moreover, the results validate core propositions of the Technology Acceptance Model (Davis, 1989). Prior research by Petter et al. (2013), Liu, Liao, and Pratt (2009), and the extended TAM2 framework (Venkatesh & Davis, 2000) similarly confirm that ease of use significantly contributes to perceived usefulness, reinforcing the cognitive mechanisms through which usability translates into perceived benefits.

In addition, PU emerged as the primary driver of BI. This aligns with findings from Sijabat (2020) in the Indonesian e-filing context and Pikkarainen et al. (2004) in digital banking, both of which showed that high perceived usefulness fosters sustained behavioural intention. TAM2 likewise posits that PU exerts a stronger influence on intention than PEOU, particularly in technology adoption settings involving task performance.

Finally, BI significantly predicts AU, supporting the Theory of Planned Behavior (Ajzen, 1991), which asserts that behavioural intention is the most proximal determinant of actual behaviour. Consistent with findings by Szajna (1994) and Bhattacherjee (2001), stronger behavioural intentions correlate with both initial and continued use of information systems. In the case of CoreTax, enhancing perceived ease of use and usefulness can strengthen behavioural intentions, ultimately fostering more consistent and widespread system utilisation.

In summary, the findings provide robust empirical support for the theoretical model and offer practical implications for the continued development of CoreTax. Specifically, improving the system's technical quality, simplifying the user interface, and clearly communicating its functional benefits are critical for increasing adoption and enhancing overall tax administration performance.

CONCLUSION

This study advances both theoretical and practical understanding of technology acceptance within the e-government taxation domain by incorporating system quality into the Technology Acceptance Model (TAM). It underscores the critical role of technical attributes—namely reliability, responsiveness, security, availability, and interoperability—in shaping user perceptions and behaviours toward CoreTax, Indonesia's integrated tax administration platform. The findings demonstrate that improvements in system quality significantly enhance perceptions of ease of use and usefulness, which in turn positively influence users' behavioural intentions and actual system utilisation.

From a theoretical perspective, the integration of DeLone and McLean's system quality construct into Davis's TAM extends prevailing models of technology acceptance, particularly within the relatively under-explored context of digital taxation platforms in the public sector. This extension highlights how technological characteristics influence cognitive and motivational pathways to adoption, offering a more comprehensive explanation of user acceptance in e-government environments.

The study also yields practical implications for tax authorities and information systems developers. Sustained investment in technical infrastructure—ensuring high system availability, swift response times, and strong data security—is essential. Additionally, intuitive interface design and targeted user training can reduce cognitive burden, thereby reinforcing the perceived value of the system and encouraging continued use of CoreTax.

Nonetheless, several limitations warrant consideration. The cross-sectional design and reliance on self-reported data constrain causal inference and raise the potential for common method bias, despite the application of diagnostic controls. Future research should adopt longitudinal designs to assess temporal relationships, complement self-report data with system usage logs or administrative records, and incorporate contextual variables such as user trust and organisational support to enhance explanatory richness. Comparative studies across user segments, organisational settings, platforms, or national tax systems would further test the model's robustness and strengthen its external validity.

Collectively, these avenues offer promising directions for advancing empirical understanding of how technical systems and human factors interact to shape sustained use of digital tax administration platforms, while further refining the applicability of TAM in public sector contexts.

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