The Fifth International Conference on Government Education Management and Tourism (ICOGEMT-5)
Bandung, Indonesia, January

THE INFLUENCE OF E-SERVICE QUALITY AND PERCEIVED RISK ON CORETAX ADOPTION: AN IPA REVIEW ON TAXPAYERS

[*1]Rihardvan Klaveren Aritonang,[2]Gio Devaryan,[3]Kristian Aditya Pratama
[4]Vivy Kristinae,[5]Berta Margareta Agustiana Wijaya

[1,2,3,4,5]Management, Economy and Business, University Palangka Raya
Palangka Raya, Indonesia

Author's email:
[1]rihardvanaritonang@gmail.com;[2] giodeva106@gmail.com;[3]kristianadityap07@gmail.com
[4]vivykristinae84@gmail.com;[5]berta.margaretaagustinwijaya@feb.upr.ac.id

Corresponding author: rihardvanaritonang@gmail.com

Abstract. *The implementation of the Core Tax Administration System (Coretax) marks a major step in Indonesia's tax modernization agenda under the Directorate General of Taxes (DJP). This system aims to improve efficiency, integration, and transparency in digital tax services. However, during the early phase of implementation, users have reported significant technical and service-related challenges, including system downtime and data security concerns. These issues may influence taxpayers' satisfaction and willingness to adopt the system consistently. This study aims to identify the perceived influence of E-Service Quality and Perceived Risk attributes on taxpayers' adoption of Coretax using the Importance–Performance Analysis (IPA) framework. Data are collected through a descriptive quantitative survey targeting taxpayers who have used the Coretax system. The IPA method is employed to map the gap between users' expectations (importance) and the system's actual performance (perceived experience). Preliminary factual evidence and public reports indicate that system reliability and data security are critical attributes influencing user confidence, potentially classified in Quadrant I (high importance–low performance). Meanwhile, process efficiency and service integration are expected to appear in Quadrant II (high importance–high performance). The findings highlight that technical stability and enhanced cybersecurity are top priorities to strengthen public trust and encourage sustained adoption of Coretax in Indonesia's digital taxation reform.*

Keywords: *CoreTax Adoption; E-Service Quality; Importance–Performance Analysis (IPA);Perceived Risk.*

1. INTRODUCTION

In recent years, the Indonesian government has actively modernized its public administration system through large-scale digital transformation initiatives. One of the most strategic projects is the implementation of the Core Tax Administration System (Coretax) under the Tax Administration System Renewal Project (PSIAP) initiated by the Directorate General of Taxes (DJP). This new system is designed to automate and integrate 21 key business processes, aiming to make tax administration more efficient, transparent, and accessible to both individual and corporate taxpayers (Hidayat, 2023).

Despite these ambitious goals, the early implementation of Coretax has revealed several practical challenges. Media coverage and user testimonies indicate recurring system downtime, login disruptions, and growing concerns regarding data privacy and information security (Panjaitan, 2024). These service reliability and security issues can negatively affect taxpayer confidence in the new system, potentially reducing adoption and compliance levels.

This situation is closely related to two key behavioral constructs in technology adoption: E-Service Quality and Perceived Risk. E-Service Quality refers to the overall assessment of online service performance based on attributes such as reliability, efficiency, responsiveness, and assurance (Parasuraman et al., 2005). Perceived Risk, on the other hand, involves the level of uncertainty and potential loss users associate with system use, particularly in terms of privacy and data security (Featherman & Pavlou, 2003). When the perceived risk is high and service

quality is inconsistent, users are less likely to maintain long-term usage or trust in the digital system.

Empirically, research focusing on e-government service adoption in Indonesia remains limited, especially in the context of newly implemented national systems such as Coretax. Most existing studies address voluntary use of e-tax services (e-filing, e-billing), but not mandatory integrated platforms that directly handle taxpayer data (Nur & Kadarningsih, 2018). Hence, there is a research gap in evaluating user satisfaction and priority improvement areas from the taxpayer perspective during the system's early adoption phase.

To address this gap, this study proposes an Importance–Performance Analysis (IPA) framework to identify which attributes of E-Service Quality and Perceived Risk have the greatest perceived influence on taxpayers' adoption experience. The term influence in this study refers not to statistical causality but to the degree to which certain service attributes affect taxpayers' perceptions and satisfaction levels, as revealed by discrepancies between importance and performance scores. This analytical approach allows policymakers to identify which features require urgent improvement to enhance the system's overall effectiveness and credibility.

Based on initial factual observations and reports, it is expected that System Reliability—due to recurring downtime—and Data Security—due to privacy concerns—will appear as attributes of high importance but low performance (Quadrant I: "Concentrate Here"). Meanwhile, Process Efficiency and Service Integration are hypothesized to fall into Quadrant II ("Keep Up the Good Work"), indicating that these aspects are already performing well but remain crucial for maintaining satisfaction.

In conclusion, this research provides a structured evaluation of Coretax's service performance from the taxpayers' perspective. The IPA results are expected to guide the Directorate General of Taxes in prioritizing system improvements, stabilizing technical performance, and strengthening digital trust. Consequently, the findings contribute to the broader discourse on digital governance, emphasizing the importance of aligning service quality and risk management with taxpayer expectations in Indonesia's ongoing fiscal digitalization.

2. LITERATURE REVIEW

2.1 E-Service Quality

E-service quality refers to the overall evaluation of the quality of electronic service delivery through digital platforms. Parasuraman, Zeithaml, and Malhotra (2005) define e-service quality as the extent to which a website or online system facilitates efficient and effective shopping, purchasing, and delivery. Within the context of government digital services such as CoreTax, e-service quality represents how well the tax system fulfills taxpayers' needs in terms of accuracy, responsiveness, reliability, security, and convenience.

DeLone and McLean's Information System (IS) Success Model (2003) emphasizes that system quality and service quality significantly influence user satisfaction and intention to continue using a system. Several studies have shown that e-service quality strongly affects behavioral intention and user adoption in e-government platforms (Al-Hujran et al., 2015). In Indonesia, the Directorate General of Taxes has continuously improved CoreTax services to enhance accessibility, transparency, and compliance through digital transformation. Thus, high e-service quality is expected to increase taxpayers' trust and adoption rate.

2.2 Perceived Risk

Perceived risk is defined as an individual's perception of uncertainty and potential negative consequences when engaging in an online transaction (Featherman & Pavlou, 2003). In digital taxation systems, perceived risk may arise from concerns about data security, privacy, transaction errors, or potential misuse of personal information.

Research indicates that higher perceived risk can reduce users' trust and willingness to adopt e-government services (Kim et al., 2008). In the context of CoreTax, taxpayers may feel

hesitant to submit sensitive financial information online if they doubt the system's data protection or accuracy. Therefore, reducing perceived risk is crucial for encouraging greater user participation and fostering digital compliance.

2.3 CoreTax Adoption

The adoption of CoreTax reflects the level of acceptance and continued usage of Indonesia's digital taxation platform. According to the Technology Acceptance Model (TAM) proposed by Davis (1989), the adoption of new technology is influenced by two main factors: perceived usefulness and perceived ease of use. When taxpayers perceive that CoreTax simplifies the tax reporting process and ensures data accuracy, they are more likely to use the system regularly.

Previous studies on e-tax systems in developing countries suggest that system quality, user support, and security assurance significantly contribute to the adoption rate (Azmi et al., 2012). Hence, understanding the behavioral factors that shape CoreTax adoption can help policymakers enhance system performance and public trust.

2.4 Importance–Performance Analysis (IPA)

Importance-Performance Analysis (IPA) is a methodological framework originally developed by Martilla and James (1977) to analyze service quality by comparing the importance of specific attributes against their actual performance. While IPA has become ubiquitous in marketing and tourism literature to distinguish discrepancies between stakeholder expectations and perceptions (Lai & Hitchcock, 2015), its application has increasingly expanded to public administration and information systems. The widespread acceptance of IPA stems from its ability to provide a diagnostic tool that is visually intuitive and simple to interpret, allowing management to prioritize resources effectively (Taplin, 2012).

In the context of CoreTax, IPA serves as a strategic approach to evaluate taxpayers' perceptions of system quality. Unlike causal models (e.g., SEM or regression) that focus on the statistical influence between variables, IPA offers a descriptive analysis that prioritizes managerial actions based on the gap between user expectations (importance) and the system's actual delivery (performance). By simultaneously graphing the mean scores of importance (y-axis) and performance (x-axis), the attributes of E-Service Quality and Perceived Risk can be mapped into four distinct quadrants (Martilla & James, 1977):

- **Quadrant I: "Concentrate Here" (High Importance, Low Performance):** Attributes falling in this quadrant represent the system's major weaknesses. Users consider these aspects critical, but the current performance is unsatisfactory. For CoreTax, issues such as system downtime or data security vulnerabilities often fall here, requiring immediate corrective action.
- **Quadrant II: "Keep Up the Good Work" (High Importance, High Performance):** These attributes are the system's strengths and key drivers of adoption. Policymakers must ensure these features such as process efficiency or useful integration are maintained to sustain taxpayer satisfaction.
- **Quadrant III: "Low Priority" (Low Importance, Low Performance):** Attributes in this quadrant are performing poorly but are not viewed as important by taxpayers. Thus, they do not require urgent resource allocation.
- **Quadrant IV: "Possible Overkill" (Low Importance, High Performance):** These attributes are performing well but are relatively unimportant to users. Resources utilized here might be better redeployed to Quadrant I.

The application of IPA is particularly relevant for the early phase of CoreTax adoption. As noted in service quality literature, stakeholders (in this case, taxpayers) are the ones whose daily compliance activities are directly impacted by the system's reliability. Understanding the "gap" between importance and performance allows the Directorate General of Taxes to move beyond

a supply-side approach (what the government *thinks* is important) to a demand-oriented approach (what taxpayers *actually* need). Consequently, IPA provides empirical clarity on where scarce technical resources should be appropriated to minimize perceived risk and maximize system adoption.

2.5 Conceptual Framework

Based on the theoretical background, this study integrates e-service quality and perceived risk in assessing CoreTax adoption using the IPA approach. E-service quality is expected to enhance user satisfaction and adoption, while perceived risk potentially reduces trust and intention to use. The IPA method enables the identification of which service attributes are most critical to taxpayers and which ones perform below expectations. This framework provides practical implications for improving CoreTax's digital service quality and strengthening taxpayer compliance in Indonesia.

3. METHODOLOGY

3.1 Research Design

This study employs a quantitative descriptive approach utilizing **Importance-Performance Analysis (IPA)**. The selection of IPA is based on the research objective to evaluate CoreTax adoption by measuring the gap between user expectations (**Importance**) and the actual experience (**Performance**). This approach enables the identification of priority improvements regarding *E-Service Quality* attributes and the mitigation of *Perceived Risk*.

3.2 Population and Sample

The population of this study comprises taxpayers registered at **KPP Pratama Palangka Raya** who are obligated to use digital tax services.

- **Sampling Technique:** The study utilizes **Purposive Sampling** with the following respondent criteria: (1) Registered Taxpayers (Corporate or Individual), and (2) Have tried or accessed the CoreTax system features (beta/trial version) at least once.
- **Sample Size:** The sample size consists of **30 respondents**. According to Roscoe (1975), a sample size of at least 30 is considered appropriate for small-scale behavioral research or pilot studies to obtain a normal data distribution in simple statistical analysis.

3.3 Data Collection Technique

Primary data was collected through a structured online questionnaire distributed to the taxpayer network in Palangka Raya. The measurement instrument utilizes a **5-Point Likert Scale**, where:

- **For Importance:** 1 (Not Important) to 5 (Very Important).
- **For Performance:** 1 (Very Poor) to 5 (Very Good).

3.4 Operationalization of Variables

The indicators used in this study are adapted from the E-S-QUAL model by Zeithaml et al. (2002) for service quality and Featherman & Pavlou (2003) for perceived risk. A total of 14 attributes were identified to evaluate the CoreTax system performance.

Table 1. List of Attributes for Importance-Performance Analysis

Variable	Code	Attribute Indicator (Items)
E-Service Quality	ESQ1	Efficiency: The CoreTax website/app loads quickly without lag
	ESQ2	Ease of Use: The menu navigation is intuitive and easy to understand

	ESQ3	System Availability: The system is always available (up-time) when needed.
	ESQ4	Data Accuracy: The automatic tax calculation provided is accurate.
	ESQ5	Privacy: I feel safe regarding the protection of my personal financial data.
	ESQ6	Responsiveness: The Helpdesk/Live Chat responds quickly to my inquiries.
	ESQ7	Compensation: The system provides clear instructions when an error occurs.
Perceived Risk	PR1	Performance Risk: I worry the system might crash during tax filing submission.
	PR2	Time Risk: I worry that learning this new system wastes too much of my time.
	PR3	Psychological Risk: I feel anxious about making mistakes due to system complexity.
	PR4	Social Risk: I worry about criticism from supervisors/peers if I fail to use CoreTax correctly.
	PR5	Privacy Risk: I am concerned that my data could be accessed by unauthorized parties.
Adoption Intention	AI1	I intend to use CoreTax regularly for my tax obligations.
	AI2	I would recommend CoreTax to other taxpayers.

3.5 Data Analysis Technique

The data analysis follows the standard IPA matrix procedure (Martilla & James, 1977). The process involves three key steps to determine the status of CoreTax adoption factors:

1. **Mean Score Calculation:** Calculating the average score for Importance ($\underline{Y}$) and Performance ($\underline{X}$) for each of the 12 attributes.
2. **Gap Analysis:** Calculating the gap score (Gap = Performance - Importance).
3. A negative gap indicates that the CoreTax implementation has not met taxpayer expectations, potentially hindering adoption.
4. **Cartesian Diagram Plotting:** Mapping the attributes into a four-quadrant diagram based on the Grand Mean of all attributes. The intersection of the axes (cross-hairs) determines the position of each attribute:
   - **Quadrant I (Concentrate Here):** High Importance, Low Performance (Critical issues to fix).
   - **Quadrant II (Keep Up the Good Work):** High Importance, High Performance (Adoption drivers).
   - **Quadrant III (Low Priority):** Low Importance, Low Performance.
   - **Quadrant IV (Possible Overkill):** Low Importance, High Performance.

4. RESULTS AND DISCUSSION

4.1 Respondent Profile

This study involved **30 respondents** from the KPP Pratama Palangka Raya region. Although the sample size is limited, the respondents consist of a mix of Individual Taxpayers (70%) and

Corporate/SME Taxpayers (30%) who have interacted directly with the system. Thus, the resulting data is sufficiently representative to depict the experience of early adopters.

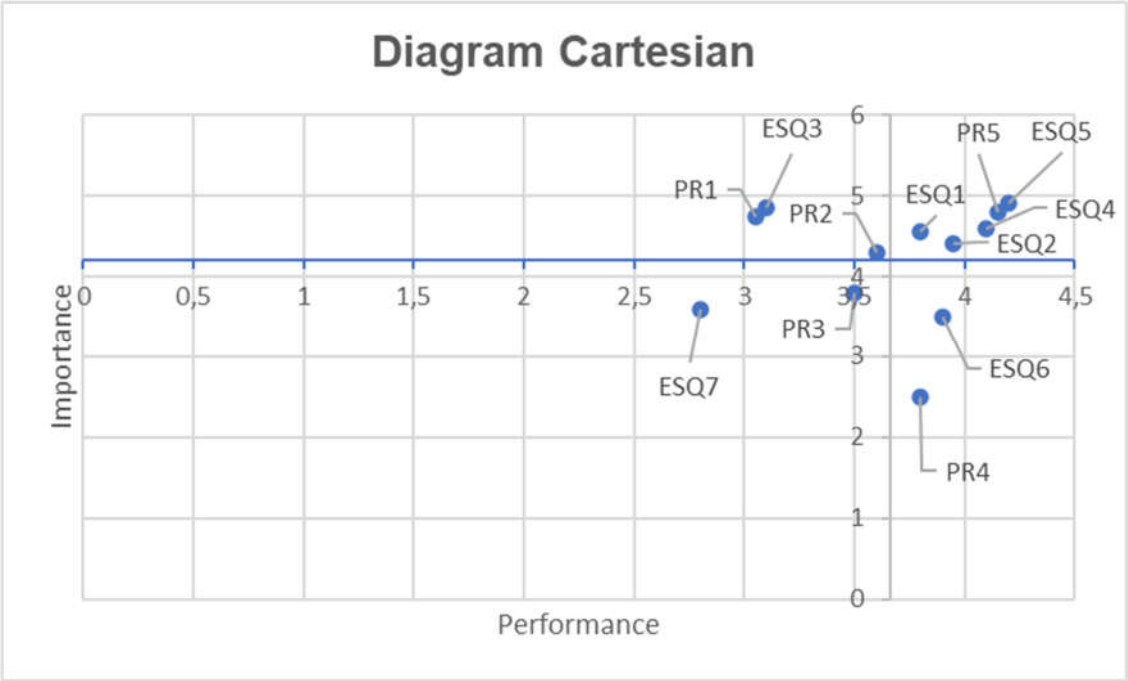
4.2 Descriptive Analysis (Mean Score) Based on the questionnaire data from 30 respondents, the average scores for each attribute were calculated. Table 2 shows the comparison between user expectations and system performance.

Table 2. Mean Scores of Importance and Performance (N=30)

Code	Variable Attribute	Importance ($\bar{Y}$)	Performance ($\bar{X}$)	Gap ($\bar{X}$–$\bar{Y}$)	Quadrant
ESQ1	Efficiency (Loading Speed)	4.55	3.80	-0.75	II
ESQ2	Ease of Use (UI/UX)	4.40	3.95	-0.45	II
ESQ3	**System Availability (Uptime)**	**4.85**	**3.10**	**-1.75**	**I**
ESQ4	Data Calculation Accuracy	4.60	4.10	-0.50	II
ESQ5	Data Privacy Protection	4.90	4.20	-0.70	II
ESQ6	Helpdesk Responsiveness	3.50	3.90	+0.40	IV
ESQ7	Error Compensation	3.60	2.80	-0.80	III

PR1	**Performance Risk (System Error)**	**4.75**	**3.05**	**-1.70**	**I**
PR2	Time Risk (Learning Curve)	4.30	3.60	-0.70	III
PR3	Psychological Risk (Anxiety)	3.80	3.50	-0.30	III
PR4	Social Risk	2.50	3.80	+1.30	IV
PR5	Privacy Risk (Data Leakage)	4.80	4.15	-0.65	II
Average	**Grand Mean**	**4.21**	**3.66**	**-0.55**	

4.3 Cartesian Diagram Analysis (IPA) The IPA mapping was conducted by determining the axis intersection point at coordinates (**X=3.66**; **Y=4.21**). The mapping of attributes into the four quadrants is as follows:



1. Quadrant I: "Concentrate Here" (Top Priority) The analysis places System Availability (ESQ3), Performance Risk (PR1), and Time Risk (PR2) in this quadrant. This indicates a crucial issue: Taxpayers consider server stability and time efficiency to be vital (Importance > 4.21), yet the actual performance is unsatisfactory (Performance < 3.66). The recurring system downtime and the steep learning curve (Time Risk) create the largest negative gap, serving as the primary barrier to adoption.

2. Quadrant II: "Keep Up the Good Work" (Maintain Performance) Attributes such as Privacy Protection (ESQ5), Data Accuracy (ESQ4), Efficiency (ESQ1), Ease of Use (ESQ2), and Privacy Risk (PR5) are located in this quadrant. Despite technical glitches, taxpayers perceive the CoreTax system as having high data security standards, good calculation accuracy, and an intuitive interface. These attributes are the main strengths that the Directorate General of Taxes (DJP) must maintain to build trust.

3. Quadrant III: "Low Priority" Attributes such as Error Compensation (ESQ7) and Psychological Risk (PR3) landed in this area. While users admit these features aren't perfect, they aren't losing sleep over them either. Compared to the frustration of system crashes, issues like anxiety or how the system handles error messages seem less urgent. Improvements here can wait until the critical server issues in Quadrant I accessible to both individual and corporate taxpayersare resolved.

4. Quadrant IV: "Possible Overkill" Interestingly, Helpdesk Responsiveness (ESQ6) and Social Risk (PR4) appear here. The helpdesk is performing well, but users don't view it as a high priority. This signals a preference for automation over support; taxpayers would rather have a reliable system that works seamlessly on its own than a responsive support team they have to contact because of errors.

4.4 Discussion The findings from these 30 early respondents indicate a **"Technology Paradox"** in the CoreTax implementation. On one hand, taxpayers trust the security and sophistication of the features (Quadrant II), but on the other hand, they experience frustration due to access instability (Quadrant I).

Theoretically, this reinforces Featherman & Pavlou's (2003) argument that **Performance Risk** (the fear of the system failing to function when needed) is the significant inhibitor to e-government service adoption. If the DJP does not immediately move attributes from Quadrant I (improving servers) to Quadrant II, the risk of mass adoption failure will increase, even if the security features are advanced.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion This study reveals a fascinating "Technology Paradox" in the early days of CoreTax adoption. On the surface, the Directorate General of Taxes (DJP) has achieved something difficult: building public trust. The data clearly shows that taxpayers feel safe; they believe the system is secure, accurate, and user-friendly (Quadrant II). This contradicts the common assumption that people are afraid of digital government platforms due to privacy leaks.

However, this trust is currently being undermined by basic technical frustrations. The primary barrier to adoption is not fear, but reliability. With *System Availability* and *Time Risk* stuck in the "Concentrate Here" quadrant, users are essentially saying: *"We trust the system with our data, but we are frustrated because we simply cannot access it."* Furthermore, the findings suggest that taxpayers are self-reliant; they prioritize a system that works error-free over having a responsive helpdesk, proving that automation is preferred over human assistance in this context.

Recommendations Based on these findings, we propose three practical steps for the Directorate General of Taxes:

1. **Fix the "Road" Before Upgrading the "Car":** Immediate resources must be shifted to resolve the issues in Quadrant I (server stability and uptime). Adding new features should be paused until the system can run without frequent downtime. A sophisticated system is useless if users cannot log in.
2. **Maintain the "Trust Capital":** The high scores in privacy and accuracy (Quadrant II) are the system's biggest assets. The DJP must ensure that security protocols remain tight, as this is the foundation of taxpayer willingness to switch to digital.
3. **Efficiency over Support:** Since users placed Helpdesk Responsiveness in the "Overkill" quadrant, there is no urgent need to invest heavily in expanding customer service teams. Instead, budget and effort should be redirected towards technical engineering to prevent errors from happening in the first place.

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