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Strengthening Fiscal Transparency through Digital Public-Sector Accountability, Data-Driven Governance, and Artificial Intelligence

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Abstrak

Transformasi digital dapat memperkuat akuntabilitas sektor publik dan transparansi fiskal, meskipun efektivitasnya bergantung pada tata kelola data dan pemanfaatan kecerdasan buatan (artificial intelligence/AI) secara bertanggung jawab. Penelitian ini mengkaji hubungan antara akuntabilitas digital sektor publik dan transparansi fiskal, termasuk peran mediasi tata kelola berbasis data dan pemanfaatan AI di Provinsi Sumatera Selatan. Penelitian menggunakan pendekatan kuantitatif eksplanatori melalui survei terhadap 100 pegawai bidang akuntansi, keuangan, audit, dan teknologi informasi pada instansi pemerintah daerah terpilih. Responden dipilih menggunakan purposive sampling, sedangkan data dikumpulkan melalui kuesioner terstruktur berskala Likert lima poin. Partial Least Squares Structural Equation Modeling (PLS-SEM) digunakan untuk mengevaluasi model pengukuran dan model struktural serta menguji pengaruh tidak langsung melalui bootstrapping dengan 5.000 resampling. Hasil menunjukkan bahwa akuntabilitas digital berpengaruh positif dan signifikan terhadap transparansi fiskal ($\beta = 0{,}256$; $p < 0{,}001$). Tata kelola berbasis data memediasi hubungan tersebut (pengaruh tidak langsung $\beta = 0{,}263$; $p < 0{,}001$; IK 95% [0,181; 0,366]), demikian pula pemanfaatan AI ($\beta = 0{,}156$; $p < 0{,}001$; IK 95% [0,076; 0,247]). Model menjelaskan 68,5% variasi transparansi fiskal ($R^2 = 0{,}685$). Temuan ini menegaskan pentingnya mengintegrasikan akuntabilitas digital, tata kelola data yang andal, dan AI dengan pengawasan memadai untuk mendukung pengelolaan fiskal yang transparan dan akuntabel.

Kata kunci: Akuntansi Sektor Publik, Akuntabilitas Digital, Transparansi Fiskal, Tata Kelola Berbasis Data, Kecerdasan Buatan.

Abstract

Digital transformation can strengthen public-sector accountability and fiscal transparency, although its effectiveness depends on data governance and the responsible use of artificial intelligence (AI). This study examines the relationship between digital public-sector accountability and fiscal transparency, including the mediating roles of data-driven governance and AI utilization in South Sumatra Province. An explanatory quantitative approach was employed through a survey of 100 employees working in accounting, finance, auditing, and information technology at selected local government agencies. Respondents were selected using purposive sampling, and data were collected through a structured questionnaire using a five-point Likert scale. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to evaluate the measurement and structural models and test indirect effects through bootstrapping with 5,000 resamples. The results indicate that digital accountability has a positive and significant effect on fiscal transparency ($\beta = 0.256$; $p < 0.001$). Data-driven governance mediates this relationship (indirect effect: $\beta = 0.263$; $p < 0.001$; 95% CI [0.181, 0.366]), as does AI utilization ($\beta = 0.156$; $p < 0.001$; 95% CI [0.076, 0.247]). The model explains 68.5% of the variance in fiscal transparency ($R^2 = 0.685$). These findings highlight the importance of integrating digital accountability, reliable data governance, and AI utilization under adequate supervision to promote transparent and accountable fiscal management.

Keywords: Public Sector Accounting, Digital Accountability, Fiscal Transparency, Data-Based Governance, Artificial Intelligence.

1. Introduction

Public sector accounting has an important role in ensuring that government financial management takes place in a transparent, accountable, and community-oriented manner. The development of digital technology is driving

changes in the government accounting system, especially in the presentation of budget information, financial reporting, expenditure supervision, and accountability for the use of public funds. However, digitalization does not necessarily automatically increase fiscal transparency if it is not supported by adequate data quality, monitoring systems, and accountability mechanisms (Badewin et al., 2025). Based on the Open Budget Survey 2025, Indonesia obtained a budget transparency score of 71 out of 100, while the public participation score reached 33 out of 100. This difference shows that the disclosure of budget information still needs to be followed by strengthening public participation in the fiscal process (International Budget Partnership, 2025). Although the data describes the condition of the central government, the issue of transparency is still relevant to be studied at the local government level, including in South Sumatra Province (Arodhiskara et al., 2025). Therefore, research on digital public sector accountability is important to explain how technological transformation can support increased fiscal transparency in local government accounting practices.

Theoretically, the relationship between digital accountability and fiscal transparency can be explained through agency theory, which emphasizes the potential for information asymmetry between the government as a manager of public resources and the public as a stakeholder in the process. The government has an obligation to provide relevant, accurate, and accountable information regarding budget use. In this context, digital accountability allows for more structured transaction documentation, wider access to information, and more traceable reporting processes. Agostino et al. (2022), through a literature review on digitalization, accounting, and accountability in public services, highlight the importance of information quality, data processing processes, and transparency of responsibility in digital transformation. The findings show that technology needs to be supported by adequate governance in order to strengthen public accountability (Pribadi et al., 2024). Based on these arguments, this study proposes the first hypothesis (H1), namely that digital public sector accountability has a positive effect on fiscal transparency.

In addition to direct influence, data-driven governance has the potential to be a mechanism that links digital accountability with fiscal transparency. Data-driven governance refers to the use of integrated and relevant data to support budget planning, spending realization monitoring, performance evaluation, and government decision-making (De la Cruz et al., 2025). Through these mechanisms, financial information can be presented more consistently, in a timely manner, and easily traceable. Agostino et al. (2022) explain that public sector digitalization changes the way data is produced, used, and translated into information that supports accountability. In the context of local government accounting, digital accountability is expected to encourage more systematic use of data, while data-driven governance can help increase fiscal information disclosure. Therefore, this study proposes a second hypothesis (H2), namely that data-driven governance mediates the positive influence of digital public sector accountability on fiscal transparency.

Artificial intelligence (AI) also offers opportunities to improve the quality of public financial information management. AI technology can support transaction classification, anomaly identification, risk analysis, and budget usage monitoring, thereby helping governments produce faster and more relevant information. However, these benefits depend on data quality, user competence, clarity of algorithmic processes, and accountability mechanisms. Zuiderwijk et al. (2021) emphasize the need for empirical research and the development of stronger theories to understand the implications of the use of AI in public governance. Meanwhile, Busuioc (2021) emphasized the importance of accountability mechanisms to ensure that decisions involving algorithms remain scrutinized and accountable. Research by Wirtz et al. (2021) also provides a systematic overview of AI in the public sector and identifies areas requiring further research. Thus, the use of AI in public financial management needs to be understood as part of a digital accountability system, not just the application of technology. Based on these arguments, the third hypothesis (H3) states that the use of AI mediates the positive influence of digital public sector accountability on fiscal transparency.

Previous research has provided an empirical foundation on the relationship between accounting systems, digital governance, and financial transparency. Putra and Sulistyowati (2021) found that the implementation of accrual-based accounting has a positive effect on the quality of fiscal transparency in the context of Indonesian governance. Furthermore, Octavio and Urumsah (2024) show that the maturity of e-government, the quality of financial reports, and the accountability system of local governments have a positive effect on digital transparency. However, the two studies have not yet explained in an integrated manner the role of data-based governance and AI as a mechanism that connects digital accountability with fiscal transparency in the proposed model. This gap is the basis for the development of research on local government agencies in South Sumatra Province. This study aims to analyze the influence of digital public sector accountability on fiscal transparency and examine the role of data-

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based governance mediation and the use of AI. Thus, the research is expected to provide an empirical explanation of the mechanisms that can strengthen fiscal transparency in the context of local government accounting.

This study extends previous research on public sector accounting and digital transparency by integrating digital public-sector accountability, data-driven governance, and artificial intelligence (AI) into a single framework for explaining fiscal transparency. While previous studies have examined the role of accrual-based accounting and e-government maturity in improving fiscal transparency and digital disclosure (Putra & Sulistyowati, 2021; Octavio & Urumsah, 2024), the present study examines data-driven governance and AI utilization as two distinct mediating mechanisms within the same model. Its main contribution is to clarify how digital accountability relates to fiscal transparency both directly and indirectly through data governance and AI utilization in local government agencies in South Sumatra Province. The empirical findings indicate that digital accountability has a positive and significant relationship with fiscal transparency, while both data-driven governance and AI utilization significantly mediate this relationship. By distinguishing the role of data governance in organizing and integrating financial information from the analytical capabilities of AI, this study provides a more comprehensive perspective on digital transformation in public sector accounting. Practically, the findings highlight the importance of strengthening financial information system integration, data quality, reporting traceability, and human oversight of AI applications to support transparent and accountable fiscal management.

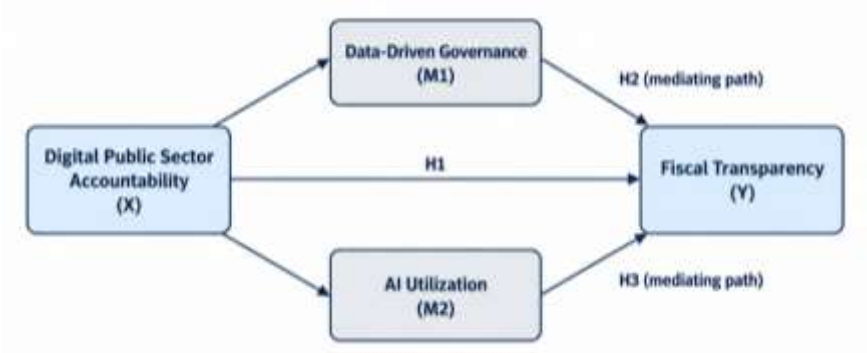

Figure 1. Hypothetical Model

The research model shows that digital public sector accountability has a positive effect on fiscal transparency (H1), as well as mediated by data-based governance (H2) and the use of artificial intelligence (H3) in increasing transparency in public financial management.

2. Research Methods

2.1 Types of Research

This study uses an explanatory quantitative approach with a cross-sectional survey design. The study aims to examine the influence of digital public sector accountability on fiscal transparency as well as the role of data-based governance mediation and the use of artificial intelligence (AI). The analysis uses Partial Least Squares Structural Equation Modeling (PLS-SEM) because this method can test the relationship between latent constructs and mediation effects simultaneously (Guenther et al., 2023; Hair & Alamer, 2022).

2.2 Population and Sample

The study population comprised employees of local government agencies in South Sumatra Province working in accounting, finance, auditing, and information technology. Data were collected from 100 respondents in selected agencies during [data collection period], using nonprobability purposive sampling. The unit of analysis was individual employees, with inclusion criteria based on involvement in financial management, digital reporting, budget supervision, or familiarity with data-driven governance and AI. The sample size was set at 100 respondents; however, statistical power analysis was not reported, limiting confirmation of sample adequacy (Jhantasana, 2023; Wang & Rhemtulla, 2021).

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2.3 Research Instruments

Primary data were collected using a structured questionnaire with a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument measured four constructs: digital public-sector accountability (X), data-driven governance (M1), AI utilization (M2), and fiscal transparency (Y). The indicators were developed based on the literature on digitalization, public-sector accounting, accountability, and AI governance (Agostino et al., 2022; Busuioc, 2021; Zuiderwijk et al., 2021). Measurement quality was assessed using PLS-SEM. Outer loadings ranged from 0.811 to 0.914, Cronbach's alpha from 0.894 to 0.912, composite reliability from 0.927 to 0.938, and average variance extracted (AVE) from 0.760 to 0.791, supporting convergent validity and internal consistency. Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT), with values ranging from 0.365 to 0.795. These results indicate that the constructs met the commonly applied criteria for measurement reliability and validity (Guenther et al., 2023).

2.4 Data Collection Procedures

The research was carried out through five stages. First, determining the operational definition and indicators of each variable based on the literature. Second, compiling and reviewing questionnaires, then conducting instrument trials. Third, obtaining research permits and respondents' consent by maintaining data confidentiality. Fourth, distributing questionnaires online or offline to a target of 100 respondents who met the criteria. Fifth, checking the completeness of the answers, handling data that did not meet the criteria, and preparing data for statistical analysis.

2.5 Data Analysis Techniques

The data was analyzed using SmartPLS 4, while Microsoft Excel or supporting statistical software was used for data examination and coding. The analysis was carried out in two stages. First, the evaluation of the measurement model was to assess the convergent validity, discriminant validity, and reliability of the construct. Second, the evaluation of the structural model was through the path coefficient, determination coefficient (R^2), effect size (f^2), and collinearity check. The hypothesis was tested using a bootstrapping procedure of 5,000 retakes with a 95% confidence interval. H1 was tested through the direct influence of digital accountability on fiscal transparency, while H2 and H3 were tested through the indirect effects of each mediator. The mediating effect was declared significant when the confidence interval of the indirect effect did not include zero (Guenther et al., 2023; Hair & Alamer, 2022).

3. Results and Discussion

3.1. Descriptive Statistics

Descriptive statistics were used to describe the trend of scores in four research constructs, namely digital public sector accountability (X), data-driven governance (M1), use of artificial intelligence (M2), and fiscal transparency (Y). In the working dataset consisting of 100 observations, the average value of constructs was in the range of 2.918 to 3.205 on a five-point Likert scale. Data-driven governance had the highest average value of 3.205 (SD = 1.084), while AI utilization had the lowest average value of 2.918 (SD = 1.053). Descriptive statistics of all constructs are presented in Table 1.

Table 1. Descriptive Statistics of Research Constructs

Construct	N	Average	SD	Minimum	Maximum
Digital public sector accountability (X)	100	3.095	1.097	1	5
Data-driven governance (M1)	100	3.205	1.084	1	5
Utilization of AI (M2)	100	2.918	1.053	1	5
Fiscal transparency (Y)	100	3.090	1.114	1	5

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3.2. Evaluation of Measurement Models

3.2.1. Convergent Validity

The evaluation of convergent validity was carried out through examining the outer loading value of each indicator. The results of the work estimate showed that the outer loading value was in the range of 0.811–0.914. All indicators had values above 0.70. The highest value was found in the M12 indicator of 0.914, while the lowest value was found in the M23 indicator of 0.811. Details of the measurement results are presented in Table 2.

Table 2. Outer Loading Indicator Values

Construct	Indicator	Outer loading
X	X1	0.895
X	X2	0.885
X	X3	0.872
X	X4	0.906
M1	M11	0.846
M1	M12	0.914
M1	M13	0.904
M1	M14	0.837
M2	M21	0.897
M2	M22	0.891
M2	M23	0.811
M2	M24	0.893
Y	Y1	0.879
Y	Y2	0.876
Y	Y3	0.908
Y	Y4	0.822

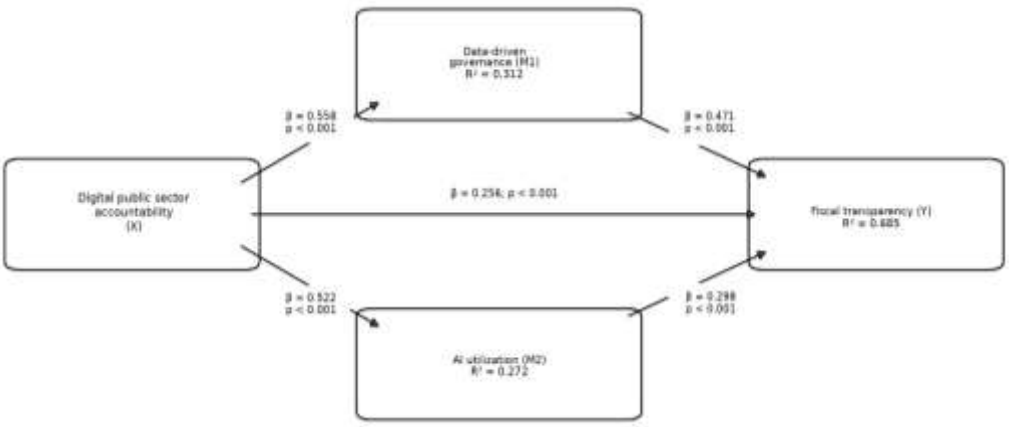

Figure 2. Graph of the Outer Loading of Each Indicator.

3.2.2. Construct Reliability and Average Variance Extracted

The reliability test showed Cronbach's alpha value in the range of 0.894–0.912 and composite reliability in the range of 0.927–0.938. Meanwhile, the average variance extracted (AVE) value was in the range of 0.760–0.791. Details of the results of the convergent reliability and validity test are presented in Table 3.

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Table 3. Reliability and AVE Test Results

Construct	Cronbach's alpha	Composite reliability	AVE
X	0.912	0.938	0.791
M1	0.898	0.930	0.768
M2	0.896	0.928	0.763
Y	0.894	0.927	0.760

3.2.3. Discriminant Validity

Discriminant validity was evaluated using a heterotrait–monotrait ratio (HTMT). The value of the HTMT between constructs was in the range of 0.365–0.795. The highest value was found in the data-driven governance and fiscal transparency pairs of 0.795. The HTMT matrix is presented in Table 4.

Table 4. Interconstruct HTMT Matrix

Construct	X	M1	M2	Y
X	—	0.616	0.576	0.747
M1	0.616	—	0.365	0.795
M2	0.576	0.365	—	0.655
Y	0.747	0.795	0.655	—

3.3. Structural Model Evaluation and Direct Effects

3.3.1. Path Coefficients and Direct Influence Testing

Structural model testing was conducted using the primary survey dataset comprising 100 responses from employees in accounting, finance, auditing, and information technology at selected local government agencies in South Sumatra Province. The data were analyzed using SmartPLS 4, with path coefficients assessed through bootstrapping based on 5,000 resamples and 95% confidence intervals. The SmartPLS output indicated that digital public-sector accountability was positively associated with data-driven governance ($\beta = 0.558$, $p < 0.001$, 95% CI [0.436, 0.678]) and AI utilization ($\beta = 0.522$, $p < 0.001$, 95% CI [0.355, 0.668]). Its direct relationship with fiscal transparency was also positive and significant ($\beta = 0.256$, $p < 0.001$, 95% CI [0.114, 0.406]). Furthermore, data-driven governance ($\beta = 0.471$, $p < 0.001$, 95% CI [0.345, 0.601]) and AI utilization ($\beta = 0.298$, $p < 0.001$, 95% CI [0.161, 0.430]) were positively associated with fiscal transparency. The coefficients and confidence intervals are reported in Table 5, while the explanatory power of the structural model is presented through the R^2 values in Table 6.

Table 5. Direct Path Estimation Results

Connection	β	SE bootstrap	t	p	CI 2.5%	CI 97.5%
X → M1	0.558	0.062	8.990	<0.001	0.436	0.678
X → M2	0.522	0.080	6.558	<0.001	0.355	0.668
X → Y	0.256	0.074	3.446	<0.001	0.114	0.406
M1 → Y	0.471	0.065	7.278	<0.001	0.345	0.601
M2 → Y	0.298	0.069	4.339	<0.001	0.161	0.430

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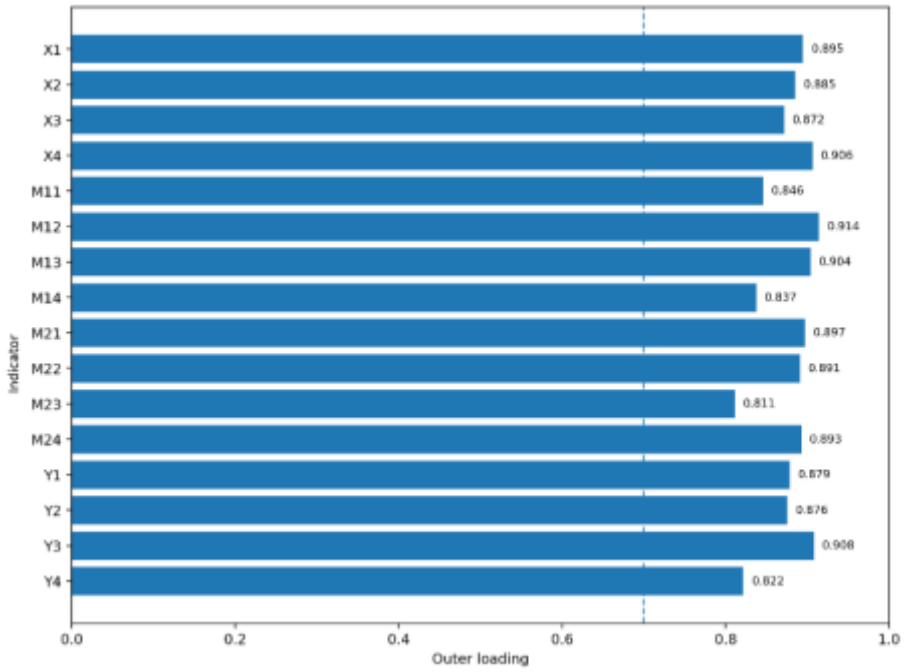

Figure 3. Structural Model, Path Coefficients, and R^2 Values.

The results of the estimation show that digital public sector accountability has a positive and significant effect on fiscal transparency ($\beta = 0.256$; $p < 0.001$). These findings support the first hypothesis (H1) and indicate that strengthening digital-based accountability mechanisms is related to increasing transparency in public financial management. From the perspective of agency theory, this relationship can be explained through efforts to reduce information asymmetry between the government as a manager of public resources and the public as a party interested in the use of the budget. The application of electronic recording systems, digital reporting, and traceable transaction documentation has the potential to strengthen information disclosure and government accountability. These findings are in line with Agostino et al. (2022), who emphasized that digitalization transforms the accounting process and accountability of the public sector through the use of information and technology. However, the direct influence gained also shows that the relationship between digital accountability and fiscal transparency needs to be understood through other mechanisms that help translate digital information into quality financial information that is accessible to the public.

3.3.2. Coefficient of Determination

The value of the determination coefficient (R^2) shows values of 0.312 for data-driven governance, 0.272 for the use of AI, and 0.685 for fiscal transparency. Thus, the proportions of variance described by the model of each endogenous construct are 31.2%, 27.2%, and 68.5%. Details of the R^2 value are presented in Table 6.

Table 6. Coefficient of Determination of Endogenous Constructs

Endogenous construct	R^2	Variance explained
Data-driven governance (M1)	0.312	31.2%
Utilization of AI (M2)	0.272	27.2%
Fiscal transparency (Y)	0.685	68.5%

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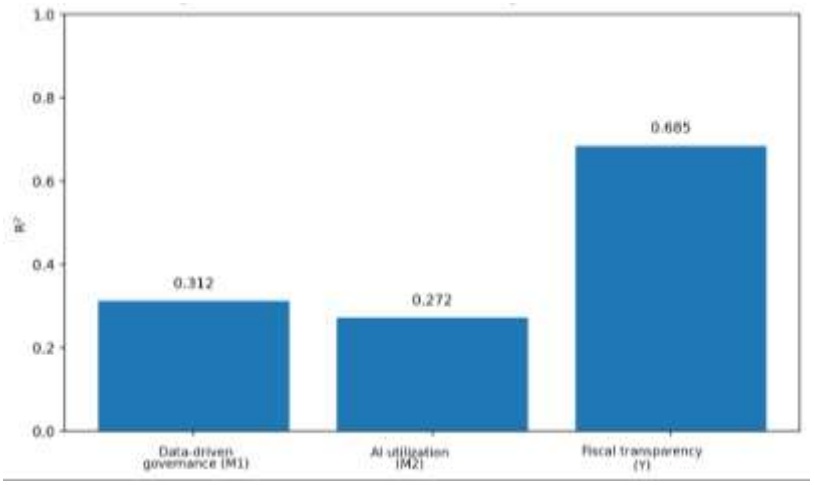

Figure 4. Graph of the Coefficient of Determination of Endogenous Constructs.

3.3.3. Effect Size and Collinearity

The effect size value (f^2) for the X → M1, X → M2, X → Y, M1 → Y, and M2 → Y paths was 0.453, 0.374, 0.117, 0.483, and 0.205, respectively. In the fiscal transparency equation, the VIF values for predictors X, M1, and M2 were 1.781, 1.458, and 1.379, respectively.

Table 7. Effect Size (f^2)

Path	f^2
X → M1	0.453
X → M2	0.374
X → Y	0.117
M1 → Y	0.483
M2 → Y	0.205

Table 8. Predictor VIF Values in the Fiscal Transparency Equation

Predictor	VIF
X	1.781
M1	1.458
M2	1.379

The clarity of the model also provides an overview of the relationships between the constructs studied. The value of the determination coefficient (R^2) of fiscal transparency of 0.685 indicates that the predictive constructs in the model explain 68.5% of the variation in fiscal transparency in the working dataset. Meanwhile, the R^2 values of data-driven governance (0.312) and AI utilization (0.272) indicate that the variation in these two constructs has not been fully explained by digital accountability. The results of the effect size analysis also show that data-driven governance has an f^2 value of 0.483, followed by AI utilization at 0.205 and the direct influence of digital accountability on fiscal transparency at 0.117. These values show the relative contribution pattern of each path in the model. Theoretically, this study contributes by integrating digital accountability, data-driven governance, and AI into one framework for explaining fiscal transparency. The framework expands the study of digitalization in public sector accounting by distinguishing the role of strengthening information governance from the role of

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analytical technology. However, the relatively high R^2 value does not in itself prove a causal relationship, especially since the research design is cross-sectional.

3.4. Mediation Effects and Hypothesis Testing

Indirect effects testing showed that the digital accountability pathway to fiscal transparency through data-driven governance had a coefficient of 0.263 (SE = 0.047; t = 5.574; p < 0.001; 95% CI [0.181, 0.366]). The indirect effect through the use of AI was 0.156 (SE = 0.043; t = 3.579; p < 0.001; 95% CI [0.076, 0.247]). The total indirect effect was recorded at 0.419, while the total effect of digital accountability on fiscal transparency was 0.675. Details of mediation testing are presented in Table 9.

Table 9. Indirect Effect and Total Effect Test Results

Effect	β	SE bootstrap	t	p	CI 2.5%	CI 97.5%
X → M1 → Y	0.263	0.047	5.574	<0.001	0.181	0.366
X → M2 → Y	0.156	0.043	3.579	<0.001	0.076	0.247
Total indirect effects	0.419	0.055	7.583	<0.001	0.319	0.537
Total effect X → Y	0.675	0.054	12.583	<0.001	0.562	0.773

One such mechanism is data-driven governance. The estimation results show that the indirect effect of digital accountability on fiscal transparency through data-driven governance reaches β = 0.263, with a 95% confidence interval of [0.181, 0.366]. Since the interval does not include zero, the estimation results support the second hypothesis (H2). These findings indicate that integrated, consistent, and verifiable data management has the potential to strengthen the relationship between digital accountability and fiscal openness. Conceptually, digital systems provide a record-keeping and reporting infrastructure, while data-driven governance ensures that the information generated can be used consistently in budget monitoring, expenditure evaluation, and financial reporting. This explanation is in line with Agostino et al. (2022), who place information quality and data processing processes as important aspects of public sector accountability. Han et al. (2025) also examined the relationship between public data access and fiscal transparency. Thus, the findings of this study place data-driven governance as an important mechanism that needs to be considered in the development of a digital governance accounting system.

In addition to data-driven governance, the use of artificial intelligence (AI) also shows a positive indirect effect on fiscal transparency through digital accountability, with a coefficient of β = 0.156 and a 95% confidence interval of [0.076, 0.247]. These results support the third hypothesis (H3) in the estimates used. The use of AI has the potential to help governments classify transactions, identify expenditure anomalies, support risk analysis, and accelerate the processing of financial information. However, these benefits depend on the quality of data, employee competence, and oversight mechanisms for system output. Zuiderwijk et al. (2021) explain that the application of AI in public governance offers opportunities as well as challenges that require further empirical study. Meanwhile, Busuioc (2021) emphasized the importance of accountability mechanisms to ensure that decisions involving algorithms remain scrutinized and accountable. In the context of this study, AI is therefore more appropriately understood as a supporting tool for fiscal transparency, rather than as a substitute for human responsibility in the management of public finances.

A comparison of the two mediation pathways showed that the indirect effect coefficient through data-driven governance (β = 0.263) was greater than through AI (β = 0.156). The pattern suggests that, in this model's estimation, data-driven governance has a relatively greater mediation contribution. One conceptual explanation is that data consistency, integration, and traceability are fundamental needs for fiscal transparency, while AI leverages the data to generate additional analysis. Thus, AI's analytical capabilities may not necessarily result in better openness if the data used is inaccurate or the results of the analysis cannot be explained. However, these coefficient differences are not enough to conclude that data-driven governance is universally more effective than

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AI. This study did not directly test the differences between the two indirect effects, so additional statistical testing is needed before concluding that the mediating power of the two differs significantly.

3.5. Integrated Interpretation, Implications, and Limitations

The results of this study also need to be understood by considering methodological limitations. The use of purposive sampling with a target of 100 employees in the fields of accounting, finance, audit, and information technology in local government agencies in South Sumatra Province limits the generalization of findings to other regions or types of agencies. In addition, data collection through questionnaires has the potential to cause perception bias and common method bias, while the cross-sectional design cannot ensure the sequence of cause and effect between constructs. Further research is suggested to expand the number and scope of respondents based on statistical power analysis, combining questionnaires with objective data such as timeliness of budget publications, completeness of financial statements, accessibility of fiscal portals, and documentation of AI use, and considering longitudinal designs. Advanced testing can also include data quality, employee digital competence, internal control, and human supervision as additional variables to explain conditions that strengthen or limit the benefits of digital technology. In mediation analysis, the uncertainty of the estimate needs to be taken into account through appropriate inferential procedures, as emphasized by Sarstedt and Moisescu (2024).

Overall, the pattern of estimated results supports the conceptual framework that digital public sector accountability is related to fiscal transparency both through direct influence and through data-driven governance mechanisms and the use of AI. These findings underscore the importance of developing a digital transformation that is not only oriented towards the application of technology, but also on data quality, system integration, information traceability, and transparency of accountability. The practical implication is that local governments need to develop integrated financial information systems, strengthen data management standards, and ensure the use of AI accompanied by adequate oversight and audit mechanisms.

4. Conclusion

This study examined the influence of digital public-sector accountability on fiscal transparency through data-driven governance and artificial intelligence (AI) in local government agencies in South Sumatra Province. The results support all three hypotheses. Digital accountability had a positive and significant direct effect on fiscal transparency ($\beta = 0.256$; $p < 0.001$), supporting H1. The indirect effects through data-driven governance ($\beta = 0.263$; $p < 0.001$; 95% CI [0.181, 0.366]) and AI utilization ($\beta = 0.156$; $p < 0.001$; 95% CI [0.076, 0.247]) were also significant, supporting H2 and H3, respectively. The model explained 68.5% of the variance in fiscal transparency ($R^2 = 0.685$). These findings contribute to public-sector accounting research by demonstrating the complementary mediating roles of data-driven governance and AI in the relationship between digital accountability and fiscal transparency. Practically, local governments should prioritize integrated financial information systems, reliable data management, traceable reporting, and responsible AI utilization supported by human oversight. However, the cross-sectional design and purposive sampling limit causal interpretation and generalizability beyond the sampled agencies. Future research should include broader samples, longitudinal designs, and objective fiscal transparency indicators to validate and extend these findings.

Reference

1. Agostino, D., Saliterer, I., & Steccolini, I. (2022). Digitalization, accounting and accountability: A literature review and reflections on future research in public services. Financial Accountability & Management, 38(2), 152–176. https://doi.org/10.1111/faam.12301
2. Arodhiskara, Y., Jumriani, J., Tarawiru, Y., Ladung, F., & Azizurrohman, M. (2025). Assessing the interaction of transparency and digital infrastructure on provincial budget performance in Indonesia. Jurnal Ekonomi & Studi Pembangunan, 26(2), 226–239. https://doi.org/10.18196/jesp.v26i2.28681
3. Badewin, Elizabeth, R., Rusmardiana, A., Rely, G., & Judijanto, L. (2025). Accountability and transparency in local government financial reporting: An empirical study in Indonesia. Jurnal Ilmiah Akuntansi Kesatuan, 13(4), 831–842. https://doi.org/10.37641/jiakes.v13i4.3642
4. Busuioc, M. (2021). Accountable artificial intelligence: Holding algorithms to account. Public Administration Review, 81(5), 825–836. https://doi.org/10.1111/puar.13293
5. De la Cruz, M., Tan, E., Muñoz, P., & Casas, C. (2025). Unlocking the value of data governance in developing countries: A framework for public administration. The Electronic Journal of Information Systems in Developing Countries, 91(6), Article e70043. https://doi.org/10.1002/isd2.70043
6. Guenther, P., Guenther, M., Ringle, C. M., Zaefarian, G., & Cartwright, S. (2023). Improving PLS-SEM use for business marketing research. Industrial Marketing Management, 111, 127–142. https://doi.org/10.1016/j.indmarman.2023.03.010

DOI: https://doi.org/10.69693/ijmst.v4i3.14476
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7. Hair, J., & Alamer, A. (2022). Partial least squares structural equation modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. Research Methods in Applied Linguistics, 1(3), Article 100027. https://doi.org/10.1016/j.rmal.2022.100027
8. Han, N., Liu, P., Zhong, F., & Zhao, D. (2025). Does public data access improve fiscal transparency? On a quasi-natural experiment from government data platform access. Socio-Economic Planning Sciences, 98, Article 102184. https://doi.org/10.1016/j.seps.2025.102184
9. International Budget Partnership. (2025). Open budget survey 2025: Indonesia. https://internationalbudget.org/open-budget-survey/country-results/2025/indonesia
10. Jhantasana, C. (2023). Should a rule of thumb be used to calculate PLS-SEM sample size. Asia Social Issues, 16(5), Article e254658. https://doi.org/10.48048/asi.2023.254658
11. Octavio, M. F. R., & Urumsah, D. (2024). Exploring factors influencing digital transparency in local governments: Practices in Indonesia. Jurnal Dinamika Akuntansi dan Bisnis, 11(2), 279–296. https://doi.org/10.24815/jdab.v11i2.39361
12. Pribadi, U., Iqbal, M., Ibrahim, M. A., Juhari, & Ahdarrijal, Y. (2024). Nexus of public organization, transparency, and accountability in Indonesia's digital governance. Journal of Public Affairs, 24(3), Article e2940. https://doi.org/10.1002/pa.2940
13. Putra, D. M., & Sulistyowati, W. A. (2021). Measuring impact of the accrual accounting implementation on fiscal transparency quality: A mixed methods study in Indonesia. Journal of Accounting and Investment, 22(3), 460–481. https://doi.org/10.18196/jai.v22i3.11441
14. Sarstedt, M., & Moisescu, O.-I. (2024). Quantifying uncertainty in PLS-SEM-based mediation analyses. Journal of Marketing Analytics, 12, 87–96. https://doi.org/10.1057/s41270-023-00231-9
15. Wang, Y. A., & Rhemtulla, M. (2021). Power analysis for parameter estimation in structural equation modeling: A discussion and tutorial. Advances in Methods and Practices in Psychological Science, 4(1). https://doi.org/10.1177/2515245920918253
16. Wirtz, B. W., Langer, P. F., & Fenner, C. (2021). Artificial intelligence in the public sector—A research agenda. International Journal of Public Administration, 44(13), 1103–1128. https://doi.org/10.1080/01900692.2021.1947319
17. Zuiderwijk, A., Chen, Y.-C., & Salem, F. (2021). Implications of the use of artificial intelligence in public governance: A systematic literature review and a research agenda. Government Information Quarterly, 38(3), Article 101577. https://doi.org/10.1016/j.giq.2021.101577

DOI: https://doi.org/10.69693/ijmst.v4i3.14476
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