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Designing a Collaborative Compliance Framework for Motor Vehicle and Heavy Equipment Tax Validation in a Gated Industrial Zone: Lessons from Bintan Inti Industrial Estate

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Abstract: The objective of the research is to explain how collaborative tax validation can be structured as a repeatable and auditable mechanism in an industrial-estate environment and to formulate an implementable framework for optimizing local revenue realization. The study employs a qualitative secondary-data design using document-based evidence, including relevant laws and implementing regulations, administrative procedures and SOPs, institutional reports, and publicly accessible industrial-estate documents. Data were analyzed through qualitative content analysis with iterative coding to identify recurring themes and bottlenecks in the validation process, followed by synthesis into a phased implementation model and governance requirements. The results indicate that the main leakage risk is driven less by outright non-payment and more by systematic mismatches between administrative registries and operational reality, compounded by weak evidence standards for confirming asset presence and use inside the estate. Effective collaboration is shown to depend on explicit data governance arrangements purpose limitation, stewardship roles, standardization protocols, audit trails, and dispute-resolution pathways rather than purely technical integration. The study also finds that a phased approach is most feasible: (1) standardizing identifiers and taxable-object categories; (2) piloting data-sharing governance and a minimum viable dataset; (3) implementing a validation workflow with clear exception handling; and (4) scaling through performance metrics and integrity controls. In conclusion, collaborative validation can be strengthened when designed as routine compliance infrastructure that reduces ambiguity, clarifies institutional roles, and produces verifiable evidence for liability confirmation, thereby improving the sustainability and predictability of local revenue collection in industrial regions.

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INTRODUCTION

Motor vehicle and heavy-equipment tax validation inside industrial estates often becomes a governance “blind spot” for local revenue management. Fleets circulate within controlled zones, while legal ownership, registration domicile, and actual operating location may not match administrative records creating room for underreporting, misclassification, or delayed payment. This article examines that compliance gap as an information problem embedded in an institutional setting, not merely an error of individual taxpayers. Empirical work shows that when tax bases can be strategically manipulated (e.g., vehicle attributes or reported usage), evasion responses can emerge even under formal rules. Such patterns are visible in car-tax contexts and imported-vehicle tax evasion determinants (Harju et al., 2020; Miskam et al., 2013).

The urgency of addressing this issue is fiscal and administrative. Subnational governments depend on predictable, enforceable local revenue streams; leakage or weak validation reduces fiscal space for services and infrastructure. Research indicates that enforcement quality interacts with compliance behavior and tax morale, meaning weak enforcement regimes can normalize non-compliance over time. In addition, hybrid enforcement designs that combine self-reporting with documentation or third-party corroboration can alter incentives and reduce strategic misreporting. Therefore, strengthening validation in industrial estates is urgent not only to increase PAD realization but also to stabilize the compliance environment (Bruno, 2019; Clifford & Mavrokonstantis, 2021).

A core obstacle is that industrial-estate taxation often requires public agencies to rely on privately held operational data. Estate managers and tenant companies may possess access logs, asset lists, and internal operational registries that are not automatically integrated into government systems. Yet collaboration is not automatic; it is shaped by incentives, institutional logics, and governance arrangements that define who shares what, when, and for what purpose. Studies of digital-government partnerships highlight the need to align state and market logics and to manage tensions within cross-sector cooperation. Broader work on integrated digital public services similarly emphasizes collaboration strategies as a prerequisite for durable coordination (Gong & Yang, 2025; Wouters et al., 2023).

This article sharpens its conceptual framing by positioning tax validation in industrial estates as a governance problem of information asymmetry, rather than merely an issue of individual compliance. Conceptually, validation is understood as an institutional mechanism that transforms fragmented, privately held operational data into standardized, verifiable, and auditable information through inter-organizational collaboration. By integrating insights from tax compliance theory with collaborative governance and information-sharing literature, the article contributes theoretically by explaining how institutional design data-sharing rules, workflows, and coordination structures shapes compliance outcomes in bounded industrial environments.

A clear gap exists between current practices and the ideal model suggested by theory. In practice, validation remains fragmented, reliant on self-reporting, and weakly supported by integrated data systems, while access to operational data from industrial actors is limited. In contrast, the ideal model emphasizes rule-based data exchange, standardized identifiers, routine cross-checking, and risk-based enforcement. This gap leads to delayed verification, high administrative discretion, and persistent opportunities for misreporting. Therefore, the core issue is not simply weak enforcement, but the absence of an institutionalized validation system that embeds collaboration and information integration as standard practice.

Equally important is the government-to-government dimension of validation. Revenue offices, licensing authorities, inspection units, and other agencies typically hold partial datasets that are fragmented across vertical and horizontal boundaries. When these datasets are not aligned, verification becomes slow and discretionary, raising administrative costs and lowering the probability of detection for non-compliance. Evidence from digital-government scholarship shows that boundary-spanning information sharing is central to effective oversight and service delivery. Quantitative research also identifies determinants that shape the success of inter-organizational information sharing initiatives, which is directly relevant for designing validation workflows (Gil-Garcia & Sayogo, 2016; Yang et al., 2014)

Digitalization can improve validation capacity, but technology alone does not solve institutional bottlenecks. Local authorities often struggle with reengineering processes, data standards, and the governance rules needed to make sharing routine rather than exceptional. Studies on electronic information sharing in local governments underline that organizational structures and business processes must be redesigned alongside technical tools. Earlier e-government research also shows that interorganizational information integration is a key enabler for service quality and policy effectiveness precisely the kind of enabling condition required for a robust validation mechanism. This article therefore treats digital tools as infrastructure that must be governed, not as a stand-alone solution (Bigdeli et al., 2013; Pardo & Tayi, 2007).

From a compliance perspective, validation is most effective when it creates a reliable "paper trail" or verifiable documentation requirement that constrains misreporting. Studies show that third-party reporting mechanisms can substantially increase compliance, especially where transactions or claims must be corroborated. Field evidence also indicates that audits and cross-checking can uncover collusive or concealed reporting, which matters in settings where firms and asset operators may coordinate behavior. Translating these lessons to industrial estates suggests that validation should be designed as a structured process combining documentation, cross-checks, and targeted inspections (Adhikari et al., 2021; Bjørneby et al., 2021).

Table 1. Key dimensions of a collaborative tax-validation framework in an industrial estate

Dimension	What it means in practice	Main actors	Expected output
Data-sharing governance	Rules for access, consent, privacy, and audit trails	Revenue agency, estate authority, tenant firms	Trusted, legally defensible data exchange
Standardization	Common identifiers for vehicles/equipment, owners, and operational location	Revenue + licensing/transport offices	Fewer mismatches and duplicate records
Validation workflow	Steps: record matching → operational confirmation → liability calculation → payment confirmation	Revenue + estate ops	Faster, traceable cycle
Incentives & enforcement	Facilitation + targeted controls for high-risk cases	Revenue + inspectors	Higher compliance at lower admin cost
Leadership & dispute resolution	Joint steering forum and escalation pathway	Senior officials + estate management	Sustained collaboration and fewer conflicts

Source: Author, 2026

The originality of this article lies in focusing on a bounded industrial zone as a distinct compliance environment where access is controlled and operational data is concentrated but privately governed. Much of the tax-compliance literature explains deterrence and reporting institutions broadly, yet fewer studies examine how institutional collaboration can be operationalized in an enclave-like economy such as an industrial estate. Research on technology, leadership, and governance in inter-organizational collaboration shows that collaboration outcomes depend on more than IT capacity leadership and governance arrangements shape whether integration is sustained. Work on integrated digital public services further provides practical strategies that can be adapted to compliance ecosystems. This article extends those insights by translating them into a concrete validation framework for vehicle and heavy-equipment taxes (Gasco-Hernandez et al., 2022).

The article also argues that stronger tax validation can generate spillover benefits for governance quality and corporate behavior. When enforcement becomes more credible and consistent, organizations may reduce irregular practices that thrive in ambiguous oversight settings. Evidence suggests tax enforcement can influence corporate conduct, including the incidence of financial irregularities, highlighting broader governance gains beyond revenue. Complementary research on tax administration digitalization shows that creating verifiable trails can strengthen enforcement, while also revealing “last-mile” problems that appear when oversight is incomplete or uneven. For industrial estates, this underscores why validation must combine data-sharing, workflow design, and enforcement targeting rather than relying on single-point interventions(Fang et al., 2026; Feng et al., 2023).

Methodologically, the article applies a qualitative case-study orientation suited to unpacking coordination, incentives, and process bottlenecks in a real institutional setting. Semi-structured interviews with key public officials and industrial-estate stakeholders are used to map the validation process end-to-end and identify where mismatches and discretion arise. Document analysis of relevant regulations and administrative procedures is used to triangulate interview insights and verify institutional workflows. The analytical lens draws on inter-organizational collaboration and information-sharing research to interpret findings and to develop a practical framework. In this way, the article addresses the problem by linking empirical observations to governance mechanisms that can be implemented.

Finally, the paper is organized to make the contribution explicit. It first defines the validation problem and why it matters for local revenue optimization in industrial estates, then reviews research on compliance mechanisms, third-party reporting, and inter-organizational information sharing to position the study in existing scholarship. Next, it presents the case evidence and synthesizes findings into a collaborative validation framework that clarifies roles, data needs, and workflow steps. The discussion section explains implementation implications and identifies conditions under which collaboration can be sustained, followed by recommendations for phased adoption and evaluation. This structure ensures the study meets its aims: diagnosing the problem, demonstrating urgency, and presenting a grounded approach to solving it.

This study is guided by two main research questions. First, it seeks to examine how the compliance gap in the validation of motor vehicle and heavy-equipment taxes emerges within industrial estates, particularly as a result of data fragmentation and misalignment across institutions. Second, it aims to explore how an inter-organizational collaboration framework encompassing both government-to-government and government-to-private interactions can be designed to enhance the effectiveness of tax validation, strengthen compliance, and optimize local own-source revenue (PAD).

RESEARCH METHOD

This study applies a secondary-data qualitative design to examine how collaborative tax validation for motor vehicles and heavy equipment can be structured within an industrial-estate setting. The method is appropriate because it enables systematic interpretation of institutional arrangements, regulatory logic, and administrative procedures without relying on primary field interactions. The research is positioned as a qualitative secondary analysis, emphasizing careful contextualization of existing materials and transparent reporting of analytic decisions. Document-focused approaches are also widely used to assess policy and governance processes, particularly where official texts and institutional artifacts provide the most relevant evidence based (Kayesa & Shung-King, 2021; Tate & Happ, 2018).

For the analytic strategy, the study uses qualitative content analysis to extract patterns, categories, and themes from written sources. This approach supports a stepwise, auditable process moving from familiarization to coding, categorization, and interpretation so that conclusions about validation mechanisms remain grounded in text-based evidence. Guidance in the literature emphasizes credibility through explicit coding logic, category formation, and careful handling of meaning units, making it suitable for governance and compliance topics that rely on institutional language. In addition, hands-on procedural guidance strengthens rigor

by clarifying how researchers move from raw text to analytical themes and reporting (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017).

The secondary dataset consists of (a) relevant laws and implementing regulations, (b) government technical guidelines and administrative procedures, (c) institutional reports and official publications related to local revenue and compliance control, and (d) publicly available industrial-estate documents (e.g., operational rules, tenant requirements, compliance notices) where accessible. Data collection follows purposive sampling with inclusion criteria focused on: (1) explicit linkage to vehicle/heavy-equipment registration, validation, taxation, or compliance; (2) authority and traceability of the source; and (3) relevance to inter-organizational coordination. Coding is conducted iteratively: initial open coding to map validation activities, followed by axial coding to cluster themes such as data-sharing points, verification steps, bottlenecks, and accountability mechanisms.

Table 1. Secondary-data sources and analytical focus

Source category	Examples of documents	Analytical focus
Regulatory texts	Laws, government regulations, governor/regent regulations, technical decrees	Legal basis of validation, roles, authority, sanctions
Administrative procedures	SOPs, service standards, circular letters, internal guidelines	Process flow, required documents, decision points
Institutional publications	Annual reports, performance reports, audit summaries, official statistics	Compliance patterns, revenue performance, identified gaps
Industrial-estate documents	Estate rules, access/vehicle control policies, tenant compliance notices	Practical control mechanisms, operational evidence for validation

Source: Author, 2026

To enhance trustworthiness, the study applies source triangulation (cross-checking rules, procedures, and reported outcomes across different document types) and maintains an audit trail of coding memos and category definitions. Interpretive validity is strengthened by using consistent coding rules, documenting inclusion/exclusion decisions, and revisiting themes when new contradictions appear in the dataset. Because the study uses secondary data, ethical handling focuses on proper attribution, limiting analysis to legitimately accessible materials, and avoiding disclosure of sensitive operational details if documents contain restricted identifiers.

RESULT AND DICUSSION

1. Compliance gaps emerge from weak validation architecture in industrial estates

The document-based evidence indicates that the most persistent compliance gap is not simply “non-payment,” but misalignment between records and reality where registered domicile, legal ownership, and actual operational location of vehicles/heavy equipment diverge. In such conditions, tax bases become harder to verify and enforcement becomes reactive rather than preventive. This pattern is consistent with findings that information-reporting systems and digital reforms can raise compliance when they expand verification capacity and reduce information asymmetry between taxpayers and authorities. Likewise, institutional reforms such as withholding can generate immediate, durable revenue increases because they shift compliance from discretionary reporting toward structured mechanisms that are harder to bypass(Bagchi & Dušek, 2021; Li et al., 2020).

The secondary sources also suggest that compliance is shaped by incentives and perceived reciprocity, not only by sanctions. Where taxpayers perceive benefits or fairness, compliance can improve; where enforcement is selective or validation is unclear, strategic under-compliance becomes normalized. Evidence from municipal compliance settings shows that targeted inducements and reward mechanisms can affect payment behavior and compliance consistency, especially where enforcement capacity is limited. Moreover, classic

local-compliance work highlights how enforcement probability, perceived legitimacy, and social context jointly condition whether taxpayers comply or evade (Carrillo et al., 2021; Fjeldstad & Semboja, 2001).

From the reviewed documents, the main operational failure points cluster around (a) incomplete vehicle/equipment identification across registries, (b) limited operational proof of asset presence inside industrial zones, (c) fragmented inter-agency confirmation steps, and (d) weak follow-through on mismatch cases. The evidence implies that validation is currently treated as an administrative checkpoint, not as a structured risk-based cycle. As a result, leakage is more likely to occur through routine omissions than through single dramatic violations. A key result is that strengthening validation requires making it repeatable, auditable, and jointly operated, rather than relying on one-off reconciliation.

Table 3. Main validation gaps and their implications

Validation gap observed in secondary sources	Practical implication	Likely compliance effect
Registry mismatch (owner/domicile vs operating location)	Liability attribution becomes disputed	Higher underreporting risk
Weak proof of operational presence in estate	Assets “in use” remain unvalidated	Hidden tax base
Fragmented confirmation across agencies	Long processing and discretionary decisions	Lower perceived enforcement
Non-standard equipment classification	Different interpretations of taxable objects	Inconsistent assessments
Limited follow-up on exception cases	Mismatches persist across periods	Recurrent leakage

Source Auhtor, 2026

A cross-cutting interpretation is that the estate environment amplifies compliance ambiguity because it concentrates assets behind controlled access. This makes routine administrative checks insufficient unless they are paired with operational evidence and a formal rule for how that evidence triggers validation outcomes. The results therefore support a shift from “document completeness” to evidence sufficiency i.e., validation should require minimum operational proof of presence and use, not only ownership paperwork. This reframes compliance as a governance system rules determine acceptable proof, actors determine supply of proof, and workflows determine how proof converts into confirmed liabilities. In discussion, the practical implication is that the validation design should be staged first, harmonize identifiers and define taxable objects consistently; second, standardize evidence types that industrial actors can provide; third, embed exception-handling rules so mismatches do not stall. The findings indicate that “tightening enforcement” alone is unlikely to solve the problem if the system still cannot reliably observe assets and reconcile identities. What matters is an enforceable architecture that reduces ambiguity and makes the compliance pathway simple, predictable, and verifiable for all actors.

2. Effective collaboration depends on data governance and cross-boundary arrangements

The documentary evidence suggests collaboration is required because crucial validation inputs sit outside the revenue office inside industrial-estate management systems and tenant operational records. This aligns with scholarship on data collaborative governance, which emphasizes that cross-boundary data sharing introduces new governance demands beyond traditional collaboration. Evidence also shows that data collaboratives succeed when the collaboration is designed intentionally defined roles, clear objectives, and governance mechanisms that translate shared data into joint action rather than merely collecting information (Paparova et al., 2023; Ruijer, 2021).

A second result is that collaboration fails when data sharing is treated as a "technical integration task" rather than a negotiated institutional arrangement. Evidence on inter-organizational data sharing shows recurring issues conflicting incentives, unclear ownership, uncertainty about liability, and mismatched expectations about how shared data will be used. Conceptual work on data ecosystems further indicates that value creation requires aligning collaborative governance and data governance otherwise, initiatives become siloed, underutilized, or contested. These insights directly support the need for explicit governance rules in estate-based validation (Bartolomucci et al., 2026; Jussen et al., 2024).

Table 4. Governance requirements for collaborative validation (Point 2)

Governance requirement	Why it matters	Implementation signal (document-based)
Purpose limitation & scope clarity	Prevents misuse fears and resistance	Written use-cases, allowed queries, retention rules
Data stewardship roles	Assigns responsibility for quality and updates	Named custodians, update schedules
Standardization protocol	Enables matching across registries and estate data	Unique identifiers, shared formats
Accountability & audit trail	Ensures defensibility of validation outcomes	Logs, review steps, escalation routes
Dispute resolution mechanism	Avoids deadlock in mismatch cases	Joint committee / escalation SOP

Source Auhtor, 2026

From the document review, the collaboration structure implied is not a single MoU but a working arrangement that defines who supplies which data, in what format, under what legal basis, and how disputes are resolved. The evidence indicates that the most fragile part is not data collection, but authorization and legitimacy whether estate actors trust that data sharing will not create unmanaged burdens, reputational exposure, or inconsistent enforcement. Thus, the core result is that collaborative validation should be governed as a durable routine with predictable rules, not as an ad-hoc project.

In discussion, collaboration should be organized around a "minimum viable dataset" for validation to reduce burden identifiers, asset type/class, operational proof, and status flags for mismatch. Over-ambitious integration raises risk of failure and distrust. The documents imply that the estate is best positioned to supply operational proof while government agencies supply legal attribution and assessment authority. The governance challenge is to connect these roles through a workflow that is enforceable, auditable, and consistent across periods. A final implication is sustainability collaboration is likely to endure when it produces mutual gains and when rules reduce uncertainty. The results support designing collaboration as a compliance service where tenants experience validation as predictable and administratively light rather than as an episodic enforcement campaign. In short, data governance is the "backbone" that enables collaboration to function as a routine mechanism for PAD optimization.

3. Fiscal incentives and local revenue pressures shape validation behavior

The secondary evidence indicates that local fiscal conditions can influence how strongly agencies prioritize validation activities. Where local revenue capacity is constrained or volatile, governments may pursue alternative revenue strategies or intensify enforcement attention on accessible bases. Empirical literature shows that intergovernmental transfers can affect local revenue efforts and fiscal capacity, while politically sensitive local revenue tools can exhibit strategic cycles tied to local incentives. These dynamics suggest that validation intensity may rise or fall depending on fiscal pressure and political economy conditions (Bracco, 2018; Masaki, 2018).

The documents also imply a governance risk fiscal stress can shift enforcement behavior toward short-term revenue recovery rather than system improvement. Related

evidence indicates that local fiscal conditions can correlate with corporate tax strategies, and that fiscal pressure can affect local policy behavior toward firms and economic activity. These findings reinforce a key discussion point if validation becomes purely extractive and unpredictable, it may generate resistance from industrial actors; if it becomes consistent and rule-based, it can stabilize compliance and reduce transaction costs (Chen & Lin, 2025; Shen et al., 2024).

A core result is that estate-based validation can function as a “high-yield” compliance intervention because assets are concentrated and operational evidence can be standardized. However, the institutional payoff depends on whether local agencies invest in system-building (standards, workflows, governance) rather than episodic sweeps. Document patterns suggest the need to protect validation from short-termism by adopting standardized cycles (quarterly/semi-annual matching), fixed evidence rules, and clear exception-handling. This can convert fiscal pressure into constructive reform rather than reactive enforcement.

In discussion, fiscal incentives can be used positively by linking validation to performance reporting reduction in mismatch rates, faster reconciliation time, increased confirmed liabilities, and increased on-time payment ratios. Such indicators encourage system improvement rather than only revenue chasing. The industrial estate context enables this because the unit of observation can become part of routine reporting. When combined with governance safeguards, this design reduces the risk that enforcement intensity fluctuates unpredictably with political or fiscal cycles. Overall, the result supports a balanced approach recognize fiscal constraints but insulate validation rules from discretionary shifts. The more predictable the validation pathway, the higher the probability that firms adapt by complying rather than bargaining or delaying. This strengthens both PAD realization and administrative legitimacy, which is essential for long-run revenue stability in industrial regions.

4. Transparency, reporting institutions, and integrity controls strengthen deterrence

The secondary materials suggest that compliance strengthening is not only about “more inspections,” but also about visibility and transparency who can verify what, and how easily irregularities can be detected. Evidence from public tax disclosure systems shows that transparency mechanisms can influence behavior through social monitoring and perceived scrutiny. This complements research on reporting institutions, which demonstrates that third-party reporting frameworks can substantially change evasion incentives and compliance outcomes in controlled settings. Together, they support the discussion that validation improves when the environment increases the perceived probability of detection (Kotakorpi et al., 2024; Reck et al., 2022).

The documents also indicate risks of strategic behavior when the reporting institution is weak or when compliance signaling is ambiguous. Experimental evidence shows that compliance can respond to how tax designations and reporting responsibilities are structured, especially when image concerns, deterrence, or institutional cues shift perceptions of honesty and enforcement. In parallel, governance work on fiscal corruption warns that weak administrative controls can normalize informal practices and distort enforcement outcomes, undermining both revenue and legitimacy. This reinforces the result that validation must include integrity controls and standardized decision rules (Cingl et al., 2023; Fjeldstad & Tungodden, 2003).

A key finding from the document-based analysis is the importance of an “exception pathway” that is credible and fair how mismatches are reviewed, how evidence is evaluated, and how decisions are recorded. Without this, transparency can backfire firms may perceive enforcement as arbitrary. Effective deterrence requires not just detection capacity but also consistent adjudication. Therefore, a robust validation system should define evidence hierarchy (which documents override which), time limits for correction, and escalation procedures for disputed liabilities.

In discussion, transparency tools in the estate context can be operational rather than public-facing for example, shared dashboards between agencies and estate management showing validation status, mismatch counts, and resolution progress. This increases administrative visibility without necessarily disclosing sensitive commercial data. Combined

with standardized evidence rules, such tools can reduce discretionary negotiation and improve predictability, which is critical for voluntary compliance. The result is a deterrence mechanism that is process-based and routine, not personality-based or episodic. Finally, integrity controls should be embedded audit trails for changes, role-based access, and periodic review of high-risk cases. These controls protect both government and firms by ensuring that decisions are traceable. In sum, the results support a deterrence approach that relies on structured reporting, procedural transparency, and integrity safeguards making validation credible and defensible in a multi-actor environment.

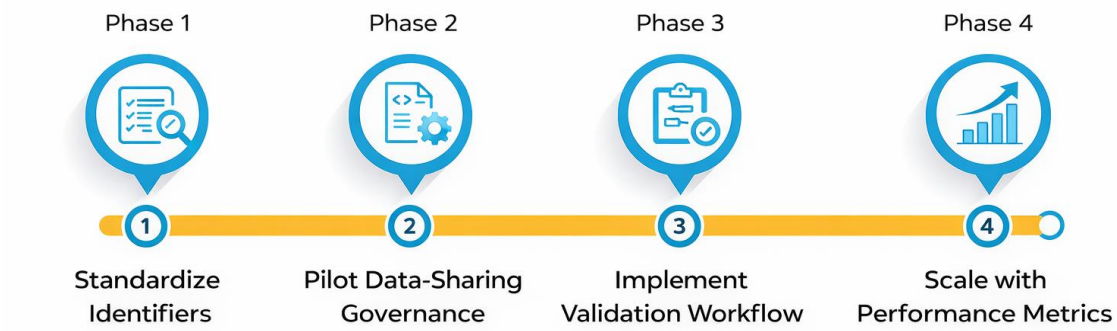
5. A phased implementation model is necessary for sustainable adoption

The documentary evidence implies that collaboration will not sustain itself without concrete instruments agreements, routines, and enforceable process commitments. Research on inter-organizational collaboration highlights how the quality of contractual and governance arrangements shapes collaboration effectiveness, especially when partners have different incentives and capacities. Digital government scholarship also emphasizes that "data collaboration" raises concerns about collection, sharing, and legitimacy, reinforcing the need to treat implementation as both technical and governance work. This supports the result that implementation should be phased and anchored in clear arrangements.

A second result is methodological and procedural building a durable validation model requires synthesizing diverse evidence (regulations, SOPs, reports, estate rules) into a coherent operational design. Literature on research synthesis and review methodology stresses that rigor comes from transparent inclusion logic, structured synthesis, and explicit reporting of how evidence supports conclusions. Likewise, procedural models of qualitative content analysis highlight staged interpretation from objective definition to analysis choices to application of findings matching the needs of a document-based compliance design study.

The discussion therefore supports a phased roadmap Phase 1 (standardize identifiers and taxable object definitions), Phase 2 (pilot data-sharing governance and minimum viable dataset), Phase 3 (implement validation workflow and exception-handling), Phase 4 (scale with performance metrics and integrity controls). The evidence suggests that trying to "integrate everything at once" risks stakeholder fatigue and data disputes. A small, stable routine that resolves the biggest mismatches first is more likely to build trust and demonstrate quick wins.

Figure 1. Phased implementation flow for collaborative tax validation in an industrial estate (secondary-data based).



Source: Author, 2026

Sustainability requires feedback loops periodic review meetings, updates to standards, and refinement of evidence rules based on recurring mismatch patterns. The estate can provide operational learning, while government agencies ensure legal defensibility and consistent decision-making. The key result is that adoption improves when firms perceive validation as a predictable service rather than an unpredictable enforcement event, and when the governance arrangement reduces uncertainty about data use and responsibilities. Overall, the results indicate that collaborative validation is feasible when designed as a routine compliance infrastructure standardized inputs, governed data sharing, auditable workflows,

and credible exception handling. The industrial estate setting is advantageous because it concentrates assets and operational evidence, but it also demands governance clarity because key data are privately held. A phased model allows institutions to start small, learn, and scale making the validation system both effective for PAD optimization and stable over time.

CONCLUSION

This study examined how collaborative tax validation for motor vehicles and heavy equipment can be designed and strengthened within an industrial-estate setting using secondary data. The analysis shows that the primary challenge is not merely non-payment, but persistent mismatches between administrative records and the actual operational reality of assets in the estate. These gaps are reinforced by fragmented registries, non-standard classifications, and weak exception-handling routines. The findings support a shift from ad-hoc verification toward a repeatable, auditable validation workflow governed by clear rules on data sharing, evidence requirements, and inter-organizational responsibilities. Overall, a phased implementation approach is the most feasible pathway to build trust, reduce disputes, and improve local revenue realization sustainably.

Practically, local governments and industrial-estate authorities should prioritize a minimum viable validation system before attempting full integration. First, they should standardize key identifiers and harmonize taxable-object categories to reduce classification disputes. Second, they should formalize a data-sharing governance arrangement that specifies permitted uses, update schedules, custodianship, and audit trails so private actors feel legally and operationally safe to participate. Third, they should implement a routine validation cycle (e.g., quarterly matching and confirmation) supported by a clear exception pathway for mismatches, including deadlines and escalation procedures. Finally, they should track performance indicators such as mismatch resolution rate, reconciliation time, and on-time payment ratios to ensure the system improves over time rather than relying on sporadic enforcement.

This research relies solely on secondary data, which limits the ability to capture real-time operational constraints, informal practices, and stakeholder perceptions that typically shape compliance and collaboration in practice. The study also cannot directly test the effectiveness of proposed mechanisms because no field implementation or controlled evaluation was conducted. In addition, access to certain internal documents such as proprietary estate operational logs or non-public administrative case files may be restricted, meaning that the analysis may not fully reflect all bottlenecks or the true scale of mismatch cases. These limitations may affect the generalizability of findings across different industrial estates with varying governance maturity and data availability.

REFERENCE

Adhikari, B., Alm, J., & Harris, T. F. (2021). Small business tax compliance under third-party reporting. *Journal of Public Economics*, *203*, 104514. https://doi.org/10.1016/j.jpubeco.2021.104514

Bagchi, S., & Dušek, L. (2021). The effects of introducing withholding and third-party reporting on tax collections: Evidence from the U.S. state personal income tax. *Journal of Public Economics*, *204*, 104537. https://doi.org/10.1016/j.jpubeco.2021.104537

Bartolomucci, F., Ramalli, E., & Urbano, V. M. (2026). Integrated governance in data ecosystems: A conceptual framework consolidating collaborative and data governance. *Government Information Quarterly*, *43*(1), 102107. https://doi.org/10.1016/j.giq.2026.102107

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, *2*(2), 8–14. https://doi.org/10.1016/j.npls.2016.01.001

Bigdeli, A. Z., Kamal, M. M., & De Cesare, S. (2013). Electronic information sharing in local government authorities: Factors influencing the decision-making process. *International Journal of Information Management*, *33*(5), 816–830. https://doi.org/10.1016/j.ijinfomgt.2013.05.008

Bjørneby, M., Alstadsæter, A., & Telle, K. (2021). Limits to third-party reporting: Evidence from a randomized field experiment in Norway. *Journal of Public Economics*, *203*, 104512. https://doi.org/10.1016/j.jpubeco.2021.104512

Bracco, E. (2018). A fine collection: The political budget cycle of traffic enforcement. *Economics Letters*, *164*, 117–120. https://doi.org/10.1016/j.econlet.2018.01.011

Bruno, R. L. (2019). Tax enforcement, tax compliance and tax morale in transition economies: A theoretical model. *European Journal of Political Economy*, *56*, 193–211. https://doi.org/10.1016/j.ejpoleco.2018.08.006

Carrillo, P. E., Castro, E., & Scartascini, C. (2021). Public good provision and property tax compliance: Evidence from a natural experiment. *Journal of Public Economics*, *198*(10), 104422. https://doi.org/10.1016/j.jpubeco.2021.104422

Chen, H., & Lin, Z. (2025). Local fiscal pressure and new firm entry. *International Review of Financial Analysis*, *99*, 103937. https://doi.org/10.1016/j.irfa.2025.103937

Cingl, L., Lichard, T., & Miklánek, T. (2023). Tax designation effects on compliance: An online experiment with taxpayers. *Journal of Economic Behavior & Organization*, *214*, 615–633. https://doi.org/10.1016/j.jebo.2023.08.016

Clifford, S., & Mavrokonstantis, P. (2021). Tax enforcement using a hybrid between self- and third-party reporting. *Journal of Public Economics*, *203*, 104519. https://doi.org/10.1016/j.jpubeco.2021.104519

Erlingsson, C., & Brysiewicz, P. (2017). A hands-on guide to doing content analysis. *African Journal of Emergency Medicine*, *7*(3), 93–99. https://doi.org/10.1016/j.afjem.2017.08.001

Fang, C., Pan, J., & Wu, P. (2026). Reaching the last mile: Digitalization of tax administration and VAT compliance at the retail stage. *Information Economics and Policy*, *72*, 101151. https://doi.org/10.1016/j.infoecopol.2025.101151

Feng, C., Ye, Y., & Bai, C. (2023). Tax enforcement and corporate financial irregularities: Evidence from China. *International Review of Financial Analysis*, *88*, 102697. https://doi.org/10.1016/j.irfa.2023.102697

Fjeldstad, O. H., & Semboja, J. (2001). Why People Pay Taxes: The Case of the Development Levy in Tanzania. *World Development*, *29*(12), 2059–2074. https://doi.org/10.1016/S0305-750X(01)00081-X

Fjeldstad, O. H., & Tungodden, B. (2003). Fiscal Corruption: A Vice or a Virtue? *World Development*, *31*(8), 1459–1467. https://doi.org/10.1016/S0305-750X(03)00089-5

Gasco-Hernandez, M., Gil-Garcia, J. R., & Luna-Reyes, L. F. (2022). Unpacking the role of technology, leadership, governance and collaborative capacities in inter-agency collaborations. *Government Information Quarterly*, *39*(3), 101710. https://doi.org/10.1016/j.giq.2022.101710

Gil-Garcia, J. R., & Sayogo, D. S. (2016). Government inter-organizational information sharing initiatives: Understanding the main determinants of success. *Government Information Quarterly*, *33*(3), 572–582. https://doi.org/10.1016/j.giq.2016.01.006

Gong, Y., & Yang, Y. (2025). Analyzing digital government partnerships: An institutional logics perspective. *Government Information Quarterly*, *42*(1), 101987. https://doi.org/10.1016/j.giq.2024.101987

Harju, J., Kosonen, T., & Slemrod, J. (2020). Missing miles: Evasion responses to car taxes. *Journal of Public Economics*, *181*, 104108. https://doi.org/10.1016/j.jpubeco.2019.104108

Jussen, I., Möller, F., Schweihoff, J., Gieß, A., Giussani, G., & Otto, B. (2024). Issues in inter-organizational data sharing: Findings from practice and research challenges. *Data & Knowledge Engineering*, *150*(1), 102280. https://doi.org/10.1016/j.datak.2024.102280

Kayesa, N. K., & Shung-King, M. (2021). The role of document analysis in health policy analysis studies in low and middle-income countries: Lessons for HPA researchers from a qualitative systematic review. *Health Policy OPEN*, *2*(11), 100024. https://doi.org/10.1016/j.hpopen.2020.100024

Kotakorpi, K., Nurminen, T., Miettinen, T., & Metsälampi, S. (2024). Bearing the burden — Implications of tax reporting institutions on evasion and incidence. *Journal of Economic Behavior & Organization*, *220*(4), 81–134. https://doi.org/10.1016/j.jebo.2024.01.021

Li, J., Wang, X., & Wu, Y. (2020). Can government improve tax compliance by adopting advanced information technology? Evidence from the Golden Tax Project III in China. *Economic Modelling*, *93*, 384–397. https://doi.org/10.1016/j.econmod.2020.08.009

Masaki, T. (2018). The impact of intergovernmental transfers on local revenue generation in Sub-Saharan Africa: Evidence from Tanzania. *World Development*, *106*(12), 173–186. https://doi.org/10.1016/j.worlddev.2018.01.026

Miskam, M., Noor, R. M., Omar, N., & Aziz, R. A. (2013). Determinants of Tax Evasion on Imported Vehicles. *Procedia Economics and Finance*, *7*, 205–212. https://doi.org/10.1016/s2212-5671(13)00236-0

Paparova, D., Aanestad, M., Vassilakopoulou, P., & Bahus, M. K. (2023). Data governance spaces: The case of a national digital service for personal health data. *Information and Organization*, *33*(1), 100451. https://doi.org/10.1016/j.infoandorg.2023.100451

Pardo, T. A., & Tayi, G. K. (2007). Interorganizational information integration: A key enabler for digital government. *Government Information Quarterly*, *24*(4), 691–715. https://doi.org/10.1016/j.giq.2007.08.004

Reck, D., Slemrod, J., & Vattø, T. E. (2022). Public disclosure of tax information: Compliance tool or social network? *Journal of Public Economics*, *212*, 104708. https://doi.org/10.1016/j.jpubeco.2022.104708

Ruijer, E. (2021). Designing and implementing data collaboratives: A governance perspective. *Government Information Quarterly*, *38*(4), 101612. https://doi.org/10.1016/j.giq.2021.101612

Shen, Z., Zhang, R., & Li, P. (2024). Local government debt and corporate tax avoidance: Evidence from China. *International Review of Economics & Finance*, *93*, 985–1000. https://doi.org/10.1016/j.iref.2024.03.069

Tate, J. A., & Happ, M. B. (2018). Qualitative Secondary Analysis: A Case Exemplar. *Journal of Pediatric Health Care*, *32*(3), 308–312. https://doi.org/10.1016/j.pedhc.2017.09.007

Wouters, S., Janssen, M., Lember, V., & Crompvoets, J. (2023). Strategies to advance the dream of integrated digital public service delivery in inter-organizational collaboration networks. *Government Information Quarterly*, *40*(1), 101779. https://doi.org/10.1016/j.giq.2022.101779

Yang, T. M., Pardo, T., & Wu, Y. J. (2014). How is information shared across the boundaries of government agencies? An e-Government case study. *Government Information Quarterly*, *31*(4), 637–652. https://doi.org/10.1016/j.giq.2014.05.002