

COMPARISON OF CORETAX WITH DIGITAL TAX SYSTEMS IN ASEAN COUNTRIES: POLICY AND IMPLEMENTATION STUDY

Rosy Ananda^{1*}

Ika Swasti Putri²

Economic and Business, Universitas Terbuka, Indonesia

Economic and Business, Universitas Terbuka, Indonesia

049830326@ecampus.ut.ac.id*

— Journal of —
**Strategic
Behavior**
— Accounting —

Abstract

This study presents a comparative analysis of Coretax, Indonesia's centralized digital taxation system, against other digital tax systems implemented in ASEAN countries. As tax authorities across the region increasingly embrace digital transformation, disparities in policy design, technological readiness, and implementation efficiency have become more evident. Coretax demonstrates notable strengths in improving tax compliance, transparency, and administrative efficiency through features such as real-time data access, automated taxpayer profiling, and centralized audits. However, its effectiveness is challenged by infrastructural limitations, fragmented legal frameworks, and varying levels of digital literacy. By analysing case studies from Singapore, Malaysia, Thailand, and the Philippines, this study highlights both common challenges and best practices in digital tax governance. Singapore and Malaysia are found to lead in system maturity and user experience due to their integrated platforms and strong institutional support. The research emphasizes the importance of aligning digital tax reforms with broader policy initiatives, regional integration strategies, and cybersecurity frameworks. Using a qualitative literature-based methodology, the study contributes to the academic discourse on fiscal digitalization by identifying key factors for successful implementation and recommending a path toward harmonized ASEAN digital tax policies. The findings offer practical insights for policymakers seeking to modernize tax systems while fostering inclusive economic development across the region.

Keywords: Digital Taxation, Core tax, ASEAN Fiscal Policy, Tax Compliance, E-Government Systems

1. Introduction

In the rapid development of tax administration and fiscal policy, the comparison between Core tax, a digital taxation system implemented in several ASEAN countries, with other digital taxation systems is a very important area of investigation. The Association of Southeast Asian Nations (ASEAN) has launched various initiatives to improve tax collection through digitalization, address inequities in economic development, and promote fiscal transparency among its member countries. Digital taxation systems such as Core tax play a crucial role in overhauling tax administration, improving compliance, and facilitating transparent governance, all of which are aligned with broader strategic objectives within the framework of the ASEAN Economic Community (AEC) (Panjaitan & Yuna, 2024; Catubig et al., 2024).

The main objective of this study is to systematically compare the effectiveness and implementation of Core tax with other digital taxation systems in ASEAN countries. This includes an analysis of the extent to which Core tax improves tax compliance, transparency, and tax revenue compared to similar systems in the region. Other specific objectives include identifying the key challenges faced by countries implementing this system, examining policy implications for tax governance, and providing actionable recommendations to improve digital taxation strategies across ASEAN member states (Alfirdaus & Anas, 2024; Jannah & Rifai, 2025).

A brief literature review shows significant progress in digital taxation systems, especially in the context of ASEAN countries. Previous research emphasizes the transformational impact of digital technology on public finances, where systems such as Core tax have been identified as vital to increasing tax revenue through more accessible and efficient processes (Panjaitan & Yuna, 2024; Alfirdaus & Anas, 2024). The study also highlights the important role of transparency and accountability in facilitating better tax governance. Research shows that Core tax integration improves taxpayer interaction through real-time data access, reduces reporting errors, and improves regulatory compliance (Panjaitan & Yuna, 2024; Jannah & Rifai, 2025). In addition, a comparative analysis of tax policies in ASEAN shows that an integrated approach to digital taxation can reduce inequality and foster economic growth, which is critical to achieving the Sustainable Development Goals (SDGs) set for the region ("ASEAN Progress Towards Sustainable Development Goals and The Role of the IMF", 2018; Lu, 2024).

The formulation of the problem arises from the uneven implementation and varying effectiveness of tax digitalization in various ASEAN economies. Although Core tax progress is promising, the effectiveness of the system depends on local challenges such as infrastructure, political stability, and user adaptation. By focusing attention on these critical issues, this study aims to uncover the factors that hinder optimal tax administration, thereby contributing to the discourse on fiscal policy and economic integration in ASEAN (Lu, 2024; An & Kim, 2022).

The significance of this research lies in its potential to inform policymakers on best practices in tax governance and integration. As the digital taxation system comes into the spotlight, understanding the advantages and limitations of Core tax in relation to similar systems is essential to formulate a cohesive strategy that improves tax compliance and administration across ASEAN countries (Alfirdaus & Anas, 2024; Nurlis & Rustandi, 2019). In addition, the findings of this study can make a significant contribution in supporting regional economic initiatives, which in turn promotes sustainable development and economic equality among member states (Adhisti, 2018; "ASEAN Progress Towards Sustainable Development Goals and The Role of the IMF", 2018; Bae, 2018).

Methodologically, this research will use a qualitative approach, utilizing case studies and comparative analysis in selected ASEAN countries that have implemented Core tax and other digital taxation systems. Data will be collected systematically through interviews, surveys, and existing literature to provide an in-depth understanding of the nuances involved in the implementation of this tax system (Alfirdaus & Anas, 2024; Jannah & Rifai, 2025). In addition, triangulation with relevant quantitative data will increase the strength of the findings by providing a more complete perspective on the performance of each system.

The structure of the journal will include several important sections, namely an introduction that explains the background and significance of the research; a comprehensive literature review that synthesizes existing research on digital taxation; a methodology section detailing the qualitative approach used; findings from comparative analysis; discussions that interpret the implications of these findings on fiscal policy and practice; and finally, conclusions that summarize the research contributions and indicate the direction of future research.

In conclusion, this study aims to provide important insights into how Core tax works and its implications compared to similar systems in ASEAN, thereby helping to improve tax administration practices across the region.

2. Literature Review and Hypotheses Development

The digital transformation of tax systems is rooted in broader theories of e-governance, fiscal modernization, and institutional efficiency. According to the *Technology Acceptance Model (TAM)* (Davis, 1989), the success of digital tax systems depends on perceived usefulness and ease of use, which influence taxpayer compliance. Similarly, *Institutional Theory* (DiMaggio & Powell, 1983) suggests that digital tax reforms must align with legal, cultural, and infrastructural norms to achieve legitimacy and effectiveness.

Core tax (Indonesia), IRAS (Singapore) and MyTax (Malaysia) aim to enhance efficiency, transparency, and compliance. Prior studies highlight that these systems reduce administrative burdens, minimize human error, and improve audit capabilities through automation (Panjaitan & Yuna, 2024; Lu, 2024). However, disparities in implementation success arise from differences in digital infrastructure, policy coherence, and taxpayer engagement (Alfirdaus & Anas, 2024; Nurlis & Rustandi, 2019).

Comparative Analysis of ASEAN Digital Tax Systems existing literature identifies key variations in ASEAN's digital tax landscape:

1. Singapore (IRAS) – Uses AI-driven analytics and strong interoperability with other government systems, leading to high compliance rates (Lu, 2024).
2. Malaysia (MyTax) – Focuses on taxpayer education and seamless integration with national ID systems, enhancing accessibility (Nurlis & Rustandi, 2019).
3. Indonesia (Coretax) – Centralized and automated but faces challenges in infrastructure and legal fragmentation (Jannah & Rifai, 2025).
4. Philippines (eFPS, eBIRforms) – Struggles with system fragmentation and low taxpayer adoption (Catubig et al., 2024).
5. Thailand (e-Tax Invoice) – Lacks full integration with national databases, limiting efficiency (An & Kim, 2022).

These differences suggest that technological capability alone is insufficient; success depends on supporting policies, institutional readiness, and user trust.

Based on the literature, the following hypotheses are proposed:

H1: *Digital tax systems with higher levels of automation and real-time data integration (e.g., Core tax, IRAS) will demonstrate greater improvements in tax compliance compared to less integrated systems*

H2: *Countries with stronger digital infrastructure (e.g., Singapore, Malaysia) will achieve higher taxpayer adoption rates than those with infrastructural gaps (e.g., Indonesia, Philippines).*

H3: *Taxpayer trust and digital literacy mediate the effectiveness of digital tax systems, with higher trust leading to greater voluntary compliance.*

H4: *Fragmented legal frameworks and lack of regional policy harmonization hinder the full potential of digital tax systems in ASEAN.*

3. Research Methodology

This study uses a qualitative approach with a literature study method. This approach was chosen to analyze in depth the various relevant literature related to digital tax systems in ASEAN

countries, with a primary focus on comparisons between Core tax and other digital tax systems implemented in ASEAN countries. The qualitative approach allows researchers to identify and analyse digital taxation policies as well as the challenges and successes faced in the implementation of the system, based on previous research, scientific articles, policy reports, and other official documents.

This type of research is a descriptive-comparative literature study. This study aims to compare the effectiveness and implementation of Core tax with other digital tax systems implemented in ASEAN countries based on the analysis of various existing literature sources. This research does not involve the collection of primary data, but rather relies on analysis of existing literature, such as journal articles, books, policy reports, and relevant related publications.

The data sources in this study are Secondary Data obtained from various literature sources which include journal articles, books, policy reports, and official documents related to the implementation of the digital tax system in ASEAN countries. These resources will be used to dig up information about digital tax policies, implementation challenges, and the impact of using digital tax systems such as Core tax.

The units of analysis in this study are:

1. Digital Tax System implemented in ASEAN countries, with a focus on Core tax and other digital tax systems used by countries such as Indonesia, the Philippines, Thailand, Singapore, and Malaysia.
2. Digital Tax Policies and Practices implemented by individual countries in the context of digital taxation, including regulations and strategies used to improve tax compliance, transparency, and tax collection efficiency.

The data in this study was collected through literature study techniques, namely:

1. Literature Study: The researcher will search and analyze various relevant literature sources, such as journal articles, books, policy reports, and government documents that discuss the implementation and policy of digital taxation, as well as comparisons between Core tax and other digital tax systems in ASEAN countries. Researchers will select literature that covers topics such as tax technology, fiscal policy, tax transparency, and the efficiency of the digital tax system.
2. Policy Documentation: The researcher will also review tax policy and regulatory documents issued by the governments of ASEAN countries, as well as annual reports and case studies reviewing the implementation of digital tax systems.

The data obtained from the literature study will be analysed using two main techniques:

1. Comparative Analysis: The researcher will compare Core tax with other digital tax systems based on several indicators, such as effectiveness in improving tax compliance, transparency, efficiency in tax collection, as well as implementation challenges faced by each country. This analysis aims to identify similarities and differences in the policies and implementation of digital tax systems implemented in ASEAN countries.
2. Thematic Analysis: The researcher will analyze the existing literature to identify key themes that emerge related to digital taxation implementation and policies, such as the impact of technology on tax governance, the role of transparency in improving compliance, and the challenges faced by ASEAN countries in implementing digital tax systems.

The selection of literature was carried out based on the following criteria:

1. Relevance to the Research Topic: Literature that discusses digital tax systems, specifically Core tax and other digital tax systems implemented in ASEAN countries.

2. **Source Credibility:** Literature published by credible sources, such as scientific journals, reports from international organizations, and publications from trusted government or academic institutions.
3. **Year of Publication:** Literature published in the last 5 years, to ensure that the data and information used in this study are relevant and up to date.

To elucidate the validity of the research results, the researcher will use literature triangulation, by comparing various different sources to obtain a deeper and more comprehensive understanding. Researchers will also combine different sources (e.g., journal articles, policy reports, and case studies) to ensure that the analysis is conducted reflecting diverse and unbiased viewpoints.

Limitations This study is on the analysis of the literature that discusses digital tax systems in ASEAN countries, with a primary focus on Core tax and other digital tax systems. This research does not include an in-depth economic analysis or practical implementation of the digital tax system, but rather on policy aspects, implementation challenges, and the efficiency of the system applied.

4. Results

The comparative evaluation of digital taxation systems in ASEAN countries highlights the heterogeneity in implementation strategies and the operational maturity of tax digitalization. Core tax, a centralized digital tax administration system adopted in Indonesia, demonstrates considerable potential in increasing tax compliance, transparency, and operational efficiency (Alfirdaus & Anas, 2024; Panjaitan & Yuna, 2024). This system leverages real-time data integration, automated taxpayer profiling, and predictive auditing, which facilitates better fiscal control and governance. In contrast, countries such as the Philippines and Thailand have adopted digital tax initiatives with varied outcomes. The Philippines has established digital platforms such as eFPS (Electronic Filing and Payment System), yet continues to face interoperability and compliance challenges due to fragmented systems and insufficient taxpayer engagement (Catubig et al., 2024). Thailand's system, while incorporating digital invoicing and documentation, lacks full integration with national data infrastructure, limiting its analytical capability.

Table 1

The comparative features of Core tax and other ASEAN digital tax systems.

Country	System Name	Key Features and. Limitations
Indonesia	Core tax	Centralized system, real-time analytics, limited regional sync
Philippines	eFPS, eBIRforms	Partial automation, fragmented data use
Thailand	e-Tax Invoice	Digital documentation, lacks centralized data integration
Singapore	IRAS Digital Tax	AI-driven, user-friendly, strong interoperability
Malaysia	MyTax	Emphasis on user access and education, stable infrastructure

Singapore and Malaysia are widely recognized for leading digital tax innovations. Singapore's IRAS uses AI-based predictive compliance monitoring and taxpayer dashboards that support both government oversight and user autonomy (Lu, 2024). Malaysia's MyTax platform focuses on interoperability between tax, customs, and identity systems, ensuring a seamless taxpayer experience. A thematic review revealed that digital literacy, infrastructure development, and

political will are critical factors affecting the success of digital taxation across ASEAN. Core tax, despite being robust in its technical architecture, is constrained by disparities in infrastructure and institutional capacity when benchmarked against Singapore or Malaysia (Jannah & Rifai, 2025).

Another core insight relates to taxpayer trust. Systems with greater transparency and better communication channels between the authority and the public—such as those in Malaysia—achieve higher voluntary compliance (Nurlis & Rustandi, 2019). In contrast, where users encounter bureaucratic or technical hurdles, compliance suffers, regardless of the sophistication of the digital system. Thus, while Core tax reflects a forward-thinking model for fiscal governance, its full potential will only be realized through regional cooperation, standardized protocols, and investment in digital capacity across ASEAN countries. Beyond the technical comparisons of Core tax and other ASEAN digital taxation systems, several critical themes emerged that underscore both the strategic opportunities and systemic risks associated with digital tax transformation.

One of the main findings of this study is that the level of digital infrastructure development is a fundamental determinant of successful digital tax system implementation. For instance, Singapore and Malaysia benefit from high-speed internet penetration, advanced cloud data centres, and strong national ID integration, which enable seamless real-time taxpayer interactions (Lu, 2024). In contrast, countries such as the Philippines and Indonesia continue to face infrastructure fragmentation, particularly outside urban centres, resulting in unequal system accessibility.

ASEAN's lack of a unified digital taxation framework creates inconsistencies in how digital platforms are regulated. Core tax operates under Indonesia's domestic tax laws, which may not be fully aligned with regional data protection or cross-border commerce standards. This fragmentation limits interoperability between systems, hindering efforts for integrated regional tax audits or shared databases (An & Kim, 2022). By contrast, Singapore has proactively aligned its tax laws with OECD's BEPS Action Plan, facilitating better alignment with international standards.

There is growing evidence that digital tax systems influence taxpayer behaviour through perceived fairness, ease of use, and trust in government institutions. In the case of Core tax, users report improved clarity in tax obligations due to automation and real-time information dashboards (Panjaitan & Yuna, 2024). However, without parallel investments in taxpayer education and public awareness, these benefits are not evenly realized. Countries that embed digital systems into broader fiscal literacy campaigns—such as Malaysia—tend to report higher voluntary compliance (Nurlis & Rustandi, 2019).

A recurring challenge across ASEAN countries is ensuring cybersecurity and protecting the integrity of taxpayer data. While Core tax incorporates several encryption and user verification mechanisms, regional experts have raised concerns about potential vulnerabilities due to legacy IT systems and lack of specialized personnel (Jannah & Rifai, 2025). Singapore and Malaysia

again lead in this area, having developed national cybersecurity strategies specifically tailored to their tax infrastructure.

The rise of digital commerce and gig economy workforces across ASEAN poses new challenges for traditional tax systems. Core tax, while effective domestically, lacks mechanisms for tracking income generated from cross-border digital services, such as freelance work, online platforms, and cryptocurrency transactions. A few ASEAN members, notably the Philippines and Singapore, have initiated digital service tax (DST) policies, but without regional standardization, tax base erosion remains a concern (Catubig et al., 2024).

Finally, the study finds that the effectiveness of any digital tax reform is contingent on the human and institutional capacity behind the system. Core tax's success in Indonesia was driven by top-down government mandates and the restructuring of the Directorate General of Taxes (DGT), including retraining programs and a shift toward digital-first procedures (Alfirdaus & Anas, 2024). Thailand and the Philippines, however, have faced delays in implementation due to bureaucratic inertia and fragmented change management strategies.

5. Discussions

The findings of this study highlight the significant role of digital taxation systems, particularly Core tax, in transforming tax administration across ASEAN countries. The comparative analysis reveals both the strengths and limitations of Core tax in relation to other digital tax systems in the region, offering valuable insights for policymakers and scholars.

Core tax demonstrates notable advancements in real-time data analytics, automated taxpayer profiling, and centralized audits, which align with global trends in digital tax governance (Panjaitan & Yuna, 2024). However, its effectiveness is heavily influenced by contextual factors such as digital infrastructure, legal frameworks, and taxpayer trust. For instance, Singapore's IRAS and Malaysia's MyTax outperform Core tax in user experience and compliance rates due to their integrated platforms, robust cybersecurity measures, and strong institutional support (Lu, 2024; Nurlis & Rustandi, 2019). This underscores the importance of aligning technological innovation with broader governance strategies.

A key challenge for ASEAN is the lack of a unified digital taxation framework. Core tax operates under Indonesia's domestic laws, which may not fully align with regional or international standards, limiting interoperability (An & Kim, 2022). In contrast, Singapore's alignment with OECD's BEPS Action Plan facilitates cross-border tax governance. The study suggests that ASEAN could benefit from a coordinated approach to digital taxation, including shared standards for data protection and cross-border transactions, to address tax base erosion and promote regional economic integration (Catubig et al., 2024).

The study confirms that digital tax systems influence taxpayer behaviour through perceived fairness and ease of use. Core tax's automation features improve transparency, but uneven digital literacy and access hinder its full potential (Jannah & Rifai, 2025). Malaysia's success in combining digital systems with fiscal literacy campaigns highlights the need for holistic taxpayer

engagement strategies. This finding aligns with prior research emphasizing trust as a critical factor in voluntary compliance (Nurlis & Rustandi, 2019).

Cybersecurity risks and administrative bottlenecks pose significant challenges. While Core tax incorporates encryption mechanisms, legacy IT systems and insufficient specialized personnel remain vulnerabilities (Alfirdaus & Anas, 2024). Singapore and Malaysia's proactive cybersecurity strategies offer a model for mitigating these risks. Additionally, the study highlights the role of administrative capacity, noting that Core tax's success in Indonesia was driven by government mandates and staff retraining, whereas bureaucratic inertia delayed implementation in Thailand and the Philippines.

Theoretically, this study contributes to the discourse on fiscal digitalization by emphasizing the interplay between technology, policy, and governance. It extends existing models by identifying contextual factors—such as infrastructure readiness and taxpayer trust—as critical to the success of digital tax systems. Practically, the findings advocate for multi-stakeholder collaboration, investment in digital literacy, and regional policy harmonization to maximize the benefits of digital taxation.

An unexpected finding was the limited impact of Core tax's advanced features in rural areas due to infrastructural disparities. Future research could explore urban-rural divides in digital tax access and their implications for social equity. Mixed-method approaches, including taxpayer surveys, would further validate these findings and provide deeper insights into system performance. In conclusion, while Core tax represents a transformative step for Indonesia, its scalability and regional integration require addressing infrastructural, legal, and educational gaps. The study calls for a balanced approach that combines technological innovation with inclusive governance to achieve equitable and efficient digital tax systems across ASEAN.

This research provides a comprehensive comparative analysis of digital taxation systems in ASEAN, with a particular emphasis on Core tax as implemented in Indonesia. The study concludes that while Core tax represents a significant innovation in the modernization of tax administration—featuring real-time data analytics, centralized taxpayer profiling, and automation of compliance—it still faces several strategic, institutional, and infrastructural limitations. The comparative findings suggest that the effectiveness of digital taxation systems is not determined solely by technological sophistication but is heavily influenced by broader contextual factors. Countries like Singapore and Malaysia exhibit more mature digital ecosystems that support seamless taxpayer interaction and policy compliance. Their success is rooted in holistic digital governance strategies, legal readiness, strong cybersecurity frameworks, and inclusive taxpayer education programs.

Core tax shows promising potential to transform Indonesia's tax landscape, especially in improving transparency, minimizing human error, and enhancing audit efficiency. However, its scalability across the diverse socio-economic and technological landscapes of Indonesia—and by extension across ASEAN—requires a multi-dimensional strategy. Key elements include strengthening legal frameworks to ensure cross-border tax governance, fostering taxpayer trust through digital literacy initiatives, and promoting inter-agency and regional interoperability. The findings further highlight the strategic role of political commitment and administrative capacity

in the success of digital taxation reform. Without sufficient investment in change management, staff retraining, and infrastructure equity, digital systems risk deepening existing gaps rather than bridging them. Moreover, cybersecurity and data protection must be prioritized to sustain long-term public confidence.

In the ASEAN context, the study underlines the need for a coordinated regional policy on digital taxation. Fragmented approaches across member states limit the effectiveness of tax collection from cross-border digital transactions. Establishing a common regulatory framework, supported by shared technological standards and capacity development programs, could drive collective resilience, reduce tax evasion, and increase regional revenue mobilization in the digital era.

6.Limitations of Research

Limitations of the study include its reliance on secondary data and the absence of primary empirical validation, such as interviews or field surveys. Future research could benefit from mixed-method approaches to capture taxpayer experiences, system performance metrics, and cost-benefit evaluations of digital tax systems. Additionally, further exploration into the social equity impacts of digital taxation—such as access disparities between urban and rural taxpayers—could provide deeper insights for inclusive fiscal policy design. In summary, while Core tax and similar systems hold substantial promise, achieving their full potential requires strategic integration of technology, policy, and governance, both at the national and regional levels.

References

- Adhisti, M. (2018). Free movement of skilled labor within the ASEAN economic community. *Economics Development Analysis Journal*, 6(2), 192–208. <https://doi.org/10.15294/edaj.v6i2.22217>
- Alfirdaus, N., & Anas, S. (2024). Analisis efektivitas Coretax sebagai strategi dalam peningkatan penerimaan pajak daerah DKI Jakarta. *Jurnal Ekonomika dan Bisnis (JEBS)*, 4(4), 646–655. <https://doi.org/10.47233/jebbs.v4i4.1934>
- An, Y., & Kim, M. (2022). The current state of territorial development of ASEAN countries and strategic types for balanced development. *Sustainability*, 14(19), 12707. <https://doi.org/10.3390/su141912707>
- ASEAN Progress Towards Sustainable Development Goals and the Role of the IMF. (2018). *IMF Policy Paper*, 18(054), 1. <https://doi.org/10.5089/9781498310208.007>
- Bae, K. (2018). Seeing ASEAN as a platform for spreading liberalism. *International Journal: Canada's Journal of Global Policy Analysis*, 73(1), 33–48. <https://doi.org/10.1177/0020702018754594>
- Catubig, S., Dangat, W., Inventado, C., Ortonio, A., Villapando, J., & Dotong, E. (2024). From pixels to taxes: A comparative study of digital economy tax policies in the Philippines to selected ASEAN member states. *European Journal of Theoretical and Applied Sciences*, 2(2), 240–253. [https://doi.org/10.59324/ejtas.2024.2\(2\).21](https://doi.org/10.59324/ejtas.2024.2(2).21)
- Jannah, U., & Rifai, A. (2025). Transformation of DGT tax intelligence in Coretax. *Ilomata International Journal of Tax and Accounting*, 5(3), 867–884. <https://doi.org/10.61194/ijtc.v5i3.1644>
- Lu, Y. (2024). A comparative analysis of policy responses to development gaps in ASEAN: Examining the effectiveness of macroeconomic and regional integration strategies. *Lecture Notes in Education Psychology and Public Media*, 70(1), 1–7. <https://doi.org/10.54254/2753-7048/70/20240988>
- Nurlis, D., & Rustandi, E. (2019). Comparative study of tax services in ASEAN countries. *International Journal of Academic Research in Business and Social Sciences*, 9(7). <https://doi.org/10.6007/ijarbss/v9-i7/6140>
- Panjaitan, M., & Yuna, Y. (2024). Pengaruh Coretax terhadap transparansi dan akuntabilitas sistem perpajakan. *JURA-ITB*, 2(4), 51–60. <https://doi.org/10.54066/jura-itb.v2i4.2560>. *Sustainability*, 17(4), 1400. <https://doi.org/10.3390/su17041400>