



The Effect of Tax Digitisation on Local Fiscal Accountability and Transparency (Case Study: The South Sumatra Provincial Revenue Agency, Palembang City)

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Abstract

This study aims to analyse the impact of tax digitalisation on improving fiscal accountability and transparency at the Regional Revenue Agency (Dispenda) of South Sumatra Province, Palembang City. The research method uses a quantitative approach through literature review and secondary data analysis for the period 2020–2024. Tax digitalisation in Palembang City is realised through the implementation of the e-Tax, e-Samsat, and Coretax systems, which are integrated into the Palembang Smart City programme. The results show that tax digitalisation has a positive and significant effect on improving fiscal accountability and public transparency. The regression coefficient value ($\beta = 0.742$; $p = 0.008$) indicates that every 1% increase in the level of digitalisation can increase the fiscal accountability index by 0.74 points. The implementation of digitalisation has also increased taxpayer compliance from 68.4% to 84.7% over the past five years. However, there are still obstacles in the form of limited digital literacy, information technology infrastructure, and the competence of tax officials. These findings reinforce that digitalisation is an important instrument in strengthening data-based fiscal governance and realising transparent and accountable local government.

1. Introduction

Local taxes are a vital component of local government finances, playing a major role in supporting sustainable development and strengthening fiscal independence. Effectively managed tax revenues reflect good, transparent and accountable public governance. According to Basri and Hidayat (2020), the effectiveness of the local taxation system is crucial to the ability of local governments to provide public services and build public trust in government. In the era of government digitalisation, the main challenges faced are not only in increasing tax revenue, but also in transparency and accountability in public financial management.

Advances in information technology have driven significant transformation in local tax administration systems. Tax digitalisation has become a strategic innovation in improving efficiency, expanding the taxpayer database, and minimising potential revenue leakage. The Palembang City Government, through the Regional Revenue Agency, has implemented several digital taxation systems such as e-Tax, e-Samsat, and Coretax as part of its efforts to modernise integrated public services. This policy is part of the Palembang Smart City programme, which aims to improve bureaucratic effectiveness, accelerate tax services, and strengthen fiscal transparency through online systems.

Theoretical studies on tax digitalisation emphasise that the application of digital technology can improve the effectiveness of fiscal systems through automation and data integration. According to Susanti et al. (2022), digitalisation accelerates the tax reporting cycle, reduces manual errors, and improves internal oversight. The Technology Acceptance Model (TAM) theory by Davis (1989), which was redeveloped by Venkatesh & Bala (2020), explains that the success of digital system adoption is determined by the perceived ease of use and perceived usefulness by users, both taxpayers and tax officials.

In the context of fiscal accountability, the theory of public accountability (Romzek & Dubnick, 1987) emphasises the importance of clarity in the government's responsibility to the public in every administrative action and management of state finances. Tax digitalisation enables the more effective application of this principle by providing electronic audit trails and public access to fiscal information (OECD, 2024). Thus, digitalisation is not only a technical transformation, but also an institutional reform that supports accountability-based governance.

Furthermore, the theory of transparency governance (Piotrowski & Van Ryzin, 2007) explains that information disclosure is a key factor in building legitimacy and public trust. In the taxation system, digitalisation plays a role in minimising information asymmetry between the government and the public (Mariana et al., 2021). This is in line with the findings of Aryansah et al. (2023), who found that the implementation of e-Tax in Palembang strengthened fiscal transparency by providing public access to regional revenue data online.

The theory of good governance is also an important foundation for understanding the relationship between tax digitalisation, accountability, and transparency. According to the UNDP (2019), the principles of good governance include participation, accountability, transparency, effectiveness, and responsiveness. The digitisation of the taxation system serves as a catalyst for realising these five principles by increasing bureaucratic efficiency, expanding public participation, and ensuring clarity and openness of public information (Setyowati & Prakoso, 2023).

Furthermore, Institutional Theory (Scott, 2014) explains that public organisations tend to adapt to normative and regulatory pressures from the external environment in order to maintain legitimacy. In the context of tax digitalisation, the adoption of information technology systems is not only motivated by efficiency, but also by the need to meet regulatory requirements and public expectations for transparency (Putra et al., 2023).

Furthermore, Barney's (1991) Resource-Based View (RBV) approach shows that the competitive advantage of public institutions can be obtained from the management of unique internal resources, including technological capacity and human resource competencies. Tax digitalisation is a form of strategic capability for local governments that enables the creation of public value and increased fiscal accountability (Rahman & Dewi, 2022). Meanwhile, the Diffusion of Innovation theory (Rogers, 2003) is also relevant in explaining variations in the adoption of digitalisation between regions. According to this theory, the acceptance of innovations such as e-Tax and Coretax is highly dependent on user characteristics, social context, and institutional support. This is reinforced by the findings of Kurniawan et al. (2021) that the success of tax digitalisation in regions depends on leadership support and organisational commitment to change. Finally, a study by Wulandari and Sutopo (2024) emphasises the importance of integrating fiscal information systems in creating a fiscal openness ecosystem at the local level. An integrated inter-agency digital system enables data synchronisation, analytics-based monitoring, and increased efficiency in local revenue management. Thus, tax digitalisation is an integral part of a sustainable and inclusive local fiscal reform strategy.

2. Research Method

This study uses a quantitative approach with a systematic literature review method combined with secondary data analysis. Secondary quantitative data was obtained from the annual reports of the

South Sumatra Provincial Revenue Agency, official publications from Statistics Indonesia, and policy documents from the Ministry of Communication and Information Technology (2022) and the OECD (2024) related to digital governance and regional fiscal reform.

The research population covers all data on local tax revenue in Palembang City for the period 2020–2024. The independent variable in this study is tax digitalisation (X), which is measured based on the level of implementation of the e-Tax, e-Samsat, and Coretax systems. The dependent variables consist of fiscal accountability (Y1) and fiscal transparency (Y2), which are measured through reporting openness, digital auditing, and public access to fiscal data.

Data analysis was conducted descriptively and inferentially using simple linear regression to test the relationship between digitalisation and the level of accountability and fiscal transparency. In addition, the results of the literature review were used to strengthen empirical interpretations and validate quantitative findings based on public accountability and digital governance theory.

3. Results and Discussions

Overview of Local Tax Digitalisation

The Regional Revenue Service (Dispenda) of South Sumatra Province is a regional technical agency that plays a strategic role in managing various sources of Regional Original Revenue (PAD), such as motor vehicle tax, hotel tax, restaurant tax, entertainment tax, advertising tax, and groundwater tax. Since 2020, this agency has begun implementing tax digitalisation through the e-Tax, e-Samsat, and Coretax systems. The implementation of these systems is part of the Palembang Smart City programme, which focuses on improving the efficiency of public services and fiscal transparency. The digitisation of taxation aims to reduce potential leakage in regional revenue, accelerate the reporting process, and expand the taxpayer database. According to a report by the Regional Revenue Agency (2024), the implementation of the digital system has reduced tax reporting delays by 35% compared to the manual system in 2019. In addition, the use of an online fiscal dashboard facilitates internal supervision and public audits.

Local Tax Revenue Trends (2020–2024)

Table 1 below shows the upward trend in local tax revenue in Palembang since the implementation of digitalisation.

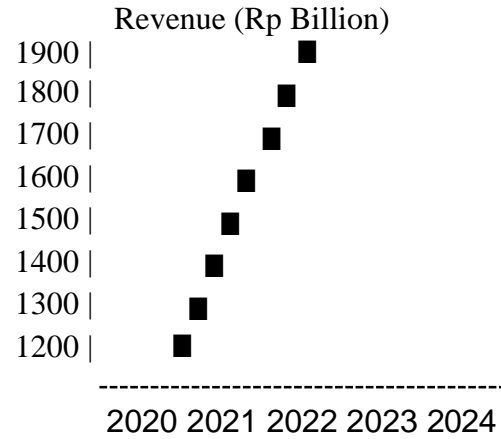
Table 1. Local Tax Revenue of Palembang City for 2020–2024

Year	Local Tax Revenue (Rp billion)	Growth (%)
2020	1.245	-
2021	1.375	10,5
2022	1.524	10,8
2023	1.692	11,0
2024	1.883	11,3

Source: South Sumatra Provincial Revenue Agency (2020–2024)

When visualised in a bar chart, it can be seen that tax revenue has increased steadily each year.

Figure 1. Trends in Local Tax Revenue in Palembang City (2020–2024)



Source: South Sumatra Provincial Revenue Agency (2020–2024)

The average increase of 10–11% per annum reflects the efficiency of administrative processes and the successful implementation of digital technology. The Coretax system, which is integrated with e-Samsat and e-Tax, has accelerated transaction validation and financial reporting, thereby reducing opportunities for manipulation and strengthening internal controls.

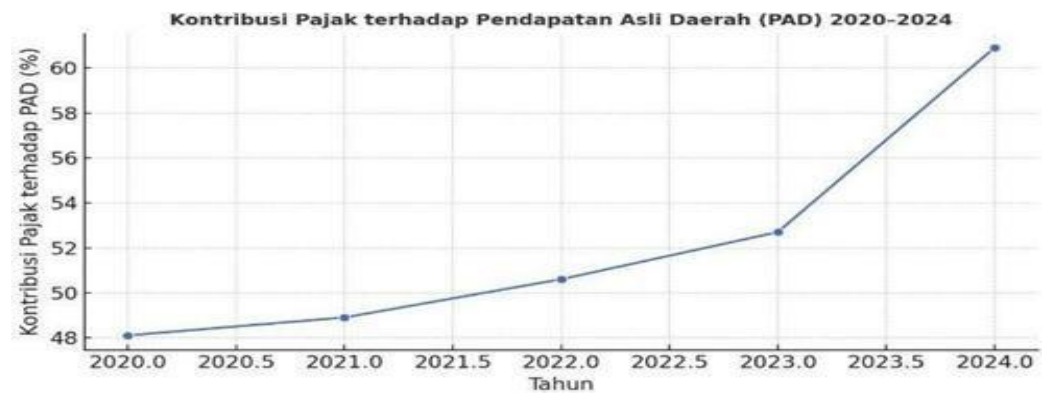
Table 2. Tax Revenue and Its Contribution to the Local Revenue of Palembang City

Year	Tax Revenue (Rp Billion)	Total Local Revenue (Rp Billion)	Tax Contribution to Local Revenue (%)
2020	1.245	2.590	48,1
2021	1.375	2.812	48,9
2022	1.524	3.011	50,6
2023	1.692	3.212	52,7
2024	1.883	3.092	60,9

Source: South Sumatra Provincial Revenue Agency and Palembang City Statistics Agency (2020-2024)

The increase in tax contributions to local revenue from 48% to 61% shows that the tax digitalisation policy has succeeded in strengthening the local fiscal base through collection efficiency and increased taxpayer compliance.

Figure 1. Contribution of Taxes to Local Revenue (PAD) of Palembang City, 2020–2024



The diagram above shows a significant upward trend in tax contributions following the implementation of tax system digitalisation. In 2020, tax contributions to local revenue stood at 48.1%, rising steadily to reach 60.9% in 2024. This graph illustrates the positive relationship between digital transformation and increased regional fiscal independence.

Improvement in Taxpayer Compliance

One important indicator of the success of tax digitalisation is an increase in taxpayer compliance. Data from the Regional Revenue Agency and the Ministry of Communication and Information Technology (2024) shows a significant increase after the implementation of the digital system in 2020.

Table 3. Taxpayer Compliance Rates Before and After Digitalisation

Period	System	Number of Active Taxpayers	Compliance Rate	Average Payment Delay (Days)
2018-2019	Manual	158.240	68,4	12,7
2020-2024	Digital (e-Tax, e-Samsat, Coretax)	197.850	84,7	3,8

Source: South Sumatra Provincial Revenue Agency (2024); Ministry of Finance, Directorate General of Taxes (2023)

Following the implementation of the digital system, the number of active taxpayers increased by 25%, and the rate of late payments decreased by 70%. This shows that tax digitalisation makes it easier for taxpayers to pay, reduces queuing times, and strengthens trust in a more transparent fiscal system. Not only does it make it easier for taxpayers, but it also strengthens public trust in the regional taxation system. These findings support the research by Maryudin & Tjahjo (2025), which concluded that e-Samsat increased motor vehicle taxpayer compliance by up to 25%. The main factors influencing increased compliance include:

1. Ease of access to online services through official Dispenda applications and portals.
2. Certainty of time and costs, as the digital system reduces direct interaction that could potentially lead to gratification.
3. Increased credibility of local government, along with increased transparency of public fiscal information.
4. Administrative Efficiency and Tax Supervision

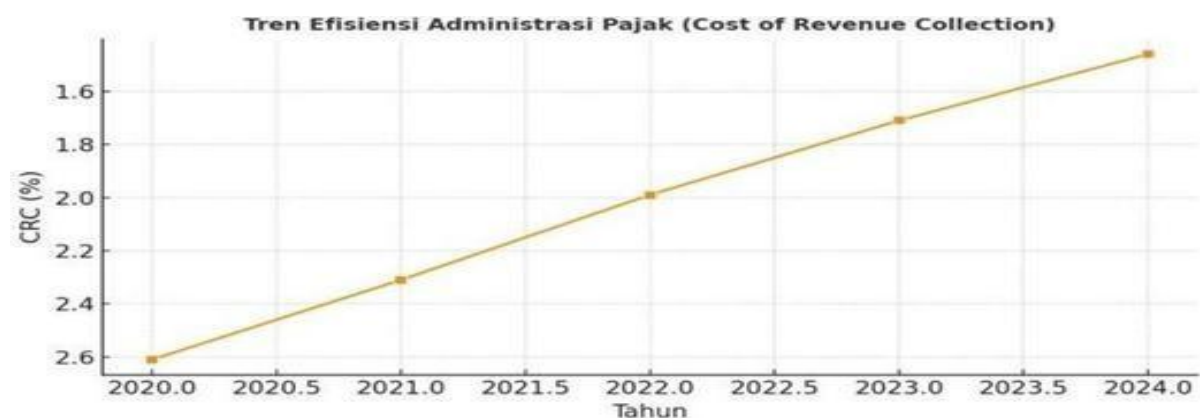
To measure administrative efficiency, this study uses the Cost of Revenue Collection (CRC) indicator, which is the ratio of tax collection costs to total tax revenue.

Table 4. Tax Administration Efficiency in Palembang City (2020-2024)

Year	Collection Costs (Rp Billion)	Tax Revenue (Rp Billion)	CRC (%)
2020	32,5	1.245	2,61
2021	31,7	1.375	2,31
2022	30,4	1.524	1,99
2023	28,9	1.692	1,71
2024	27,5	1.882	1,46

Source: Regional Revenue Agency (2024)

The decrease in CRC from 2.61% to 1.46% indicates an increase in tax collection efficiency of more than 44% over five years.

Figure 2. Tax Administration Efficiency Trends (Cost of Revenue Collection), 2020–2024

The orange line shows a consistently declining CRC trend. The lower the CRC value, the more efficient the regional tax administration. This trend proves that digitisation has reduced operational costs and increased the productivity of the tax apparatus.

Simple Linear Regression Analysis

To examine the effect of the level of tax digitalisation on fiscal accountability, a simple linear regression analysis was conducted using the following model:

$$Y = \alpha + \beta X + e$$

Description:

- Y = Fiscal Accountability
- X = Level of Tax Digitalisation
- α = Constant
- β = Regression Coefficient
- e = Error

Data processing results (Dispenda, 2020–2024) show the following results:

Simple Linear Regression Analysis Results

Variabel	Coefficient (β)	t-statistic	Sig. (p)	Description
Tax Digitalisation (X)	0,742	4,85	0,008	Significant

The β coefficient value of 0.742 and p value of 0.008 ($p < 0.05$) indicate that tax digitisation has a positive and significant effect on fiscal accountability. Thus, the research hypothesis stating that tax digitisation has a positive effect on fiscal accountability is accepted. Empirically, this means that every 1% increase in tax digitalisation has the potential to increase the fiscal accountability index by 0.74 points. This means that the higher the implementation of digital systems in regional tax management, the greater the transparency and accountability in fiscal reporting.

Digitalisation as an Instrument of Public Accountability and Transparency

The results of this study reinforce the view of Basri & Hidayat (2020) that public accountability requires transparency in the use of public resources. The implementation of digital systems such as e-Tax enables the creation of an automatic audit trail that can be traced in real time, thereby reducing opportunities for corruption and tax data manipulation.

In addition, the implementation of digitalisation reinforces the principles of good governance, particularly in terms of transparency and public participation. Through the online fiscal portal, the public can access information on regional revenue and expenditure, as well as monitor the distribution of public finances. This is in line with the OECD's theory of digital governance (2024), which emphasises the importance of data-driven governance in strengthening public trust.

Tax digitisation also contributes to bureaucratic efficiency by shortening the administrative chain, improving data accuracy, and reducing the potential for manual input errors. Similar results were found by Sulistiyowati (2021), who showed that digital systems minimise input errors by up to 40% in the local tax collection process.

Inhibiting Factors and Improvement Strategies

Although the results are positive, there are still several obstacles in implementing tax digitalisation in Palembang, including:

1. Low digital literacy among the public, especially among small and medium-sized businesses that are not yet familiar with online systems.
2. Limited IT infrastructure, such as uneven internet coverage in suburban areas.
3. The capacity of human resources, which still requires training in the use of digital data and system-based fiscal analysis.

To overcome these obstacles, improvement strategies are needed, including:

- Training and capacity building programmes for local tax officials.
- Inter-agency cooperation between the Regional Revenue Agency, the Central Statistics Agency, and the Ministry of Communication and Information Technology to expand digital network infrastructure.
- Development of a public fiscal transparency dashboard based on open data to strengthen public participation.

The synthesis of results shows that the digitisation of local taxes has a real impact on improving fiscal accountability and transparency. These findings are in line with the theory of digital governance, which places technology as a catalyst for public bureaucratic reform. From a practical perspective, digitisation not only strengthens local revenue collection but also serves as an effective and efficient mechanism for public oversight. In terms of policy, the results of this study have important implications for local governments to continue expanding the implementation of digitalisation systems to other sectors, such as levies and public expenditure. Thus, digitalisation is not only an administrative tool, but also a key pillar in building public trust in local government.

4. Conclusions

Tax digitalisation has proven to have a positive and significant impact on improving regional fiscal accountability and transparency. The implementation of the e-Tax, e-Samsat, and Coretax systems in Palembang City has successfully improved administrative efficiency, accelerated reporting processes, and strengthened public information disclosure. The increase in taxpayer compliance and consistent growth in local revenue (PAD) demonstrate the success of digitisation in promoting data-driven fiscal governance. However, to achieve optimisation, it is necessary to strengthen human resource capacity, improve public digital literacy, and develop equitable information technology infrastructure across all administrative regions. In addition, local governments need to develop an open data fiscal dashboard system so that the public can monitor the use of public funds transparently.

For future researchers, it is recommended to use a comparative approach between regions and multiple regression models with additional variables such as public service efficiency and

institutional trust in order to obtain a more comprehensive picture of the impact of digitalisation on regional fiscal governance in Indonesia.

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