



Revisiting Leadership in Public Finance: Evidence on Non-Tax Revenue Receivables Management Quality in Indonesia

Puji Wibowo ^{1✉}, Amrie Firmansyah ², Maman Suhendra ³, Ari Untung Subardianta ⁴, and Diananto Krisnandono ⁵

¹³Public Sector Accounting Department, Politeknik Keuangan Negara STAN, Tangerang, Indonesia

²Accounting Department, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia

⁴⁵Directorate General of Budget, Ministry of Finance, Jakarta, Indonesia

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ABSTRACT

Purpose : The study examines factors affecting the quality of Non-Tax State Revenue (NTR) receivable management, focusing on human resource competence, internal control, and servant leadership. Despite NTR growth, audit findings reveal ongoing weaknesses, particularly in receivable collection effectiveness.

Method : The study employs a quantitative survey approach with 151 respondents across ministries, comprising civil servants managing NTR at State Ministries and Institutions. Data is analyzed using structural equation modeling (SEM) with partial least squares (PLS) software to examine the relationships between key variables.

Findings : The results show that human resource competence and internal control positively influence the quality of NTR receivable management. However, servant leadership does not enhance the positive effects of these factors, indicating that leadership style may not be a critical moderating variable in this context. Alternatively, transactional or transformational leadership may be preferable for NTR receivable management in Indonesian context.

Novelty : The research expands the public sector accounting literature by shifting the focus from leadership-driven models to a competency-driven, control-based approach in NTR receivable management. The findings challenge the conventional emphasis on leadership in public finance and suggest that structured policies, internal control mechanisms, and human resource competency are more effective in ensuring financial governance and revenue optimization.

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INTRODUCTION

More than two decades since the implementation of Non-Tax State Revenue (NTR) reform in 1997, its realization has consistently shown a positive trend (Wibowo et al., 2021). Despite the government's focus on tax revenue collection, NTR has remained above Rp100 trillion since 2005, with an average growth rate of 10.5% per year until 2019 (Wibowo et al., 2021). Even during the COVID-19 pandemic in 2020–2021, NTR continued to exceed the state budget targets, demonstrating its untapped potential as a supplementary source of state revenue alongside tax income. However, NTR receivables management remains a challenge. A significant portion of outstanding balances in Ministries/Institutions (MIs) has yet to be realized as revenue, affecting financial performance and budget realization (Patuan & Hermawan, 2023). Proper receivables collection is critical to ensuring government liquidity and fiscal stability.

Annual audits by the Supreme Audit Agency (BPK) consistently report issues such as delayed remittances, unauthorized collections, and off-budget NTR usage (Dinarjito, 2017). These inefficiencies highlight weaknesses in financial control and debt recovery strategies. Since adopting accrual accounting in 2015, BPK has flagged increasing concerns over NTR receivables, with 21 government entities' reporting receivables issues totaling Rp660 billion in 2020, and the largest problematic receivable recorded at Rp32.18 trillion in 2017 (Apriella et al., 2021). These findings underscore the need for stronger governance and operational improvements in receivables collection.

Weak receivables management practices, including inadequate internal controls, lack of transparency, and

* E-mail: puji.wibowo@pknstan.ac.id

Address: Jln. Bintaro Utama Sektor V, Bintaro Jaya, Pondok Aren, Tangerang Selatan, Banten 15222, Indonesia

insufficient accountability, have been identified as major factors contributing to poor non-tax revenue (NTR) collection performance in the public sector. Ineffective financial monitoring mechanisms often result in uncollected receivables, delayed follow-ups, and unresolved outstanding balances (Tarigan, 2021). These conditions not only distort the reliability of financial reporting but also hinder the government's ability to plan and manage its cash flow effectively. Persistent accumulation of uncollected NTR receivables indicates structural weaknesses in enforcement, tracking, and institutional commitment, ultimately undermining fiscal discipline and the sustainability of public finance.

Institutional inefficiencies also play a role. The lack of standardized collection policies and enforcement mechanisms has resulted in revenue discrepancies, while many government agencies lack adequately trained personnel and automated tracking systems OECD (2020). These factors hinder effective receivables collection and increase the risk of financial mismanagement. Although non-tax revenue (NTR) constitutes a significant component of public sector financing, the issue of NTR receivables management remains relatively under-researched in the public finance literature. Compared to the private sector, where receivables control has been extensively examined, studies focusing on NTR receivables in the public sector are scarce. For instance, Duliniec & Świda (2021) and Deari & Bărbuță-Mișu (2018) emphasize the dominance of private sector perspectives in receivables research, with limited comparative analysis or adaptation in public finance contexts. Furthermore, existing studies in public sector finance tend to concentrate on tax revenue administration (Dudine & Jalles, 2018; Bahl & Bird, 2008; Fjeldstad & Heggstad, 2012; Firmansyah et al., 2022; Ambarwati et al., 2023), with little attention given to receivables derived from non-tax sources. This gap is particularly critical, as receivables management practices that have proven effective in the private sector, such as monitoring collection cycles, establishing credit terms, and managing default risks (Owuor et al., 2020), could potentially be adapted to enhance cash flow reliability within public institutions responsible for managing non-tax revenue (NTR).

Several studies have identified human resource (HR) competency and internal control systems as fundamental determinants of effective receivables management (Hastuti et al., 2021; Prasetya, 2016). These competencies include technical skills, adherence to procedures, and accountability in managing receivables. Although human resource quality reflects the internal attributes of personnel, it is simultaneously shaped by the broader organizational environment, especially leadership practices that foster motivation, reinforce discipline, and ensure the effective enforcement of financial controls.

Leadership within public finance institutions, especially at the managerial and supervisory levels, serves a strategic function in defining organizational direction, cultivating a compliance-oriented culture, and ensuring the systematic implementation of internal controls. The OECD (2020) highlights that public sector leaders are essential in fostering an ethical culture by prioritizing integrity systems and leading by example to ensure their effective implementation. Similarly, empirical findings by Ismail (2024) and Jatmiko et al. (2022) show that leadership style and leadership quality significantly influence the implementation of internal control and financial accountability within public institutions in Indonesia.

Specifically in the context of NTR or PNPB receivables, Perangin-angin & Silitonga (2024) found that leadership correlates positively with improved staff compliance in the management of PNPB collection and reporting. Moreover, research by Suryatin et al. (2019) demonstrate that leadership commitment strengthens internal monitoring practices in the management of non-tax revenues at local government work units (SKPD), which indirectly improves receivables collection rates. In this context, leadership can be conceptualized not as an external variable to HR, but as an institutional force that creates an enabling environment for competent, accountable, and performance-oriented receivables management. The lack of specific empirical investigations on this pathway in central government settings suggests a critical gap that this study intends to address.

Most prior studies in public sector financial management have traditionally relied on agency theory Jensen & Meckling (1976), emphasizing oversight and control mechanisms to minimize opportunistic behavior and inefficiencies. However, in the context of NTR receivables management, where public officials operate within formal mandates and institutional norms, stewardship theory offers a more suitable lens. Stewardship theory posits that when civil servants are entrusted with autonomy, support, and organizational trust, tend to act in alignment with institutional goals rather than personal gain (Davis et al., 1997). This theoretical perspective underlines the importance of leadership styles that emphasize empowerment, ethics, and shared purpose.

Servant leadership, characterized by stewardship values including integrity, commitment to the public interest, and a long-term perspective, has the potential to create an enabling environment for responsible receivables management. Prior studies have shown that such leadership approaches enhance staff motivation, adherence to procedures, and organizational accountability (Batu et al., 2024; Yuana et al., 2025). Furthermore, effective stewardship also requires enabling systems, including robust internal controls and the strategic use of digital technology. Digitalization and automation, for instance, are increasingly recognized as tools that strengthen transparency and improve financial governance (Patuan & Hermawan, 2023). However, empirical evidence regarding how leadership and stewardship values interact with digital tools to support NTR receivables management in Indonesia's public sector remains scarce. This underscores the need to investigate how institutional leadership, supported by competent human resources and technological infrastructure, can shape more effective and accountable receivables practices.

This study contributes to public sector financial management literature by addressing several underexplored

areas identified in previous research. First, it advances the limited body of work on non-tax revenue (NTR) receivables management in the public sector, an area that has received significantly less attention compared to tax revenue administration or private sector receivables (Deari & Bărbuță-Mișu, 2018; Duliniec & Świda, 2021). Through an examination of how receivables control mechanisms typically employed in the private sector can be adapted to the public finance context, this study offers an evidence-based framework aimed at enhancing the effectiveness of NTR collection.

Second, the study introduces servant leadership as a moderating variable in the relationship between HR competency, internal control, and receivables performance. While past studies have established the importance of internal control and staff capability (Hastuti et al., 2021; Prasetya, 2016), few have examined the institutional or leadership dimensions that shape these internal factors. By applying stewardship theory Davis et al. (1997), this study fills a theoretical gap by empirically testing whether leadership that promotes trust and accountability can amplify the effectiveness of internal governance structures in managing receivables.

Third, the study responds to the lack of applied research on policy-level interventions for improving NTR receivables governance in Indonesia. Despite growing interest in digital transformation and accountability (Patuan & Hermawan, 2023), limited empirical evidence exists on how digital tools, leadership styles, and HR systems jointly influence financial compliance and collection performance in bureaucratic settings. The findings of this study are intended to inform practical policy reforms within the Ministry of Finance and related institutions, with a particular focus on strengthening human resource capacity, advancing the maturity of internal control systems, and integrating digital tools to enable real-time receivables monitoring.

This study is grounded in stewardship theory Davis et al. (1997) as the primary lens to examine the behavioral and institutional factors influencing the effectiveness of NTR receivables collection in the public sector. Stewardship theory posits that when public servants are entrusted with autonomy, adequate resources, and supportive leadership, they are likely to act in the best interest of the institution. This perspective is particularly relevant to receivables collection, which requires not only procedural compliance but also proactive initiative, commitment to institutional goals, and ethical behavior from financial officers. The theory provides a normative basis for assessing how leadership style and HR competency influence compliance with receivables policies and the success of collection efforts.

In addition, the study incorporates insights from positive accounting theory (Watts & Zimmerman, 1990), particularly in understanding how public financial management practices, including receivables tracking, disclosure, and enforcement, are shaped by institutional incentives and accountability frameworks. In the context of NTR, where receivables collection often involves delayed payments or weak follow-up, this theory helps explain how financial reporting and monitoring systems can influence behavior and policy enforcement.

While stewardship theory Davis et al. (1997); Hernandez (2012) provides a valuable lens for understanding organizational behavior rooted in trust, shared goals, and intrinsic motivation, it offers a more relevant explanation for non-tax revenue (NTR) receivables collection than traditional control-based models. Unlike theories that emphasize opportunism and external oversight, stewardship theory posits that employees, when trusted and empowered, will act in the best interest of the organization. Within this context, internal control mechanisms serve primarily as preventive instruments designed to ensure the proper execution of procedures at the point of revenue recognition or receivables origination. However, the core challenge in NTR management lies in ensuring timely collection and proactive follow-up, which depends more on staff performance, internal motivation, and system functionality than on deterrence. This study positions stewardship theory as a more suitable lens to explain how organizational culture, trust, and professional responsibility drive effective receivables recovery by prioritizing internal commitment over compliance-oriented control mechanisms.

In the Indonesian public sector, stewardship theory is particularly relevant, as effective leadership can help address bureaucratic inefficiencies, policy inconsistencies, and revenue leakages. Unlike control-based mechanisms, stewardship fosters trust, shared goals, and institutional responsibility, which are critical for improving NTR receivables management. By applying this theoretical framework, the study develops indicators for assessing NTR receivables management quality based on public finance regulations and private sector receivables management principles. Beyond theoretical contributions, this study aims to provide practical strategies for improving financial governance in Indonesia.

Future research should delve into the practical mechanisms by which automation and artificial intelligence (AI) can be integrated into NTR receivables monitoring systems. For instance, automation can be employed to generate real-time alerts for overdue receivables, schedule follow-up notifications to debtors, and match payment records with outstanding invoices. AI-driven analytics can assist in identifying high-risk debtors based on historical behavior and payment patterns, enabling targeted interventions. These technologies could be embedded into existing government financial platforms such as SAKTI or SPAN (integrated system developed by Ministry of Finance to manage state budget), enhancing data accuracy, response time, and accountability.

Managing Non-Tax State Revenue (NTR) receivables involves information asymmetry between managing agencies (K/L) and the Ministry of Finance. The Ministry relies on transparent and accurate reporting for fiscal policy decisions, yet BPK findings reveal issues like misreporting, delayed collections, and poor receivables management, indicating financial transparency weaknesses. Enhancing human resource (HR) competence is key to resolving these challenges. Competent employees improve reporting accuracy, ensure compliance, and strengthen

receivable collection (Kusuma, 2021). Employees with higher expertise tend to minimize information asymmetry and uphold ethical financial management.

Stewardship theory by Davis et al. (1997) explains that public officials, when entrusted with authority and supported by relevant competencies, will act in the organization's best interest. Stewardship theory suggests that well-prepared personnel are capable of operating independently to achieve institutional goals, including effective financial management (Donaldson & Davis, 1991). In the context of NTR receivables, the quality of human resources should be conceptualized not simply as general financial literacy but as specialized, task-specific competence, especially with regard to collection and enforcement functions. This includes the ability to monitor receivables aging, analyze debtor behavior, initiate timely and appropriate collection efforts, and utilize digital tools such as billing systems and financial dashboards (e.g., SAKTI, SPAN) to guide action. These competencies differ from skills needed at the receivables origination stage, such as policy interpretation or billing documentation. Instead, they emphasize communication, assertiveness, negotiation skills, and responsiveness, which are critical traits for achieving successful collection performance.

Empirical studies support this distinction. Owuor et al. (2020) found that receivables collection efficiency in public institutions improved when staff had strong operational competence in collection processes. Perangin-angin & Silitonga (2024) showed that technical capability in debtor engagement and follow-up was positively associated with improved NTR realization. These findings are consistent with Mardiasmo (2009), who emphasized that human capital in the public sector must be aligned with the function it serves, particularly when collection performance is the targeted outcome.

Thus, in line with stewardship theory, it is not general accounting knowledge alone that improves NTR receivables performance, but task-relevant collection competence embedded in daily operational practices. This perspective reinforces the importance of aligning human resource development strategies with the specific demands of receivables enforcement, particularly in government institutions that face chronic collection delays. Consequently, the first hypothesis proposed in this study is related to this issue:

H₁: Human resource competencies positively influence NTR receivables management quality

A robust internal control system is crucial in minimizing inefficiencies and policy inconsistencies in NTR receivables management. The Supreme Audit Agency (BPK) has repeatedly identified weaknesses in internal control, such as delayed collections, incomplete documentation, and uncollected receivables (Wibowo & Murwaningsari, 2024). Effective internal control enhances financial accountability and governance (Asqolani et al., 2023). Stewardship theory suggests that strong internal control aligns with public officials' responsibility to act as stewards of state resources. Davis et al. (1997) argue that a trust-based environment motivates employees to work in the public interest. An effective internal control system reinforces accountability, ensuring accurate reporting and better receivables collection (Donaldson & Davis, 1991).

Meanwhile, positive accounting theory by Watts & Zimmerman (1990) suggests that weak internal controls allow financial data manipulation. Delays in recognizing NTR receivables or misreporting financial figures may arise to meet budget targets. Strengthening internal controls mitigates these risks by enforcing standardized financial procedures, ensuring compliance with fiscal policies, and improving data credibility (COSO, 2019). Empirical research supports this view. Hastuti et al. (2021) and Silviana & Zahara (2015) found that strong internal controls improve financial transparency and reduce reporting errors. Owuor et al. (2020) confirmed that weak internal controls contribute to inefficiencies in receivables collection. OECD (2020) highlights that internal controls reduce corruption risks and enhance financial discipline. By improving data accuracy and transparency, internal control minimizes information asymmetry between NTR agencies and the Ministry of Finance, fostering trust in fiscal decisions. Given this, the second hypothesis is formulated as follows:

H₂: Internal control has a positive impact on NTR receivables management quality

The quality of NTR receivables management depends on human resource competency, internal control systems, and leadership style. Servant leadership ensures that financial governance aligns with stewardship principles, reducing information asymmetry and improving accountability. Stewardship theory by Davis et al. (1997) suggests that leaders prioritize long-term success over short-term gains. Servant leaders, by fostering trust, integrity, and collaboration, enhance organizational effectiveness and ensure financial practices serve public interests. HR competency is vital for financial reporting and receivables management, but without strong leadership, employees may lack motivation and ethical guidance. Servant leaders foster professional development, accountability, and transparency (Greenleaf, 1970).

Empirical studies confirm leadership enhances employee performance (Rahayu, 2019; Wollah et al., 2020). Servant leadership helps apply HR skills effectively, ensuring compliance with Ministry of Finance regulations and improving fiscal discipline in NTR receivables management. Thus, the third hypotheses formulated in this research encompass these aspects:

H₃: Servant leadership strengthening positive effect of human resource competencies on NTR receivables management quality

While internal controls are designed to prevent financial mismanagement, their effectiveness depends on leadership commitment to enforcement and ethical oversight. Weak leadership may lead to ineffective internal control implementation, enabling financial misreporting or non-compliance. Servant leadership reinforces control mechanisms by promoting a culture of accountability and transparency, ensuring that internal controls are not just procedural but actively upheld in financial decision-making (Bouheraoua & Djafri, 2022).

Leadership also plays a role in building a trust-based work environment, reducing opportunistic behavior, and ensuring that internal control policies are followed consistently. Lee (2017), Suriyankietkaew & Avery (2016), and Wardiana & Hermanto (2019) emphasize that strong leadership directly improves organizational performance, particularly in financial governance and compliance. Given this theoretical and empirical evidence, the study posits the fourth hypotheses as follows:

H₄: Servant leadership strengthening positive effect of internal control on NTR receivables management quality

RESEARCH METHODS

This study adopts a quantitative approach to examine civil servants' perceptions of the quality of NTR receivables management and its influencing factors. The unit of analysis is individual government officials (Aparatur Sipil Negara/ASN) who are directly involved in the management of NTR receivables, such as personnel responsible for billing, recording, reporting, and collection activities. The population in this study includes ASN managing NTR receivables across central government agencies in Indonesia, particularly within ministries, non-ministerial government institutions, and technical implementing units (UPT) that actively administer PNBP. Based on preliminary data from the Ministry of Finance and institutional directories, the estimated target population is around 3,000 ASN distributed across various sectors such as transportation, health, education, and energy. This estimation is used solely as a reference to indicate the approximate scope of the study, acknowledging that the actual number may vary.

A purposive sampling technique is employed to ensure the inclusion of respondents with sufficient knowledge and operational experience in NTR receivables management. The selected criteria require that respondents: (i) have a minimum of two years of experience in managing NTR receivables, and (ii) hold at least an associate degree (D3) in finance, accounting, public administration, or a related field. The respondents may be ASN or non ASN as long as satisfy the requirement.

These criteria are chosen to improve the quality and relevance of the responses, as individuals with limited tenure or unrelated educational backgrounds may lack the technical understanding necessary to evaluate receivables management practices accurately. While purposive sampling limits generalizability to the entire population, it enhances internal validity by focusing on a knowledgeable respondent group capable of providing informed judgments. This approach is commonly used in public sector organizational research where role-specific expertise is required. This study relies on primary data collected via questionnaires distributed using Google Forms. The questionnaire includes demographic questions (e.g., gender, age, work experience, education level) and research variables, measured using a 1-6 Likert scale. Data related to the research variables were presented in the form of statements measured on a Likert scale ranging from 1-6, where 1 represents strongly disagree and 6 represents strongly agree with statements in the questionnaires. The justification for using a 1-6 Likert scale is revised for clarity. This scale was chosen to reduce central tendency bias while avoiding a neutral midpoint, encouraging more definitive responses. Empirical support for this choice includes Lottridge et al. (2013), who argue that midpoints may lead to ambiguous responses. However, to further validate response reliability, a pilot study will assess whether respondents find the scale intuitive and appropriate.

The study includes one dependent variable, three independent variables, and one moderating variable (Table 1). The dependent variable is NTR receivables management quality, defined as compliance with NTR receivables governance regulations. The independent variables include: a) Human resource competency: employees' knowledge and adherence to NTR receivables regulations, measured using both hard and soft skills, b) Internal control: implementation of internal control elements per NTR laws and Government Regulation No. 60 of 2008 on Internal Control Systems, and c) Servant leadership (moderator): the leader's ability to direct resources towards effective NTR receivables management, measured using (Rahayu, 2019) and (Northouse, 2016). Further details about the research variable indicators are presented in Table 1.

Based on above research instruments, the research equation employed in this study as follows (Equation 1).

$$\text{NRMQ}_i = \alpha + \beta_1 \text{HRC} + \beta_2 \text{IC} + \beta_3 \text{HRC} * \text{SL} + \beta_4 \text{IC} * \text{SL} + \epsilon \quad \dots\dots\dots 1$$

Description:

NRMQ = NTR Receivables Management Quality
 α = Intercept
 $\beta_1 - \beta_4$ = Variable coefficients
 HRC = Human resource competency
 IC = Internal control

SL = Servant Leadership
 HRC*SL = Interaction between HRC and SL
 IC*SL = Interaction between IC and SL
 ϵ = Error terms

Table 1. Summary of Research Instruments

Variables	Type	Indicators	Sources
NTR Receivables Management Quality (NRMQ)	Dependent	14 items	Regulation regarding NTR and state finance
Human Resource Competency (HRC)	Independent	13 items	The Minister of Administrative and Bureaucratic Reform Regulation No. 38 the Year 2017, (Hakim & Wibowo, 2021)
Internal Control (IC)	Independent	15 items	Government Regulation No. 58 the Year 2020 dan No. 60 the Year 2008
Servant Leadership (SL)	Moderator	10 items	(Green et al., 2015)
Total		52 items	

Source: Various Literatures

The study employs descriptive statistics, measurement model assessment (outer model), and structural model analysis (inner model) using Structural Equation Modeling (SEM-PLS) in SmartPLS software. Partial Least Squares Structural Equation Modeling (PLS-SEM) is employed due to the nature of the research, which relies on primary data collected through a structured questionnaire. PLS-SEM is considered appropriate for testing complex models involving multiple constructs, including a moderating variable, particularly when data may not meet the strict assumptions of regression analysis such as normality or homoscedasticity. Furthermore, moderation is tested using interaction terms within the SEM framework, following procedures outlined in Hair et al. (2019). Two structural models are estimated: the first to test the direct effects of independent variables on the dependent variable, and the second to assess the moderating effect of servant leadership by including the interaction terms in the model.

This approach ensures robust hypothesis testing while addressing potential multicollinearity issues. This study also conducts sub-sample analysis by dividing respondents into two categories, which are official assessment (OA) and self-assessment (SA) categories, to provide consistent results among two different sub-samples. In Indonesia, Non-Tax State Revenue (PNBP) is classified according to its assessment method, which influences the calculation and collection process. Through the official assessment method, government agencies determine and verify PNBP prior to collection, ensuring both accuracy and compliance (Bird & Zolt, 2008). This method applies to natural resource royalties, fines, and state asset leasing fees but may delay collection due to bureaucratic processes and verification requirements (Tanzi & Pellechio, 1997). In contrast, the self-assessment method places the responsibility for calculating and reporting liabilities on businesses or individuals. This system depends heavily on voluntary compliance and the use of audit procedures to verify accuracy (Alm, 2019). This method applies to service fees, infrastructure charges, and certain non-tax levies, enabling faster collection but posing higher risks of underreporting (Slemrod, 2007). Thus, official assessment ensures control but slows collection, while self-assessment accelerates revenue but necessitates strong enforcement mechanisms (Besley & Persson, 2014). These distinctions allow different strategies in managing NTR receivables, making the exploration of these two approaches essential for this study.

RESULTS AND DISCUSSIONS

The survey or questionnaire was formatted using Google Forms accessible via the link https://bit.ly/survei_NTR2022. The survey was distributed to respondents through the official letter delivery from the Directorate General of Budget to the Secretariat General or the Main Secretariat of Ministries/Agencies for dissemination to the NTR management units within their institutions. The questionnaire distribution took place for seven weeks from the end of September until the beginning of November 2022. The number of questionnaires filled out by respondents was 171, with 20 of them categorized as incomplete and thus could not be further processed. A questionnaire was considered incomplete if the respondent did not select the type of NTR calculation method, namely official assessment (OA) or self-assessment (SA). Classifying these two NTR calculation methods is crucial due to the differing characteristics in managing NTR for each method. Consequently, the number of questionnaires available for validity and reliability testing was 151.

The demographic profile of the 151 respondents demonstrates a balanced representation across gender, age, education, and professional background. Of total, 56 percent were male and 48 percent female. A majority (79 percent) were aged between 31 and 50 years, indicating that most participants were in the prime working years, while only small proportions were younger than 30 or older than 50. In terms of education, bachelor's degree and diploma IV graduates accounted for the largest share (56 percent), followed by master's degree holders (20 percent) and diploma III graduate (23 percent), with one respondent only holding a doctorate. Respondent's academic discipline were divers, although accounting was dominant. Professionally, 60 percent were assigned to head offices and 40 percent to regional units with nearly half serving as functional staff. Work experience was distributed evenly, reflecting both relatively new employees and those with more than a decade of services.

This study employs latent variables that can be observed through respondents' perceptions of several indicators proposed as research constructs. Valid indicators are those with a minimum outer loading of 0.7. Indicators are

Table 2. Validity Test Results for Full Sample

Variables (n=151)	Indicators		
	Valid	Not Valid	Total
NTR Receivables Management Quality	9	5	14
Human Resource Competency	9	4	13
Internal Control	14	1	15
Servant Leadership	10	0	10
Total Indicators	42	10	52

Source: The processed primary data (2023)

considered valid if they have a minimum outer loading of 0.7. Based on validity tests conducted using SEM-PLS software, the overall results are presented in Table 2. Table 2 presents the validity testing results for the entire sample of respondents (151). There are 42 items with outer loading values above 0.7, indicating that these 42 meet the minimum outer loading threshold (>0.7), confirming that they adequately represent the latent constructs of NTR receivables management quality, human resources competency, internal control, and servant leadership. This result demonstrates that the measurement instruments used in this study are robust and reliable for capturing respondents' perceptions. The finding is consistent with Hair et al. (2019) who argue that strong indicator loadings are a prerequisite for valid structural model testing.

The dependent variable in this research is the quality of NTR management represented by 9 valid indicators. Competency of human resources can be represented by 9 valid indicators. Meanwhile, the internal control variable has 14 valid indicators. All indicators (10 items) of the servant leadership variable are declared valid. This indicates that the servant leadership indicators have been proven valid in several previous studies. Moreover, upon reviewing the reliability results, it is evident that all research variables meet the minimum reliability requirement of Cronbach's alpha of 70 percent or 0.7. This reliability holds true for the entire sample as well as for the SA and OA NTR calculation method groups. The following Table 3 presents the results of the mentioned reliability test.

The valid indicators, ranging from the highest outer loading (0.869) to the lowest (0.725), essentially represent a series of processes to ensure the recognition, measurement, presentation, and disclosure of NTR receivables in accordance with Government Accounting Standards (PSAP). Table 3 reports the reliability test results for full sample. All constructs exceed the Cronbach's Alpha and Composite Reliability thresholds of 0.7, indicating strong internal consistency. The reliability results reinforce that the indicators not only measure their respective constructs consistently but also are applicable across different sub-samples

Table 4 represents the mapping of indicators according to the classification of recognition, measurement, presentation, and disclosure of NTR receivables. This mapping illustrates that NRMQ is evaluated not solely through a technical accounting lens but also from a governance perspective, thereby ensuring comprehensive receivables management covering the entire process from initial recognition to final oversight and disclosure. Based on hypothesis testing using bootstrapping in the SEM-PLS software, the obtained results are presented in Table 5. Table 5 demonstrates that, overall, the independent variables in this study can explain 69.4% of the variation in the dependent variable. This means that factors beyond human resource competencies and the internal control system influence 30.6% of the variation in the quality of NTR receivables management variable.

Table 5 also indicates that human resource competencies have a positive impact on the quality of NTR receivables management (hypothesis 1 accepted) at a 1% significance level. Internal control also exhibits a positive effect on enhancing the quality of NTR receivables management (hypothesis 2 accepted) at a 1% significance level. However, the test results in Table 5 also demonstrate that servant leadership couldn't strengthen the positive influence of the human resource competency and internal control variables. Although the servant leadership variable individually can have a positive impact on the quality of NTR receivables management at a 10% significance level, because the coefficient value of servant leadership is relatively smaller (0.106) compared to human resource competencies (0.419) and internal control (0.349), its moderating effect becomes insignificant.

Table 3. Reliability Test Results for Full Sample

Variables (n=151)	Indicators			
	Cronbach's Alpha	Rho_A	Composite Reliability	AVE
NTR Receivables Management Quality	0.93	0.933	0.94	0.59
Human Resource Competency	0.942	0.946	0.95	0.616
Internal Control	0.963	0.965	0.967	0.68
Servant Leadership	0.974	0.976	0.977	0.81

Source: The processed primary data (2023)

Table 4. Indicators Mapping for NRMQ Variable

No	Accounting Process	Code of Indicators	Keywords
1.	Recognition	Q1, Q2, Q4	Billing, recording, correction
2.	Measurement	Q5, Q7	Reconciliation, verification
3.	Presentation	Q8	Reporting
4.	Disclosure	Q9, Q10	Disclosure, receivable details
5.	Others	Q12	Role of internal auditor

Source: The processed primary data (2023)

Furthermore, different outcomes emerged when hypothesis testing was conducted for NTR OA and NTR SA. Table 6 and Table 7 present these test results. Table 10 shows that, overall, the variables of human resource competencies and internal control can explain 70.4% of the variation in the quality of NTR OA receivables management. This indicates that the high or low quality of NTR receivables management is still influenced by other variables outside this research model, accounting for 29.6%. Surprisingly, the human resource competency variable failed to have a positive impact on the quality of NTR OA receivables management (hypothesis 1 rejected) due to a p-value above 10%. On the other hand, the internal control variable proved effective in supporting the quality of NTR OA receivables management at a 1% significance level (hypothesis 2 accepted). However, once again, servant leadership failed to act as a moderating variable in NTR OA receivables management (hypotheses 3 and 4 rejected).

Meanwhile, Table 7 indicates that, in general, the human resource competency and internal control variables have an adjusted R-squared value of 79.2% for NTR SA receivables management. This means that these two variables can explain almost 80% of the variation in the quality of NTR SA receivables management. Meanwhile, other unaccounted-for variables in the model are presumed to contribute to 20.8%. In contrast to NTR OA, in the management of NTR SA receivables, human resource competencies have a greater influence (hypothesis 1 accepted) compared to internal control (hypothesis 2 rejected). Human resource competencies have a positive impact at a 1% significance level, while internal control has a p-value above 10%. Nonetheless, once again, servant leadership failed to act as a moderating variable in NTR SA receivables management, similar to NTR OA and the full sample (hypotheses 3 and 4 rejected).

Human Resource Competency and NTR Receivables Management Quality

Employee competencies are crucial in ensuring the quality of NTR receivables management. Competent employees must have a strong understanding of legal regulations, including Law Number 9 of 2018 on NTR (Government of Indonesia, 2018), Government Regulation Number 58 of 2020 on NTR Management (Government of Indonesia, 2020), and Minister of Finance Regulation Number 207/PMK.06/2019 on Receivables Quality and Uncollectible Provisions (Minister of Finance of the Republic of Indonesia, 2019). Beyond compliance, they should possess the ability to document, communicate, and enforce receivable claims, ensuring smooth coordination with their supervisors and government policies.

Stewardship theory by Davis et al. (1997) argues that competent employees act as stewards who prioritize organizational success over personal gain. Stewardship theory suggests that well-trained employees naturally enhance transparency, accountability, and reporting accuracy. This reduces information asymmetry between NTR-managing agencies and the Ministry of Finance, improving governance and financial decision-making. This study also strengthens stewardship and positive accounting theories. Stewardship theory suggests that competent employees, supported by strong internal controls, act as responsible stewards in managing NTR receivables. Positive accounting theory also highlights the importance of internal controls in reducing information asymmetry between agencies and the Ministry of Finance. With clear responsibilities and a culture of accountability, public officials are more likely to align with organizational goals. Thus, internal controls serve not as a sign of distrust but as mechanisms to maintain discipline and support stewardship in protecting state assets.

Empirical studies support this view. Silviana & Zahara (2015) found that high employee competency in financial reporting improves transparency and compliance. Similarly, Hastuti et al. (2021) emphasize that trained personnel with strong regulatory knowledge make fewer reporting errors and enhance financial compliance. Furthermore,

Table 5. Hypothesis Testing Results (Full Sample, n=151)

Relation Among Variables	Coefficient	StdDev	t-Stat	p-Values	Decision
HRC → NRMQ	0.419	0.115	3.647	0.000	H ₁ accepted
IC → NRMQ	0.349	0.12	2.91	0.002	H ₂ accepted
SL → NRMQ	0.106	0.072	1.475	0.07	Not tested
SL*HRC → NRMQ	-0.004	0.085	0.041	0.484	H ₃ rejected
SL*RC → NRMQ	-0.045	0.076	0.589	0.278	H ₄ rejected

Source: The processed primary data (2023)

Table 6. Hypothesis Testing Results (Sub Sample OA, n =93)

Relation Among Variables	Coefficient	StdDev	t-Stat	p-Values	Decision
HRC → NRMQ	0.183	0.15	1.216	0.112	H ₁ rejected
IC → NRMQ	0.616	0.158	3.887	0.000	H ₂ accepted
SL → NRMQ	0.102	0.134	0.76	0.224	Not tested
SL*HRC → NRMQ	-0.23	0.168	1.372	0.085	H ₃ rejected
SL*RC → NRMQ	0.006	0.145	0.042	0.483	H ₄ rejected

Source: The processed primary data (2023)

Bouheraoua & Djafri (2022) highlight that competent employees improve internal control systems, reducing financial mismanagement risks. Employee competencies can be strengthened through education, professional training, and on-the-job learning. In addition to technical knowledge, employees must uphold integrity, ethical responsibility, and adherence to regulations to prevent financial misreporting or inefficiencies.

Positive accounting theory by Watts & Zimmerman (1990) suggests that employees, as rational economic agents, act based on economic incentives and institutional constraints. If organizations provide incentives for competency development and ensure strict regulatory enforcement, employees are more likely to accurately report and manage NTR receivables. Mardiasmo (2009) supports this by stating that investing in public sector human capital leads to better governance and accountability. Similarly, Owuor et al. (2020) found that structured competency programs significantly enhance financial reporting accuracy and receivables collection efficiency.

The results consistently confirm that HR competency plays an important role in strengthening NTR receivables management. In the full sample, HR competency exerts a significant positive effect, underscoring the relevance of technical expertise dan compliance-oriented skills in receivables administration. However, when comparing OA dan SA sub-samples, the dynamics diverge. Employee competencies influence official assessment (OA) and self-assessment (SA) NTR methods differently. Under OA system, employees have minimal influence because both the agency and payer already know the payable amount. Since OA payments are one-time transactions, employee discretion is limited, making competency less critical. Hakim & Wibowo (2021) confirm that predefined financial assessments reduce employee discretion in revenue collection. Meanwhile, under SA regime, employee competencies play a greater role as agencies must verify payer-reported figures, conduct reconciliations, and ensure compliance. Misinterpretations of supervisory instructions may lead to reporting errors, delays, or inefficiencies. Deari & Bărbuță-Mișu (2018) found that in self-assessed tax and revenue models, higher employee competency improves compliance and reduces financial discrepancies.

Employee competencies are essential for enhancing NTR receivables management, particularly in self-assessment systems, where personnel must verify reported figures and ensure compliance. Stewardship theory highlights how well-trained employees uphold financial integrity, while positive accounting theory emphasizes how regulatory environments and incentives shape employee behavior. Investing in competency development programs can bridge information gaps, improve reporting accuracy, and enhance financial governance in NTR management.

Internal Control and NTR Receivables Management Quality

Internal control significantly impacts the quality of NTR receivables management. The internal control implemented by NTR Managing Agencies plays a crucial role in enhancing the quality of NTR receivables management. The internal controls that can be implemented by these managing agencies include upholding integrity and ethical values, an appropriate organizational structure, delegating authorities and responsibilities related to NTR receivables management, and effective supervision of NTR receivables management by internal audit authorities.

Moreover, internal controls can be applied by identifying risks in NTR receivables management, analyzing these risks, controlling activities related to NTR receivables management, and reviewing the performance of NTR receivables management. Employee development in NTR receivables management, separation of duties in NTR receivables management, provision and utilization of various NTR receivables-related information, continuous development of NTR receivables information systems, and monitoring the internal control system of NTR receivables

Table 7. Hypothesis Testing Results (Sub Sample SA, n =58)

Relation Among Variables	Coefficient	StdDev	t-Stat	p-Values	Decision
HRC → NRMQ	0.593	0.229	2.593	0.005	H ₁ accepted
IC → NRMQ	0.122	0.218	0.56	0.288	H ₂ rejected
SL → NRMQ	0.109	0.149	0.731	0.233	Not Tested
SL*HRC → NRMQ	0.163	0.295	0.553	0.29	H ₃ rejected
SL*RC → NRMQ	-0.277	0.313	0.887	0.188	H ₄ rejected

Source: The processed primary data (2023)

management are indicators of well-implemented internal controls. Additionally, in NTR receivables management, managing agencies that follow up on audit recommendations and reviews related to NTR receivables are considered to have implemented internal controls effectively.

Effective implementation of internal controls occurs when all indicators are optimally executed by NTR managing agencies. Internal control is an effort that NTR managing agencies need to adopt to minimize information asymmetry in NTR receivables management between managing agencies and the Ministry of Finance as the fiscal manager. Implementing internal controls is crucial for NTR managing agencies to improve the quality of NTR receivables information, which impacts the overall government financial reporting. Data and information regarding NTR receivables will be more transparent and accountable with adequate implementation of internal controls. Moreover, this implementation can reduce audit findings related to NTR receivables in the Government's balance sheet.

Internal control also demonstrates consistent importance across models, but its effect varies by assessment method. For the full sample, internal control significantly improves NTR receivables management quality. At the sub-sample level, the effect is strongest and significant for OA but not for SA. Based on the NTR calculation method, it appears that internal control is more beneficial in the NTR OA management model compared to SA. Internal control has proven to have a positive and significant effect on NTR OA (Table 6), while no similar effect was found in NTR SA (Table 7). In contrast to the employee competency variable, NTR OA's business processes are relatively more established due to the high certainty regarding the state's rights defined by nominal amounts in legislation. This only requires a secure deposit procedure, obligation settlement monitoring, and accurate recording, all of which can be achieved with the support of an internal control system.

Stewardship theory and positive accounting theory provide valuable perspectives on the role of internal controls in NTR receivables management. Stewardship theory suggests that managers and employees act as responsible stewards when they operate in a system that promotes accountability and competency. Effective internal controls, such as integrity, ethical values, clear organizational structures, and well-defined responsibilities, align with stewardship principles by fostering a governance environment where employees are committed to organizational objectives. By minimizing the need for leadership intervention, internal controls support stewardship behavior, ensuring that NTR managing agencies operate efficiently and transparently. The emphasis on risk identification, performance evaluation, and compliance with audit recommendations reinforces the stewardship framework, as employees are entrusted with maintaining the quality of financial reporting through systematic procedures.

The Role of Servant Leadership

The results indicate that employee competency has a direct and dominant impact on NTR receivables quality. Employees with strong technical skills can independently manage NTR receivables without requiring additional reinforcement from servant leadership. Prior studies by Becker (1964); Boyatzis (1991) emphasize that competency-based performance is a key driver of organizational effectiveness, particularly in structured, technical work environments.

Servant leadership functions as a direct rather than a moderating factor. While leadership styles, including servant leadership, positively influence organizational outcomes (Greenleaf, 1970; Liden et al., 2014), they do not necessarily enhance the effect of employee competency on task execution. The stewardship theory by Davis et al. (1997) supports this by suggesting that employees, when competent and well-trained, act as stewards of organizational goals, requiring minimal intervention from leaders in technical roles.

Additionally, NTR receivables management is highly structured, driven by rules, policies, and financial compliance requirements. This minimizes the need for leadership styles focused on motivation and ethical guidance, as technical skills and procedural adherence are more critical (Mintzberg, 1979). Similarly, internal controls operate independently based on policies and standard operating procedures (COSO, 2019). Leadership styles, including servant leadership, do not necessarily strengthen their function, as internal controls are inherently designed to reduce risk and ensure compliance without direct managerial influence. Lastly, agency issues between managing agencies and the Ministry of Finance require structural and regulatory solutions rather than leadership-driven interventions (Jensen & Meckling, 1976). Servant leadership does not mitigate these challenges, reinforcing its lack of a moderating effect.

Across the full sample, servant leadership shows only a weak direct effect and fails to moderate the relationships between HR competency, internal control, and the receivables quality. This pattern is consistent in both OA and SA sub-samples. The results indicate that in structured, rule-based financial management environments, leadership styles focused on motivation and ethics provide limited additional value when technical competencies and internal controls are already in place.

Interestingly, the lack of moderation across sub-samples reinforces the notion that servant leadership is not a critical driver of operational performance in NTR receivables. Instead, leadership may exert influence in broader organizational culture or policy innovation, but not in routine compliance tasks where clear rules and standardized procedures dominate. This implies that alternative leadership models, such as transactional leadership with its focus on monitoring, sanctions, and rewards, may be more suitable for receivables governance in Indonesia's public sector.

The results contribute to the theoretical understanding of leadership effectiveness in structured financial

management environments, particularly within Indonesia's public sector. The findings align with and expand upon stewardship theory (Davis et al., 1997) by demonstrating that employees with high competency levels act as responsible stewards of organizational objectives, requiring minimal reinforcement from leadership styles such as servant leadership. This supports the idea that in technical and regulatory-driven tasks, leadership influence may not always be a key determinant of performance outcomes.

Furthermore, the study challenges aspects of servant leadership theory (Greenleaf, 1970; Liden et al., 2014) by suggesting that while servant leadership directly enhances overall organizational effectiveness, it does not necessarily moderate competency-driven or control-based mechanisms. This finding implies that servant leadership may have a stronger impact in environments that require high interpersonal engagement and ethical decision-making rather than structured, rule-driven financial management settings like NTR receivables.

The competency-driven governance model (CDGM) emphasizes that in managing non-tax revenue (NTR) receivables in Indonesia's public sector, competency matters more than leadership. Drawing from stewardship theory, CDGM views civil servants as responsible stewards who act in the public interest when they have the necessary skills and commitment. Competency enables them to fulfil their duties without needing strong leadership oversight (Davis et al., 1997; Hernandez, 2012). This aligns with human capital theory, which argues that investment in employee skills improves performance (Becker, 1993). Studies in Indonesia support this, showing that technical competence improves the quality of NTR management (Ambarwati et al., 2023; Wibowo & Murwaningsari, 2024).

In technical roles, CDGM suggests that leadership has limited influence because competent staff can work independently and effectively. Control theory further supports this by emphasizing the role of internal control systems and clear rules in ensuring performance, rather than relying on leadership styles (Merchant & Van der Stede, 2017; Ouchi, 1979). As a result, policy should focus on enhancing technical training, strengthening internal controls, and building clear governance systems, rather than prioritizing leadership development. CDGM shifts the focus from personal leadership to institutional competence and control. Taken together, these findings confirm the robustness of the model while also revealing important contextual nuances. First, in full sample analysis, both HR competency and internal control are significant, while servant leadership is not. Second, in OA regimes, internal control is the decisive factor while in SA regimes, HR competency is the decisive factor. Third, across all samples, servant leadership does not act as an effective moderator.

From a stewardship theory perspective, this study suggests that employees act as responsible stewards when their core competencies align with the demands of the assessment system (SA) and when institutional controls enforce accountability in more rigid environments (OA). From a positive accounting perspective the results emphasize that structural mechanisms such as competency development in SA and control enforcement in OA are key to reducing information asymmetry and improving compliance.

Alternative Leadership Style

Transactional leadership presents a more viable framework for managing NTR receivables due to its emphasis on performance optimization, regulatory adherence, and structured governance mechanisms. This leadership paradigm fortifies internal control systems by integrating continuous oversight, corrective interventions, and performance-based incentives, thereby ensuring institutional discipline and accountability (Burns, 1978). By delineating explicit operational expectations, transactional leadership fosters alignment with financial oversight mechanisms, mitigating process deviations and enhancing fiscal governance. Consequently, this structured approach fortifies financial discipline while simultaneously minimizing inaccuracies in NTR receivables administration (Antonikas & House, 2004).

Moreover, within a highly regulated financial environment, transactional leadership enhances operational efficacy by ensuring strict adherence to standardized procedures (Judge et al., 2004). Unlike leadership styles that rely on personal influence, transactional leadership institutionalizes compliance through systematic performance evaluation frameworks, thereby reducing procedural ambiguities and fostering uniformity in NTR receivables governance. By concentrating on goal-setting, performance metrics, and regulatory enforcement, this leadership approach aligns with stewardship theory, which emphasizes trust, shared goals, and intrinsic motivation between public servants and central authorities such as the Ministry of Finance (Davis et al., 1997; Hernandez, 2012). Rather than assuming conflict or self-interest, stewardship theory suggests that when individuals are empowered through clear objectives and performance standards, they act as responsible stewards of public resources. The intrinsic reliance on continuous oversight and structured corrective mechanisms complements this stewardship orientation by reinforcing accountability, facilitating the consistent enforcement of compliance protocols, and maintaining high performance standards across managing agencies (Podsakoff et al., 2009).

A key strategic advantage of transactional leadership lies in its ability to standardize financial governance, a critical requirement for public sector efficiency. This leadership model institutionalizes adherence to legislative mandates, operational protocols, and financial safeguards, significantly mitigating the risks associated with fiscal mismanagement (Northouse, 2016). By employing structured incentive systems and clearly defined punitive measures, transactional leaders cultivate a culture of financial integrity and precision in reporting mechanisms. Consequently, NTR receivables management benefits from enhanced operational efficiency, procedural accuracy, and improved fiscal outcomes (Yukl et al., 2013).

While transformational leadership may yield strategic advantages in long-term policy innovation and systemic reform, transactional leadership remains the most effective model for day-to-day financial governance (Bass & Riggio, 2006). It ensures transparency, regulatory compliance, and institutional accountability, making it particularly well-suited for public sector financial administration. Furthermore, by instilling a culture of discipline and structured performance evaluation, transactional leadership reinforces the robustness of internal control frameworks, ensuring regulatory compliance and preserving institutional integrity (Hartnell et al., 2016). This approach contributes to the stability, predictability, and efficiency of public financial management systems, thereby optimizing NTR receivables governance in a structured and highly regulated administrative context.

CONCLUSIONS

Based on the hypothesis testing results, this study concludes several key findings. First, employee competence positively influences the quality of NTR receivables. Competent NTR management employees contribute to more transparent and accountable NTR data, minimizing information asymmetry between managing agencies (K/L) and the Ministry of Finance. The impact of employee competence is more significant in NTR SA management than in NTR OA. Second, internal control systems positively affect the quality of NTR receivables. As mechanisms for monitoring organizational performance, internal controls ensure discipline in NTR receivables management. Their influence is stronger in NTR OA than in NTR SA. Third, servant leadership does not enhance the positive impact of employee competence or internal controls on NTR receivables quality. When internal controls and employee competencies are already well-established, servant leadership does not provide additional benefits in improving NTR receivables management. Transactional leadership is preferable for NTR receivables management, ensuring compliance, efficiency, and transparency in financial governance. Alternatively, transformational leadership may support long-term innovation but is better suited for policy development rather than daily operations where competency and internal controls already function effectively.

From a theoretical perspective, this study reinforces stewardship and positive accounting theories. Stewardship theory supports the idea that competent employees, when placed in a well-structured internal control environment, act as responsible stewards in managing NTR receivables. This study also aligns with positive accounting theory, which emphasizes the role of internal controls in reducing information asymmetry between managing agencies and the Ministry of Finance. Furthermore, stewardship theory underscores that managing agencies, when entrusted with clear responsibilities and supported by a culture of accountability, are more likely to act in alignment with organizational goals. Rather than assuming opportunistic behavior, this perspective views public officials as intrinsically motivated stewards who are committed to the effective use of state assets. Nevertheless, internal controls remain essential not because of distrust, but to reinforce procedural discipline and support responsible stewardship in safeguarding public resources.

On the other hand, from a policy perspective, the findings highlight the need for a competency-based approach in NTR management. The Ministry of Finance should establish specific criteria for selecting and developing NTR management employees. A structured reward and punishment system is essential to ensure compliance and performance in NTR management. The reward and punishment system improves compliance, performance, and accountability in NTR receivables management. Rewards include performance-based bonuses, public recognition, career advancement, and professional development opportunities like scholarships and training. Punishments ensure accountability through warnings, corrective action plans, financial penalties, demotions, or legal sanctions for severe violations. Poor-performing agencies may face increased audits and budget reductions. High performers receive incentives, while non-compliant agencies are held accountable through strict oversight. This system ensures effective NTR receivables management, motivating employees to adhere to regulations and maintain financial transparency. Additionally, policies should focus on strengthening internal controls, ensuring that managing agencies implement robust monitoring mechanisms. Mapping employees with the required competencies for NTR receivables management should also be prioritized to enhance efficiency and accountability in government financial reporting.

This study has several limitations. Due to time and budget constraints, it did not cover all NTR-managing agencies. The study also relied on legislative analogies and corporate receivables management practices, as limited research specifically addresses NTR receivables quality. Future research could expand the sample size for broader generalization and consider additional variables, such as transformational leadership, organizational culture, and knowledge management, to explore their influence on NTR receivables management.

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