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INSTITUTIONAL CHALLENGES IN THE EARLY IMPLEMENTATION OF XBRL FOR TAX REPORTING IN INDONESIA: TOWARD AN INTEGRATED DIGITAL REFORM VIA CTAS 2024

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Abstract
eXtensible Business Reporting Language (XBRL) offers transformative potential for tax data communication, yet its adoption in developing economies remains complex. In Indonesia, XBRL implementation began with a pilot project under Regulation KEP-159/PJ/2022 involving selected taxpayers. This study assesses the current adoption stage, identifies institutional and technical challenges, and formulates strategies for sustainable transformation. Using a qualitative approach, we analyzed semi-structured interviews with tax authorities, pilot taxpayers, and academic experts. The findings reveal that while XBRL promises enhanced transparency and standardization, early implementation suffers from regulatory misalignment, technical instability, and a scarcity of digital skills. These hurdles reflect broader structural constraints typical of developing nations. To ensure scalability, this study recommends a phased regulatory framework, the development of automated conversion tools, and infrastructure reforms aligned with the Core Tax Administration System (CTAS) 2024. By offering strategies tailored to limited regulatory capacity and infrastructure gaps, this research provides valuable insights for other developing economies pursuing digital tax reforms.
Keywords: Phased adoption; Regulatory challenges; Tax reporting transformation; XBRL implementation

INTRODUCTION

Modernizing financial and tax reporting systems is a critical priority for Indonesia in its digital transformation journey. The Directorate General of Taxes (DGT) has initiated the use of eXtensible Business Reporting Language (XBRL), an XML-based standardization technology, to improve the efficiency, transparency, and accuracy of tax-related financial reporting. This effort began with Regulation KEP-159/PJ/2022, mandating a pilot project involving 37 selected taxpayers to submit financial reports in XBRL format starting April 1, 2022.

The DGT has further developed the Financial Report Information Standardization (SILK), requiring taxpayers to submit four standardized tax documents: Financial Report (FR), Detail Profit and Loss (DPL), Fiscal Correction (FC), and e-Form. SILK aims to ensure consistency and comparability in financial reporting while enabling efficient data analysis. However, the implementation faces significant challenges, including resistance to change, limited technical expertise, infrastructure gaps, and the need for regulatory alignment. These issues demand considerable adaptation from all stakeholders, including taxpayers, auditors, and the DGT itself.

While XBRL has been successfully adopted in other sectors, such as capital markets regulated by Indonesia's Financial Services Authority (OJK), its implementation in the tax domain remains in its infancy. The lack of widespread socialization and clear guidelines from the DGT underscores a gap in readiness compared to other regulatory bodies.

Existing literature on XBRL adoption frequently emphasizes its technical features and global best practices, yet offers limited analysis of institutional dynamics and stakeholder responses—particularly in the context of tax administration in developing countries. This lack of understanding is critical, as it hampers the ability of policymakers and tax authorities to anticipate organizational resistance, design supportive regulatory frameworks, and build the necessary institutional capacities for effective implementation. Without insights into how coercive, normative, and mimetic forces shape adoption behaviour, digital reforms risk being misaligned with local administrative realities.

Empirical studies examining the early-stage implementation of XBRL for tax reporting in Indonesia remain scarce. Given Indonesia's position as one of the few developing economies initiating this reform, there is an urgent need for contextual evidence to inform policy design, capacity development, and stakeholder engagement strategies. Addressing this empirical gap will not only enrich the academic discourse on XBRL in emerging markets but also offer actionable insights for governments navigating similar digital transitions in tax administration.

The implementation of XBRL in Indonesia's tax system marks a critical turning point in the country's journey toward data-driven tax administration. Rather than focusing solely on the technology itself, this study emphasizes how institutional coordination, phased rollout, and regulatory preparedness influence the effectiveness of such reforms. By unpacking these dimensions, the research not only reflects the complexities of digital transformation in the public sector but also provides strategic guidance for optimizing policy execution in similar contexts.

This study aims to examine the implementation of XBRL in Indonesia's tax reporting system by pursuing three interrelated objectives. First, it analyses current adoption practices and their alignment with the existing regulatory and institutional frameworks. Second, it identifies core challenges that hinder implementation, including technical system limitations, regulatory ambiguity, and varying levels of stakeholder readiness. Third, it formulates strategic recommendations for the Directorate General of Taxes (DGT) to facilitate a more structured, inclusive, and scalable rollout of XBRL, drawing on insights from the ongoing pilot project involving selected corporate taxpayers.

LITERATURE REVIEW

Institutional theory, originally formulated by DiMaggio, P. J., & Powell (1983), has long been used to explain how organizations conform to external pressures—whether coercive, mimetic, or normative—in adopting new practices and technologies. Scott (2008) further emphasized the role of regulative, normative, and cultural-cognitive elements in institutional environments. While these foundational works provide conceptual grounding, recent studies have expanded the theory to address digital transformation in public administration. For example, Zheng et al. (2013) integrate institutional theory with the resource-based view to show how institutional pressures and internal resource allocation jointly shape e-government adoption decisions in Chinese public organizations. Their findings underscore the critical role of top management commitment and resource mobilization in responding to institutional demands.

Similarly, Al-Hujran, et al., (2015) highlight how sociocultural factors such as public trust, perceived value, and national culture influence the success of digital governance reforms in developing countries. These insights reinforce the applicability of institutional theory in analysing the adoption of XBRL within Indonesia's tax administration, where regulatory mandates, inter-organizational benchmarking, and professional norms interact with institutional capacity and stakeholder perceptions.

Coercive isomorphism refers to formal and informal pressures exerted by authoritative entities. In this case, the DGT plays a critical role through the mandate of XBRL adoption, as outlined in Regulation KEP-159/PJ/2022. Research by Troshani, et al., (2015) in Australia demonstrates that when voluntary adoption fails to reach a critical mass, regulators often resort to mandatory measures, underscoring the importance of coercive pressures in driving new technology adoption.

Mimetic isomorphism arises when organizations emulate successful practices from other entities, particularly in situations of uncertainty. For XBRL implementation, taxpayers and tax consultants may adopt best practices from countries or companies that have successfully implemented XBRL. Henderson, et al., (2012) found that mimetic pressures significantly influence the adoption of XBRL in financial reporting.

Normative isomorphism stems from professionalization and the standardization of practices. The SILK framework developed by the DGT exemplifies normative isomorphism in Indonesia's tax reporting ecosystem. Rowbottom & Locke, (2016) highlighted the importance of professional standards and training in the adoption of XBRL in the United Kingdom.

Organizational legitimacy is another critical concept in institutional theory. Defined by Suchman (1995) as the generalized perception that an entity's actions align with societal norms and values, legitimacy often drives organizations to adopt technologies like XBRL. Alles, M., & Debreceny (2012) demonstrated that legitimacy concerns among regulators and reporting entities play a crucial role in XBRL adoption across jurisdictions.

Institutional logics, as described by Thornton, P. H., & Ocasio (2008), refer to the material practices and symbolic constructions used by individuals and organizations to make sense of their environment. The adoption of XBRL in Indonesia may involve conflicts between traditional reporting practices and the efficiencies offered by new technologies. Troshani, et al. (2015) noted that adopting XBRL often requires negotiation between differing institutional logics among stakeholders.

Studies on XBRL adoption in tax reporting have uncovered key themes and challenges across different contexts. One prominent theme is the impact of XBRL on financial reporting quality. Tawiah, V., & Borgi (2022) highlight that XBRL adoption significantly improves reporting quality, particularly in developing countries where transparency and efficiency gains are more pronounced. This finding underscores the potential for XBRL to address reporting inefficiencies in jurisdictions like Indonesia.

Another recurring theme involves the barriers to adoption, such as technological complexity, cost, and stakeholder resistance. Azam, S., & Taylor (2011) identified these challenges in Australia, emphasizing the critical role of government incentives and user training to facilitate adoption. Similar findings were observed by Alkhatib, et al. (2019) in the United Kingdom, where small businesses faced difficulties related to system complexity and high costs, despite recognizing the benefits of standardization and improved technological competence.

The importance of strategic alignment and phased implementation also emerges as a vital factor. Chen (2012), in a comparative study across countries including the Netherlands, Australia, and Singapore, found that incremental implementation and alignment with program objectives are crucial for successful XBRL adoption. This approach allows for iterative improvements and better stakeholder adaptation, offering valuable insights for Indonesia's ongoing pilot projects.

Furthermore, the role of stakeholder engagement and commitment cannot be overstated. Mousa (2016) observed that sustained engagement with stakeholders was instrumental in the successful adoption of XBRL by HM Revenue and Customs (HMRC) in the United Kingdom. This engagement led to notable improvements in data quality, case management efficiency, and evidence-based decision-making.

Collectively, these studies reveal common challenges, including resistance to change, technological barriers, and the need for stakeholder collaboration. They also emphasize the importance of tailored approaches that consider local contexts, such as Indonesia's unique regulatory and institutional landscape, to ensure successful adoption of XBRL in tax reporting.

METHODS

This study employs a qualitative exploratory design to investigate the early-stage implementation of eXtensible Business Reporting Language (XBRL) in Indonesia's tax reporting system. Given the relatively recent and limited deployment of XBRL in the country, particularly through a pilot project involving 37 selected corporate taxpayers, an exploratory approach is considered suitable to capture context-specific insights and uncover nuanced institutional, technical, and stakeholder-related dynamics. This design does not aim for statistical generalization but seeks conceptual depth that can inform both policy and practice.

Data were collected through semi-structured interviews with five key informants representing three critical stakeholder groups: three senior officials from the Directorate General of Taxes (DGT), two representatives from corporate taxpayers participating in the pilot project (among the 37 selected participants), and one academic expert specializing in tax digitalization and public sector technology reform, Agung Darono. Informants were selected purposively based on their direct involvement in XBRL-related processes and their capacity to provide strategic, operational, and analytical perspectives. While the total number of informants (n = 5) may be considered limited, each participant serves as a key informant with firsthand, strategic knowledge. Their roles enable them to speak authoritatively on policy design, implementation constraints, and sectoral responses. This intensive case-oriented approach is appropriate for exploratory studies that seek to understand complex, under-researched phenomena in depth.

Thematic analysis, guided by Braun & Clarke (2006) framework, was employed to identify key patterns across interviews. The process included transcript familiarization, initial and focused coding, theme development, and iterative refinement. To strengthen validity, data triangulation was conducted by comparing perspectives across stakeholder groups and aligning emergent themes with theoretical constructs. These measures enhance the internal credibility of the findings, despite the limited number of participants.

To enhance the credibility of the findings, the study employed methodological and theoretical triangulation. Data were collected from three distinct stakeholder groups—tax authorities, corporate taxpayers, and academic experts—representing a range of perspectives across institutional, operational, and analytical domains. Theoretical triangulation was achieved by interpreting the findings through the lens of institutional theory and prior studies on digital technology adoption in public administration.

Prior to conducting the main interviews, an exploratory conversation was held with an account representative from one of the selected pilot taxpayers. This preliminary engagement served to refine the interview protocol and identify key themes and practical challenges, thereby increasing the relevance and focus of subsequent interviews. While each informant was interviewed only once, the sequencing of preliminary and formal interviews allowed for internal cross-validation of themes and improved contextual understanding. The study also maintained a reflexive stance during coding and analysis to mitigate interpretive bias and ensure analytical transparency.

RESULT AND DISCUSSIONS

Results

The findings of this study were shaped through a rigorous thematic analysis, which uncovered the intricacies of XBRL implementation in Indonesia, the challenges faced, and the strategies needed for its successful adoption. The process was systematic and iterative, ensuring a deep understanding of the data and alignment with the study's objectives.

1. Familiarization with the Data. The analysis began with an extensive review of interview transcripts and field notes. By immersing in the data, patterns related to the implementation

of XBRL started to surface. These patterns revolved around the phased adoption strategy, obstacles encountered during the process, and actionable recommendations for improvement. For example, participants repeatedly emphasized the importance of pilot projects and the integration of XBRL with existing systems, such as CTAS 2024.

2. Initial Coding. Following familiarization, the data was segmented into smaller, meaningful units, each assigned a specific code that encapsulated its essence. This stage emphasized triangulation by identifying perspectives from three key stakeholder groups: Directorate General of Taxes (DGT), experts, and taxpayers (WP). For example:
   Implementation Codes:
   - "Pilot project" (DGT, WP): Highlighted in interviews with regulators discussing the 37-taxpayer trial phase, and echoed by practitioners reflecting on their experience.
   - "Standardization" (Experts, DGT): Mentioned by experts emphasizing the importance of uniform financial reporting standards and supported by DGT in their regulatory objectives.
   - "Integration with CTAS" (DGT): Specific to regulatory goals for harmonizing XBRL with the Core Tax Administration System.

   Challenge Codes:
   - "Regulatory gaps" (Experts, DGT): Experts identified incomplete frameworks, while regulators acknowledged the need for broader legal reinforcement.
   - "System errors" (WP, DGT): Practitioners cited frequent technical glitches, which regulators attributed to the early stage of technological deployment.
   - "Limited expertise" (WP, Experts): Practitioners reported a lack of training, and experts stressed the scarcity of XBRL-certified accountants.

   Strategy Codes:
   - "Phased rollout" (DGT, Experts): Regarded as essential by regulators for minimizing risks and validated by experts as a sound approach.
   - "Regulatory reinforcement" (Experts, DGT): Advocated by experts to establish clear mandates, with regulators acknowledging its criticality for nationwide implementation.
   - "Training programs" (WP, DGT): Suggested by practitioners for capacity building and endorsed by regulators as part of their technical assistance plans.
3. Focused Coding and Categorization. In the next phase, related codes were grouped into broader categories that provided a structured understanding of the data. For instance, implementation-related insights coalesced around themes of "Standardization of reporting formats" and "Initial rollout with 37 taxpayers." Challenges were categorized into "Technical hurdles" and "Deficient regulatory support." Meanwhile, strategies were grouped into "Technical support tools" and "Phased implementation."
4. Theme Development. Refined categories led to the identification of overarching themes, each representing a critical dimension of the study:
   - Implementation of XBRL in Indonesia: The adoption journey highlighted the strategic use of pilot projects involving large taxpayers and state-owned enterprises as a means to test and adapt XBRL in the Indonesian context.
   - Challenges in Implementation: Key barriers included regulatory ambiguities, technical inefficiencies such as system errors, and a noticeable deficit in human resource readiness, particularly among accountants and tax administrators.
   - Strategic Interventions: Proposed solutions emphasized the need for robust regulatory frameworks, gradual deployment strategies, and targeted training initiatives to address skill gaps and resistance to change.

5. Review and Refinement of Themes. To ensure consistency and relevance, the identified themes underwent rigorous evaluation. Redundant or overlapping ideas were consolidated, enhancing clarity and alignment with the research objectives. For instance, technical issues like "data inconsistencies" were integrated into the broader theme of "Challenges in Implementation."

This structured approach to thematic analysis provided a nuanced understanding of XBRL adoption in Indonesia, laying a foundation for practical recommendations that balance regulatory, technical, and human resource considerations.

Implementation of XBRL in Indonesia

The adoption of eXtensible Business Reporting Language (XBRL) by the Directorate General of Taxes (DGT) signifies a pivotal step toward modernizing Indonesia's tax reporting infrastructure. This reform initiative is driven by the broader objectives of improving transparency, accuracy, and efficiency in tax compliance, which are essential to strengthening fiscal oversight and trust in public institutions. XBRL offers transformative potential by standardizing reporting formats, facilitating data comparability, and enabling automated integration with both domestic and international reporting systems.

A key milestone has been the development of a national XBRL taxonomy covering eight major sectors. This initiative reflects a normative institutional pressure toward harmonization and professionalization, consistent with institutional theory (Scott, 2008). As noted by Rowbottom, N., & Locke (2016), the success of such efforts hinges not only on the design of taxonomies but also on the capacity of actors to internalize and apply them—typically through professional training and institutional incentives. However, the pilot project involving 37 selected taxpayers, launched under Regulation KEP-159/PJ/2022, revealed that many potential users remained unfamiliar with the taxonomy, pointing to insufficient outreach and inadequate regulatory anchoring as root causes.

The limited regulatory foundation—based primarily on a ministerial decree without broader legislative backing—has resulted in coercive pressures that are weak and inconsistently enforced. This ambiguity has led to hesitancy among both internal and external stakeholders, who perceive the initiative as provisional rather than institutionalized. The lack of robust legal mandates also weakens inter-departmental alignment within the DGT, reducing momentum and clarity in implementation pathways.

A phased implementation strategy—targeting large corporations and state-owned enterprises (BUMNs) as early adopters—was adopted to mitigate systemic risk. This aligns with Troshani et al. (2015), who argue that targeted coercive pressure can catalyse adoption among well-prepared actors, creating demonstration effects for broader diffusion. However, the effectiveness of this strategy has been uneven. While larger entities possess better infrastructure and reporting experience, technical and human capital limitations remain pervasive. For instance, despite the availability of mapping tools, several informants reported challenges in understanding and operating them effectively—highlighting a mismatch between system complexity and user capacity.

The implementation of Core Tax Administration System (CTAS) 2024—a flagship digital reform initiative mandated by Indonesia's Ministry of Finance under PMK No. 81/2024—represents a major overhaul of the country's tax administration infrastructure. Designed to replace legacy systems, CTAS aims to integrate all tax-related processes—including taxpayer registration, filing, payment, and audit—into a centralized, modular digital platform. Its core objectives include enhancing transparency, improving data governance, enabling electronic compliance, and increasing state revenue through better oversight.

CTAS is expected to serve as the digital backbone for advanced tax tools, including e-Filing, e-Bupot, and standardized reporting systems such as XBRL. However, findings from this study suggest that XBRL has not yet been structurally embedded within CTAS's technical architecture. Instead, it is being piloted in parallel, creating operational fragmentation and limited interoperability between platforms. One taxpayer informant noted: *"We submit XBRL separately from the rest of our filings. It's not yet linked to the main tax portal."* This separation leads to duplicate efforts, inconsistent validation routines, and weak data consolidation—challenges that undermine the promise of a unified digital system.

The lack of integration between XBRL and CTAS can be attributed to sequencing issues and institutional silos. XBRL was initiated earlier under a separate regulatory stream (KEP-159/PJ/2022), while CTAS's technical roadmap is still under phased implementation. Without a synchronized development plan or cross-platform governance mechanism, alignment between these two major digital systems remains weak. This situation reflects a broader problem in digital transformation projects in the public sector—namely, the tendency to digitize in isolation without system-wide coordination.

To unlock the full potential of both XBRL and the Core Tax Administration System (CTAS), their implementation must be harmonized within a unified regulatory and technical governance framework. Integrating XBRL directly into CTAS modules would not only reduce administrative burden but also enhance data consistency, auditability, and analytical utility across the tax administration ecosystem.

However, the technical difficulties observed—such as system instability, inconsistent data formats, and inadequate troubleshooting support—reflect more than just technological shortcomings. These issues are manifestations of deeper organizational challenges, including limited institutional readiness and the absence of sustained capacity-building initiatives. As noted by Alkhatib et al. (2019), successful digital reform in the public sector hinges not only on technological systems, but also on the strategic alignment of people, processes, and policies.

Collectively, these insights indicate that XBRL implementation in Indonesia, although symbolically and strategically significant, remains hindered by interrelated institutional, technical, and human-capital barriers. Addressing these challenges requires more than incremental system upgrades. What is needed is a comprehensive policy shift—one that embeds XBRL within broader administrative reform efforts, particularly through CTAS 2024, while simultaneously investing in legal infrastructure, stakeholder readiness, and adaptive governance mechanisms.

Challenges in XBRL Implementation

The implementation of XBRL in Indonesia has faced a constellation of interrelated challenges—regulatory inadequacies, technical limitations, and human resource constraints—that have collectively hindered its smooth adoption. These obstacles underscore the need for a more coherent institutional strategy that goes beyond technical fixes and addresses deeper systemic issues.

One of the foremost challenges lies in the absence of a comprehensive and binding regulatory framework. While Regulation KEP-159/PJ/2022 initiated a pilot involving 37 selected taxpayers, it falls short of providing the legal clarity, operational mandates, and long-term roadmap necessary for nationwide implementation. Informants noted regulatory inconsistencies and a lack of standardized technical documentation, which created confusion among taxpayers and IT vendors alike. Moreover, Indonesia's national XBRL taxonomy remains only partially aligned with global standards, undermining both comparability and investor confidence. Within the framework of institutional theory, this reflects weak coercive pressure from the regulatory apparatus—a factor critical for catalyzing compliance and widespread institutional adoption (Troshani, I., Parker, L. D., & Lymer, 2015); (Chen, 2012).

In parallel, the system also grapples with persistent technical barriers. Inconsistent data schemas, frequent system downtime, and limited compatibility with legacy platforms were consistently cited by respondents. These technical deficiencies not only delay reporting processes but also diminish user trust in the system. A practitioner highlighted that “frequent program errors and lack of real-time support during peak periods disrupted the filing process,” pointing to the fragility of the underlying IT architecture. These issues are symptomatic of incomplete integration between XBRL and core systems, particularly the Core Tax Administration System (CTAS 2024)—a major digital reform initiative mandated by PMK 81/2024 to consolidate all tax functions under a single electronic platform. As emphasized by Alkhatib, et al. (2019), digital reforms in the public sector must be built upon a foundation of technological readiness and seamless interoperability, conditions that Indonesia is still in the process of fulfilling.

Equally pressing is the issue of human capital. The transition to XBRL demands a specific set of competencies—ranging from taxonomy comprehension and PSAK interpretation to XML tagging and analytics. However, the current pool of professionals proficient in both tax administration and XBRL-based reporting remains alarmingly limited. Participants from both tax authorities and the private sector cited inadequate training as a critical bottleneck, with one noting, *“Our teams have not been sufficiently trained to handle XBRL files or understand their implications for reporting accuracy.”* From the lens of institutional theory, this reflects a deficit in normative pressures—particularly in the form of professional standards, education, and industry-wide certification—which are necessary for embedding new technologies into organizational routines (Guillou, et al. (2022).

These three domains—regulatory, technical, and human capital—are not isolated. Instead, they interact in ways that magnify the barriers to successful implementation. For example, the lack of regulatory mandates slows down technical system development, which in turn limits the relevance and frequency of training programs. Similarly, limited technical literacy within institutions hinders meaningful feedback loops that are essential for refining regulatory standards and user interface designs.

Taken together, these findings suggest that Indonesia’s XBRL initiative, while a strategic leap forward, remains constrained by institutional fragmentation and underinvestment in enabling capabilities. Strengthening legal mandates, accelerating the integration of XBRL within CTAS, and prioritizing sustained capacity-building programs will be key to transforming pilot successes into scalable reform. Importantly, any strategy must be attuned to the political economy and institutional specificities of Indonesia—particularly as a developing country navigating multiple reform priorities within limited fiscal and bureaucratic bandwidth.

Strategies for Overcoming XBRL Implementation Challenges

Overcoming the challenges of XBRL implementation in Indonesia requires a multidimensional and context-sensitive strategy—one that integrates regulatory reform, technological enablement, stakeholder collaboration, and capacity development. These pillars must work in tandem to ensure not only technical adoption but also institutional ownership of the reform agenda.

A well-defined and enforceable regulatory framework is foundational. While Regulation KEP-159/PJ/2022 marked an initial step, its limited scope—particularly in technical detail, enforcement provisions, and incentive structures—has hindered broader adoption. Many stakeholders cited regulatory ambiguity as a key source of confusion and delay. Harmonizing Indonesia’s national taxonomy with international standards is therefore critical to ensure interoperability and legitimacy, especially for multinational taxpayers. Moreover, embedding XBRL within the legal architecture of Core Tax Administration System (CTAS 2024)—as outlined in PMK 81/2024—can strengthen institutional alignment and mandate compliance across all digital tax functions.

Regulatory strategies should also adopt a more responsive and adaptive design. This includes incorporating lessons from pilot projects, offering feedback mechanisms for taxpayers, and creating clear incentive schemes such as transitional compliance relief, reduced reporting burdens, or certification-based benefits. As Troshani et al. (2015) highlight, regulatory pressures must not only be coercive but also enabling—providing both the push and the support for institutional change.

On the technological front, usability is just as important as infrastructure. While integrating XBRL with CTAS is a strategic necessity, practical tools—such as automated XBRL converters, validation checkers, and error diagnostics—must be available and accessible. These tools can reduce the cognitive and operational burden of transition, particularly for small and medium-sized enterprises (SMEs) with limited IT capabilities. As one taxpayer representative noted, *"The simpler the system, the more likely we are to comply."*

Phased implementation remains a pragmatic pathway, beginning with large corporations and state-owned enterprises (SOEs) that already possess more mature systems and compliance cultures. These entities can act as demonstration models, generating benchmarks, training materials, and peer-learning opportunities for downstream adoption. Such stratification also allows the government to allocate support resources efficiently and fine-tune systems before scaling. Experts suggested, *"Starting with well-equipped companies ensures smoother transitions and builds confidence among stakeholders."*

Collaboration between key stakeholders—including regulators, taxpayers, and technology providers—is indispensable. Establishing platforms for dialogue and feedback ensures that all parties' concerns are addressed. For example, the formation of the National XBRL Implementation Task Force by the Directorate General of Taxes (DJP) exemplifies an inclusive approach. Guillou, et al. (2022) emphasize that multi-stakeholder collaboration enhances institutional legitimacy and accelerates adoption.

Collaboration across stakeholders—regulators, tax professionals, technology vendors, and academics—is equally indispensable. The formation of the National XBRL Implementation Task Force by DJP (Directorate General of Tax) exemplifies an inclusive governance model. However, more frequent and structured platforms for dialogue are necessary, such as industry roundtables, regulatory sandboxes, and taxpayer focus groups. As Guillou, et al. (2022) observe, collaborative governance not only accelerates implementation but also enhances policy legitimacy.

A central component of this strategy must be human capital development. The current shortage of professionals skilled in XBRL, accounting standards (e.g., PSAK), and digital tax reporting is a binding constraint. Structured training programs for Account Representatives, tax auditors, and taxpayer staff—delivered through modular formats, certification tracks, and on-demand learning portals—are urgently needed. As echoed in interviews, "We need training not just on the *what*, but on the *how*—with real examples, walkthroughs, and case simulations."

To reinforce sustainability, establishing a national certification scheme for XBRL professionals could help institutionalize professional standards and reduce dependence on ad hoc solutions. Drawing on international models, such schemes can also support regional harmonization in ASEAN or OECD-aligned contexts. Rowbottom, N., & Locke (2016) emphasize that such normative mechanisms are critical to embedding digital innovations into professional routines.

Lastly, a system of ongoing support—such as helpdesks, user manuals, peer-support forums, and issue-tracking dashboards—should be implemented to assist organizations during initial and post-launch phases. These mechanisms foster trust in the reform process, reduce resistance, and generate real-time feedback loops for continuous system improvement.

In summary, Indonesia's path to effective XBRL adoption lies in an integrated, staged, and participatory approach. Regulatory enhancements must go hand in hand with technical simplification and user support. Capacity building cannot be an afterthought but must be embedded in the reform architecture from the outset. Most importantly, strategies must be adaptive to Indonesia's unique institutional realities—balancing ambition with feasibility, standardization with flexibility, and compliance with empowerment.

CONCLUSIONS

The implementation of XBRL in Indonesia reveals a paradox often found in digital transformation efforts within developing countries: high-level policy ambitions are undermined by fragmented execution and insufficient institutional preparedness. While the adoption of XBRL—initially piloted through Regulation KEP-159/PJ/2022—demonstrates a strategic move toward enhancing transparency, standardization, and efficiency in tax reporting, its operationalization remains constrained by three interlocking barriers: regulatory gaps, technological fragmentation, and limited human capital.

First, the study finds that the absence of a comprehensive and enforceable regulatory framework has created institutional ambiguity, weakening coercive and normative pressures critical for system-wide adoption. This is particularly evident in the lack of synchronization between Indonesia's national XBRL taxonomy and international standards, which hampers legitimacy and usability. Second, technical challenges—such as system instability, inconsistent data structures, and delayed integration with the Core Tax Administration System (CTAS) 2024—further disrupt implementation, signalling that digital tools alone are insufficient without supportive infrastructure and interoperable system design. Third, the scarcity of skilled professionals in XBRL, accounting standards, and digital tax systems has emerged as a critical bottleneck, impeding both compliance and institutional learning.

These findings directly answer the study's central research question: What are the institutional, technological, and capacity-related challenges in the early implementation of XBRL, and how might they be addressed? The evidence suggests that addressing these barriers requires more than incremental reforms. Instead, a systemic response is needed—anchored in adaptive governance, stakeholder co-creation, and a phased regulatory architecture. Embedding XBRL within CTAS 2024 is not merely a technical necessity but a governance imperative that can consolidate reporting systems, enhance auditability, and foster long-term digital trust.

More broadly, this study offers a critical lesson for other developing countries: digital reform in tax administration must not be reduced to software procurement or regulatory announcements. It requires synchronized investment in people, processes, and platforms. Indonesia's experience thus far provides a valuable empirical case that underscores the importance of institutional coherence and state capacity in actualizing the promise of digital transformation.

Limitations and Suggestions

Nevertheless, this study has several limitations. Data were collected from a small number of key informants, which, while rich in depth, limits the generalizability of findings. The perspectives of broader taxpayer segments, regional tax offices, or software providers remain underexplored. Furthermore, the study's temporal scope captures only the early phase of XBRL implementation and cannot account for long-term policy dynamics.

Future research could address these limitations by adopting mixed-method or longitudinal designs to assess implementation progress across different taxpayer categories and administrative regions. Comparative studies between Indonesia and other countries implementing XBRL—especially in Southeast Asia—may also generate valuable insights into the interplay between regulatory design, institutional capacity, and technological diffusion in tax modernization.

REFERENCES

Al-Hujran, O., Al-Debei, M. M., Chatfield, A., & Migdadi, M. (2015). The imperative of influencing citizen attitude toward e-government adoption and use. *Computers in Human Behavior*, *53*(189–203), https://doi.org/10.1016/j.chb.2015.06.025.

Alkhatib, E. A., Ojala, H., & Collis, J. (2019). Determinants of the Voluntary Adoption of Digital Reporting by Small Private Companies to Companies House: Evidence from the UK. *International Journal of Accounting Information Systems*, *34*(100421).

Alles, M., & Debreceny, R. (2012). The Evolution and Future of XBRL Research. *International Journal of Accounting Information Systems*, *13(2)*, 83–90. https://doi.org/10.1016/j.accinf.2012.03.006

Azam, S., & Taylor, D. (2011). Standard Business Reporting in Australia: Voluntary Take-up Issues Facing Users, Preparers and Regulators of Company Financial and Business Reports. *Accountancy Business and the Public Interest*, *10(1)*, 16–41.

Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Chen, Y. C. (2012). A Comparative Study of e-government XBRL Implementations: The Potential of Improving Information Transparency and Efficiency. *Government Information Quarterly*, *29(4)*, 553–563.

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, *48(2)*, 147–160.

Guillou, H., Cho, C. H., Souissi, M., & Malaescu, I. (2022). The Institutionalization Process of XBRL in France: Unraveling the Role of the State. *Critical Perspectives on Accounting*, *102471*.

Henderson, D., Sheetz, S. D., & Trinkle, B. S. (2012). The Determinants of Inter-organizational and Internal In-house Adoption of XBRL: A Structural Equation Model. *International Journal of Accounting Information Systems*, *13(2)*, 109–140.

Mousa, R. (2016). The Evolution of Electronic Filing Process at the UK's HM Revenue and Customs: The Case of XBRL Adoption. *EJTR*, *14*, 206.

Rowbottom, N., & Locke, J. (2016). The Emergence of XBRL in the UK: An Institutional Theory Perspective. *The British Accounting Review*, *48(4)*, 474–489.

Rowbottom, N., & Locke, J. (2016). The Emergence of XBRL in the UK: An Institutional Theory Perspective. *The British Accounting Review*, *48*(4), 474–489.

Scott, W. R. (2008). *Institutions and Organizations: Ideas and Interests*. Sage.

Suchman, M. C. (1995). Managing Legitimacy: Strategic and Institutional Approaches. *Academy of Management Review*, *20(3)*, 571–610.

Tawiah, V., & Borgi, H. (2022). Impact of XBRL Adoption on Financial Reporting Quality: a Global Evidence. *Accounting Research Journal*, *35(6)*, 815–833.

Thornton, P. H., & Ocasio, W. (2008). *Institutional logics*. The Sage Handbook of Organizational Institutionalism.

Troshani, I., Parker, L. D., & Lymer, A. (2015). Institutionalising XBRL for Financial Reporting: Resorting to Regulation. *Accounting and Business Research*, *45(2)*, 196–228.

Zheng, D., Chen, J., Huang, L., & Zhang, C. (2013). E-government adoption in public administration organizations: integrating institutional theory perspective and resource-based view. *European Journal of Information Systems*, *22*(2), 221–234. https://doi.org/10.1057/ejis.2012.28