NCAF PROCEEDING OF NATIONAL CONFERENCE ON ACCOUNTING & FINANCE

Volume 8, 2026, PP: 34-54

Effects of local government size, leader profile, and community quality on SDG indicators through WSD in Indonesian districts and municipalities

Redha Purnama*, Heru Fahlevi, Darwanis

Faculty of Economics and Business, Syiah Kuala University, Banda Aceh, Indonesia
*Corresponding Email addresses: redhapurna@mhs.usk.ac.id

Abstrak

This study aims to analyze the influence of fiscal capacity, regional head profile, and community quality on public information disclosure through local government websites (WSD) and its implications for achieving the Sustainable Development Goals (SDGs) indicators. The research employed a quantitative approach using purposive sampling and Partial Least Squares–Structural Equation Modeling (PLS-SEM) analysis. The results reveal that fiscal capacity, regional head profile, and community quality contribute weakly to very weakly to improving the quality of WSD. The R-square values indicate that the variation in WSD can be explained by only 15% (low category), while SDGs can be explained by 51% (moderate–substantial category). Nevertheless, community quality shows a strong influence on the achievement of SDGs, suggesting that the increasingly critical capacity of society has not been fully matched by the optimization of WSD as an instrument of substantive transparency. Therefore, the role of WSD as a medium of legitimacy and accountability still needs to be strengthened to more effectively and participatively support the achievement of SDGs.

Keywords: Fiscal Capacity, Community Quality, Regional Head Profile, Legitimacy, Sustainable Development Goals, Local Government Website.

INTRODUCTION

Since the adoption of Transforming Our World: The 2030 Agenda for Sustainable Development on 25–27 September 2015 at the UN Headquarters in New York—which consists of 17 goals and 169 SDG targets aimed at addressing global challenges for a better and more sustainable life (Ikizer, 2021; United Nations, 2025)—the agenda has been in effect for ten years as of 2025. At the national level, the Government of Indonesia followed up on this commitment through Presidential Regulation No. 59 of 2017, which mandates the formulation of the National Action Plan (RAN) and Regional Action Plans (RAD) for the SDGs, requiring each district/municipality to prepare its RAD in accordance with local conditions (Kementrian PPN/Bappenas, 2020). In this context, it is essential to evaluate the seriousness of local governments in implementing the mandate, as well as their role as intermediaries in encouraging community participation in achieving the 2030 SDG indicators (Guerrero-Gómez et al., 2021; Ulyati et al., 2024). Despite the global commitment, Indonesia ranks 77th out of 193 countries in the 2025 SDG Index (Sustainable Development Report, 2025).

However, after a decade of implementing the SDG Agenda since 2015, government commitment—particularly at the local level—has not yet been fully reflected in the achievement of sustainable development indicators. Out of the 17 goals and 169 SDG targets that constitute Indonesia's global commitment, only three official indicators from BAPPENAS have complete and verified data available for all 514 districts/municipalities, namely literacy rate for population aged ≥15 years (4.6.1a), GRDP per capita (8.1.1a), and the open unemployment rate (8.5.2). This limited data availability itself reflects weak information governance and development transparency, even though data availability is a fundamental prerequisite for monitoring the consistency of government commitment to implementing the global agenda.

Evaluation of these three indicators reveals a paradox of development in Indonesia. In the 2024 ASEAN context, Indonesia faces significant challenges: a literacy rate of 96%, ranking third (World Population Review, 2024), yet misaligned with educational quality and workforce readiness; a GDP per capita of only USD 4.96, ranking fifth (International Monetary Fund, 2024); and an open unemployment rate of 4.9%, the highest in the region (International Monetary Fund, 2025). These conditions indicate disparities between literacy, economic growth, and labor absorption, suggesting that the implementation of SDG 4 and SDG 8 still faces fundamental obstacles. Furthermore, these conditions imply that weak transparency and limited data availability reflect the suboptimal commitment of local governments to the global agenda. Therefore, research is needed to analyze the extent to which internal characteristics of local governments, leader profiles, community quality, and Website Sustainability Disclosure (WSD) practices influence the achievement of SDG indicators at the local level.

Understanding the influence of local government roles and public participation is also essential, particularly through WSD on official websites as a medium of transparency, communication, and oversight in the digital era (Joseph et al., 2021). This aligns with legitimacy theory, as public trust is key to policy effectiveness, where transparency and accountability in disclosure enhance political legitimacy, strengthen participation, and maintain community trust in government (Arif & Dutta, 2024; Tejedo-Romero & Ferraz Esteves Araujo, 2023). With Indonesia being the 14th-largest country by area and the 4th-most populous in the world, with 284,438,800 people in 2025 (BPS RI, 2025), Rieiro-García et al. (2023) found in Spain that regions with high population density tend to have a greater demand for information disclosure regarding the SDGs.

Although several previous studies have examined factors influencing sustainability disclosure, inconsistencies remain—particularly regarding local government size, leader characteristics, and community quality—showing that these variables have not yet been comprehensively understood in the Indonesian context. Moreover, most studies focus on sustainability disclosure in general, rather than specifically on the contribution of WSD to measurable SDG indicator achievement.

The size of local governments, proxied by the APBD per capita ratio, is assumed to influence the effectiveness of public services through WSD in supporting SDG achievement. However, Ulyati et al. (2024) found that government size in Indonesia (proxied by total revenue) had no effect on WSD. In contrast, García-Sánchez et al. (2013) in Spain and Guerrero-Gómez et al. (2021) showed that population size positively influences sustainability disclosure, while (León-Silva et al., 2022) in Latin America confirmed that budget capacity and population size are positively associated with such disclosure. Ulyati et al. (2024) recommend further research using alternative proxies, such as total revenue per population, as well as differentiating between district and municipal governments, which may influence the scope and quality of sustainability disclosure.

Moreover, local government leader profiles—including age, gender, and educational background—are assumed to affect government effectiveness in achieving SDG indicators. Leader age influences leadership style: Collevecchio et al. (2024) found that younger leaders are more adaptive and innovative, positively impacting sustainability practices, whereas older leaders provide stability. Rieiro-García et al. (2023) further confirmed that mayoral gender and council diversity contribute positively to sustainability disclosure in Spanish local governments. Meanwhile, Guerrero-Gómez et al. (2021) showed that educational attainment has a positive effect on sustainability information transparency in SDG implementation. In public policy contexts, leader profiles reflect the capacity that influences regional development outcomes (Abang'a & Tauringana, 2024). Equally important is how local governments act as intermediaries facilitating partnerships with various stakeholders in SDG implementation at the local level (Guerrero-Gómez et al., 2021).

Community quality, measured through the Human Development Index (HDI) and the Gross Enrollment Ratio for Upper Secondary Education (GER-MA), is assumed to influence sustainability disclosure in achieving SDG indicators. HDI is positively correlated with sustainability disclosure, reflecting human well-being that drives improved sustainability (Ulyati et al., 2024). Additionally, community education levels have a positive influence on sustainability disclosure (Guerrero-Gómez et al., 2021). Improvements in HDI and education levels contribute to forming a high-quality society,

which in turn reinforces governmental legitimacy, as educated and prosperous communities tend to be more trusting, supportive, and actively involved in monitoring and implementing public policies (Fuchs et al., 2020).

Based on these conditions, this study offers novelty by integrating local government size, leader profile, community quality, and population density simultaneously into a single model that examines the contribution of Website Sustainability Disclosure (WSD) to the achievement of measurable and official SDG indicators (Goals 4.6.1a, 8.1.1a, and 8.5.2). This comprehensive approach has been rarely explored in previous studies, particularly in Indonesia, thereby providing new empirical insights into how local government and community characteristics influence the effectiveness of SDG implementation through digital transparency mechanisms. These achievements are not solely the responsibility of the central government but depend greatly on the commitment of local governments that localize the global agenda according to the characteristics and capacity of each region (Rohdewohld, 2022; Sarkar et al., 2022). This requires strong commitment through resource utilization, political support, and robust collaboration and oversight to address obstacles in achieving the globally agreed agenda (Morales-Casetti et al., 2024).

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENTINTRODUCTION

Understanding the influence of local government size, regional head profile, and community quality on the achievement of SDG indicators with WSD as an intervening variable and population density as a control requires recognizing that densely populated regions tend to have more intensive resource and information management. The sustainability of governance is essential to maintaining public trust in political systems through transparency and accountability, both of which are reinforced by the legitimacy of elected officials (Latif et al., 2023; Brinkmann, 2024; Tejedo-Romero & Araujo, 2023). Although sustainability disclosure in the public sector remains limited in formal practice, there is a growing demand for governments to be more transparent in responding to sustainability issues. In this context, sustainability disclosure through official local government websites, measured using WSD, enables the public to access information regarding governmental efforts in supporting the achievement of SDG indicators at the local level (León-Silva et al., 2022; Ulyati et al., 2024).

Local government size, wsd, and SDG indicators

The size of a local government reflects its operational scale and fiscal capacity in providing public services, which are influenced by budget magnitude and population size as the basis for determining effectiveness and accountability in delivering public services that enhance local community welfare (Bisogno et al., 2023; Dias, 2020; Guerrero-Gómez et al., 2021). Sustainability disclosure through performance reporting and sound governance demonstrates transparency and accountability that strengthen government legitimacy in building public trust particularly when service delivery aligns with community needs as a medium for information, communication, and oversight in the digital era (Alcaraz-Quiles et al., 2019; Joseph et al., 2021). Consistent with this, prior studies by García-Sánchez et al. (2013), Guerrero-Gómez et al. (2021), and León-Silva et al. (2022) revealed that both population size and budgetary capacity positively influence sustainability information disclosure. Furthermore, Bisogno et al. (2023) emphasized that sound financial conditions positively affect the implementation of sustainable development programs. However, Ulyati et al. (2024) found that local government size in Indonesia, proxied by total revenue, does not significantly influence WSD. The authors also recommended further research using alternative proxies such as the ratio of total revenue to population size and accounting for differences between regency and municipal governments, which may affect the extent and quality of sustainability disclosure (Ulyati et al., 2024). Based on the above discussion, the following hypotheses are proposed:

H_1: Local government size is assumed to influence WSD in regency and municipal governments in Indonesia.
H_7: Local government size affects the achievement of SDG indicators in regency and municipal governments in Indonesia.

Age of regional heads, wsd, and SDG indicators

The age of regional heads reflects their leadership experience and maturity, where younger leaders tend to be more open to innovation and technology, while older leaders provide stability and wisdom in decision-making (Liu et al., 2021; Ramírez-Herrero et al., 2024). The utilization of digital technology by local governments plays a crucial role in accelerating bureaucratic modernization, enhancing public service efficiency, and strengthening sustainable governance key factors in building public trust and reinforcing local government legitimacy (Latupeirissa et al., 2024; Wang & Guo, 2024; Zhu, 2011). Research examining the effect of leaders' age in the governmental sector remains limited. Abang'a & Tauringana (2024) and Oware & Awunyo-Vitor (2021) found that the age of board chairs and CEOs negatively influences social and environmental responsibility disclosure. Conversely, Ma et al. (2019) reported a positive association between top managers' age and environmental information disclosure. Similarly, Collevecchio et al. (2024) found that younger boards exert a stronger positive influence on sustainability practices than older boards, while EmadEldeen et al. (2025) revealed that age diversity within boards positively affects sustainable governance. Based on the above discussion, the following hypotheses are proposed:

H_2: The age of regional heads is assumed to influence WSD in regency and municipal governments in Indonesia.
H_8: The age of regional heads is assumed to influence the achievement of SDG indicators in regency and municipal governments in Indonesia.

Gender of regional heads, wsd, and SDG indicators

Gender plays a crucial role in shaping diverse perspectives and leadership styles within local governance. Male leaders tend to emphasize efficiency and swift decision-making with a more direct and structured approach, while female leaders are generally more inclusive, collaborative, and attentive to the social impacts of policy decisions, as well as more open to feedback from various stakeholders (Martinez-Leon et al., 2020; Nazrul, 2024). The combination of these leadership traits contributes to fairer, more responsive, and sustainable governance through transparency and accountability that reinforce public legitimacy (Gustiah & Nawangsari, 2023; Schwarz et al., 2020). Previous studies by (Latif et al. (2023), Rieiro-García et al. (2023) and Zampone et al. (2024) found that gender has a positive influence on sustainability information disclosure. Furthermore, other research has shown that gender diversity in leadership positively affects SDG achievement and the effectiveness of sustainable development policies (Amalikhah & Haryono, 2024; Faugoo, 2024). These findings indicate that balanced gender representation not only enriches the decision-making process but also enhances the quality and intensity of sustainability reporting in the public sector. Based on the above discussion, the following hypotheses are proposed:

H_3: The gender of regional heads is assumed to influence WSD in regency and municipal governments in Indonesia.
H_9: The gender of regional heads is assumed to influence the achievement of SDG indicators in regency and municipal governments in Indonesia.

Educational background of regional heads, wsd, and SDG indicators

The educational background of regional leaders reflects their intellectual and professional capabilities, which influence policy formulation and strategic decision-making (Ji et al., 2023). Regional heads with higher education levels and a clear vision tend to be more effective in implementing good, transparent, and participatory governance (Kurzhals et al., 2020). Higher education also strengthens governmental legitimacy, as it reflects adaptive and accountable capacity in addressing development challenges (Crossley et al., 2021; Gezgin et al., 2024). Previous studies by Guerrero-Gómez et al. (2021) found that the level of education has a positive effect on the transparency of sustainability information. Similarly, Santoso et al. (2025) demonstrated that educational background positively influences SDG disclosure, reaffirming that educational capacity plays a vital role in shaping sustainability orientation both in corporate and local government contexts. These findings suggest that the educational

attainment of regional leaders contributes significantly to building awareness of the importance of sustainability reporting. Based on the above discussion, the following hypotheses are proposed:

H_4: The educational background of regional heads is assumed to influence WSD in regency and municipal governments in Indonesia.
H_{10}: The educational background of regional heads is assumed to influence the achievement of SDG indicators in regency and municipal governments in Indonesia.

Quality of society, wsd, and SDG indicators
The quality of society is a key factor in supporting sustainable development and social well-being (Chaves-Avila & Gallego-Bono, 2020). Educated and healthy citizens are more capable of participating in democratic processes and promoting governmental transparency (Brymer et al., 2020; Igalla et al., 2020). Improvements in HDI and education levels strengthen government legitimacy, as a well-informed and empowered society tends to exhibit higher levels of trust, support, and active engagement in public policy oversight (Fuchs et al., 2020; Ulyati et al., 2024). Empirical studies also demonstrate that HDI and educational attainment positively influence the disclosure of sustainability information on government websites (Guerrero-Gómez et al., 2021; Ulyati et al., 2024). Similarly, Morales-Casetti et al. (2024) and Salleh et al. (2023) affirm that societal quality and active participation in education contribute positively to the achievement of the SDGs, underscoring that enhancing human quality is fundamental to legitimacy and the success of sustainable development. These findings suggest that the quality of society, as reflected in HDI and educational attainment, plays a pivotal role in promoting local government transparency and accountability through sustainability disclosure. Based on the above explanation, the following hypotheses are formulated:

H_5: The quality of society is presumed to influence WSD in district and municipal governments in Indonesia.
H_{11}: The quality of society affects the achievement of SDGs indicators in district and municipal governments in Indonesia.

WSD and SDG indicators
WSD based disclosure plays a strategic role in strengthening transparency, accountability, and the legitimacy of local governments by openly communicating their economic, social, and environmental impacts to build public trust and meet stakeholder expectations (León-Silva et al., 2022; Ulyati et al., 2024). Government transparency and a democratic socio-political environment mutually reinforce each other in advancing the achievement of the SDGs, as both foster public participations, enhance accountability, and ensure that policies are more responsive to societal needs (Brymer et al., 2020; Morales-Casetti et al., 2024). Empirical studies indicate that WSD is positively correlated with the attainment of SDG indicators, serving not only as a medium of transparency but also as a strategic instrument for promoting sustainable governance at the local government level (Guerrero-Gómez et al., 2021; León-Silva et al., 2022; Ulyati et al., 2024). Based on the above discussion, the following hypothesis is proposed:

H_6: WSD is presumed to influence the achievement of SDG indicators in district and municipal governments in Indonesia.

Local government size, regional head profile, community quality, WSD, and SDG indicators
As previously explained and supported by prior research findings, the size of local governments (measured by fiscal capacity per capita), the profile of regional leaders including age, gender, and educational background and community quality (measured by HDI and GER-USS) influence information disclosure and the achievement of SDG indicators. This study focuses on three SDG indicators: (1) SDG 4 – Quality Education (indicator 4.6.1a: percentage of the population aged ≥15 years who are literate); (2) SDG 8 – Decent Work and Economic Growth (indicators 8.1.1a: GRDP per capita and 8.5.2*: open unemployment rate). These indicators were selected due to their

completeness, consistency, and regional relevance. Moreover, population density is employed as a control variable, as it may affect both information disclosure and SDG achievement (Rieiro-García et al., 2023). Further investigation is required to examine the mediating role of WSD, which is presumed to strengthen the relationships between local government size, leader profile, and community quality on the achievement of SDG 4 and SDG 8. Based on the above rationale, the following hypotheses are proposed:

H_{12}: Local government size is presumed to influence the achievement of SDG indicators mediated by WSD in district and municipal governments in Indonesia.
H_{13}: Regional leader age is presumed to influence the achievement of SDG indicators mediated by WSD in district and municipal governments in Indonesia.
H_{14}: Regional leader gender is presumed to influence the achievement of SDG indicators mediated by WSD in district and municipal governments in Indonesia.
H_{15}: Regional leader educational attainment is presumed to influence the achievement of SDG indicators mediated by WSD in district and municipal governments in Indonesia.
H_{16}: Community quality is presumed to influence the achievement of SDG indicators mediated by WSD in district and municipal governments in Indonesia.

METHOD

The study population includes all district and city governments, with samples determined purposively, namely definitive regional heads elected through democratic processes. *Acting* heads ***(Pj)*** were excluded from the sample, as their temporary tenure is considered insufficient to objectively reflect policy direction and administrative performance. The acceptance of hypotheses is based solely on the direction of the relationship (positive or negative) without considering statistical significance (Etikan et al., 2016). Table 1 presents the distribution of regional head status and characteristics used as the basis for determining the research samples.

Table 1. Description of population and sample characteristics

Description	Districts	Cities	Provinces	Total
Grand Total	416	98	38	514
Non-Acting Heads (*Non-PJ*)	220	31	37	251
Interim Heads (*PLT*)	11	4	37	15
Total Non-*PJ* and *PLT*	231	35	37	266
Acting Heads (*PJ*)	191	57	38	248
Incomplete Data	34	6	37	40
Final Sample Used	192	34	35	**226**
Non-Acting Heads (Non-*PJ*)	184	31	35	215
Interim Heads (*PLT*)	8	3	35	11

Source: Author's Processed Data (2025).

Based on Table 1, the study population comprises 514 local governments (regencies and municipalities) across 38 provinces in Indonesia, consisting of 416 regencies and 98 municipalities (BPS RI, 2025). Of this total, 266 regions are led by definitive (non-acting) heads of local government, which serve as the initial sample, while 248 regions are under acting heads. After adjusting for data completeness, 226 final samples were obtained, consisting of 192 regencies and 34 municipalities across 35 provinces. Three provinces Aceh, Maluku, and Central Papua were excluded due to data limitations.

This study employs secondary data obtained from BPS, the Ministry of Finance, and official local government websites. The WSD index was measured using a disclosure framework adapted from León-Silva et al. (2022), comprising four blocks and 85 items (general, economic, social, and environmental information). Several items were modified or removed to ensure contextual relevance to local governments in Indonesia. The disclosure assessment was conducted using a scoring method: 0 (not available), 1 (partially disclosed), and 2 (complete and up-to-date), to evaluate transparency,

legitimacy, and the commitment of local governments toward the sustainability agenda. Table 2 presents the operational definitions of each variable used in this study.

Table 2. Definition and operationalization of variables

Variable	Indicator Definition	Data Source	Scale
Exogenous Variables			
X1 = Local Government Size (LGS)			
• Total revenue budget • Population Size	Regional Revenue and Expenditure Budget (APBD) per Capita 2024	Ministry of Finance/ BPS	Ratio
Regional Head Profile			
X2 = Age of Regional Head (ARH)			
• Age	Age of the Regional Head in 2024	Reports and official websites	Ratio
X3 = Gender of Regional Head (GRH)			
• Gender	Gender of the Regional Head (1 = male, 2 = female)	Reports and official websites	Nominal
X4 = Highest Education of Regional Head (HERH)			
• Highest Education	Highest Education of the Regional Head (1 = Senior High School/Bachelor's, 2 = Master's/Doctorate)	Reports and official websites	Nominal
X5 = Community Quality (CQ)			
• Human Development Index	HDI in 2024	BPS	Ratio
• Percentage of the Population Continuing Education	GER-USS in 2024	BPS	Ratio
Intervening Variable			
Z = Website Sustainability Disclosure (WSD)			
• **WSD**	Content analysis results of the website (0, 1, 2) for the period of July–August 2024	Results of content analysis of official local government websites	Ratio
Control Variable			
C = Population Density (PD)			
• Population Density	Population Density Per KM²	BPS	Ratio
Endogenous Variable			
Y = Achievement of SDG Indicators			
• *Goal 4* – Quality Education	4.6.1(a): Literacy rate of population aged ≥15 years.	BPS	Ratio
• *Goal 8* – Decent Work and Economic Growth	8.1.1(a): GDP per capita (in the context of local governments, GRDP per capita data is used).	BPS	Ratio
	8.5.2*: Open unemployment rate.	BPS	Ratio

Source: Author's Processed Data (2025).

Goodness of fit model test

Data analysis was conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach with WarpPLS version 8.0. The assessment began with the outer model to evaluate convergent validity (loading factor ≥ 0.70; AVE ≥ 0.50), discriminant validity (Fornell–Larcker Criterion), and reliability (Composite Reliability and Cronbach's Alpha ≥ 0.70) (Hair et al., 2021). Given that the data were secondary, indicators with lower loading values were retained based on policy relevance considerations. Model adequacy was examined using fit and quality indices (APC, ARS, AARS, AVIF/AFVIF, GoF, SPR, RSCR, SSR, and NLBCDR), ensuring that the model was

unbiased and suitable for further analysis (Kock, 2024). Subsequently, the **inner model** was analyzed to test both direct and indirect effects through the coefficients of R^2, F^2, and Q^2**.** The R^2 and F^2 values were categorized as weak (≥0.02), moderate (≥0.13), or substantial (≥0.26), while $Q^2 > 0$ indicated predictive relevance, classified as small (0.02), medium (0.15), or large (0.35) (Chin, 2015; Cohen, 2013; Hair et al., 2021).

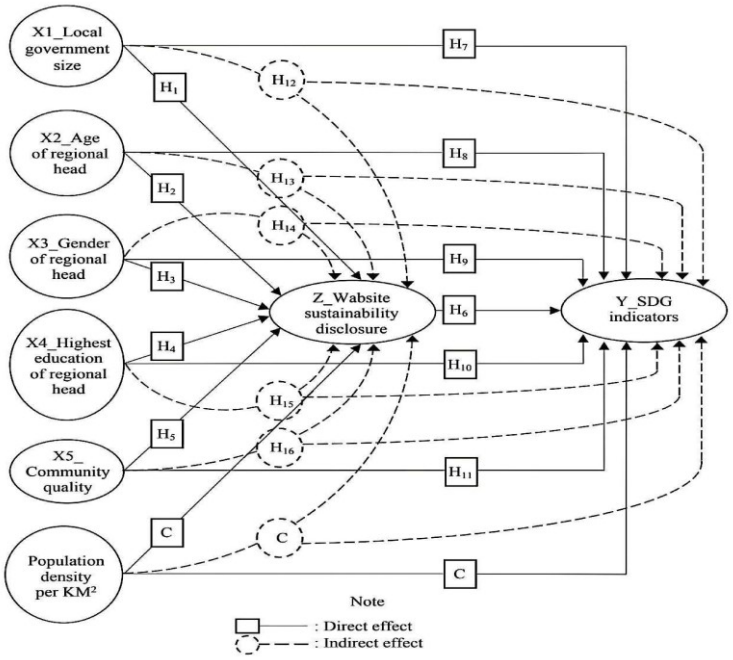

Figure 1. Conceptual framework

RESULTS AND DISCUSSION

Table 3 reveals significant disparities across districts and cities. Fiscal capacity varies widely, ranging from IDR 2.25 million (Sumenep Regency) to IDR 2.51 million (Thousand Islands Regency), while the age of regional heads spans 30 to 74 years, predominantly male, with most holding postgraduate degrees (Master's or Doctorate). Community quality also exhibits considerable variation, with HDI ranging from 49.69% to 85.24% and the upper secondary gross enrollment rate (GER-USS) from 40.24% to 125.04%, while population density ranges from 1.4 to 11,302 inhabitants/km². Nationally, transparency levels measured through WSD are low (1.81%–60.36%), likely due to weak political commitment and uneven digital infrastructure, corroborated by numerous government websites that were non-functional or inconsistent. SDG indicators demonstrate pronounced inequalities: literacy rates between 72.81% and 99.98%, GRDP per capita from IDR 1.51 million to IDR 574.98 million, and unemployment rates from 0.31% to 9.71%, highlighting structural fiscal, social, and economic gaps that influence regional capacity for achieving sustainable development.

Table 3. Descriptive statistical analysis

Variable/Indicator		N	Minimum	Maximum	Mean	Std. Deviation
LGS	APBD per Capita (Rp)	226	2.249.226	2.514.713,458	17.269,043	166.963,006
ARH		226	30	74	52,74	9,21
GRH		226	24 (Pr)	202 (Lk)	10,62 Pr; 89,38 Lk	0,30
HERH		226	94 (SMA-S1)	132 (S2-S3)	41,89 (SMA-S1); 58,49 (S2-S3)	0,03

Variable/Indicator		N	Minimum	Maximum	Mean	Std. Deviation
CQ	HDI	226	49,69	85,24	73,37	5,11
	GER-USS	226	40,24	125,04	89,70	10,72
PD per-KM²		226	1,40	11.302	874,93	1.893,89
WSD		226	1,81	60,36	27,28	12,47
SDGs	4.6.1.(a) Literacy rate of population aged ≥15 years.	226	72,81	99,98	96,28	3,74
	8.1.1.(a) GDP per capita (in the context of local governments, GRDP per capita data is used).	226	1,508	574.984	70.275	74.414,871
	8.5.2* Open unemployment rate.	226	0,31	9,71	4,02	1,768

Source: Output from WarpPLS version 8.0 (2025).

Measurement Analysis (Outer Model)

Prior to hypothesis testing, the analysis begins with the assessment of convergent validity, discriminant validity, and reliability. Subsequently, model fit and quality indices are evaluated to determine the overall adequacy of the model.

Table 4. Outer Model Tabulation

Indicator	Construct	Convergent Validity		Discriminant Validity (*Fornell-Larcker Criterion*)	Reliability	
		Outer Loading (≥0.60)	Avg. var. extrac (≥0,5)		*Composite Reliability* (≥0,7)	*Cronbach's Alpha* (≥0,6)
Ln_X1	**X1_LGS**	1,000	1,000	1,000	1,000	1,000
Ln_X2	**X2_ARH**	1,000	1,000	1,000	1,000	1,000
X3	**X2_GRH**	1,000	1,000	1,000	1,000	1,000
X4	**X2_ HERH**	1,000	1,000	1,000	1,000	1,000
Ln_X5_1	**X3_CQ**	0,867	0,751	0,867	0,858	0,668
Ln_X5_2	**X3_CQ**	0,867				
Ln_C	**C_PD**	1,000	1,000	1,000	1,000	1,000
Ln_Z	**Z_WSD**	1,000	1,000	1,000	1,000	1,000
Ln_Y1	**Y_SDGs**	0,966	0,752	0,867	0,898	0,819
Ln_Y2	**Y_SDGs**	0.620				
Y3	**Y_SDGs**	0,969				

Model Fit Indices	Result	Threshold
Average Path Coefficient **(APC)**	0.180, p=0.001	P < 0,05
Average R-squared **(ARS)**	0.331, p<0.001	P < 0,05
Average Adjusted R-squared **(AARS)**	0.311, p<0.001	P < 0,05
Average block **VIF (AVIF)**	12.090	≤ 5, idealnya ≤ 3,3
Average full collinearity **VIF (AFVIF)**	18.919	≤ 5, idealnya ≤ 3,3
Tenenhaus GoF **(GoF)**	0.557	Kecil: ≥ 0,1; Sedang: ≥ 0,25; Besar: ≥ 0,36
Simpson's Paradox Ratio **(SPR)**	0.923	≥ 0,7, ideal = 1
R-*squared Contribution Ratio* **(RSCR)**	1,000	≥ 0,9, ideal = 1
Statistical Suppression Ratio **(SSR)**	0.615	≥ 0,7
Nonlinear Bivariate Causality Direction Ratio	0.846	≥ 0,7

Source: Output from WarpPLS version 8.0 (2025).

Based on Table 4, the measurement model assessment indicates that all indicators meet the criteria for convergent validity (outer loading ≥ 0.60; AVE ≥ 0.50) as well as discriminant validity according to the Fornell-Larcker criterion. Reliability tests are also adequate, with composite reliability values ≥ 0.70 and Cronbach's Alpha ≥ 0.60. Model fit indices are significant (APC = 0.180, p = 0.001; ARS = 0.331, p < 0.001; AARS = 0.311, p < 0.001) with a large GoF value (0.557), indicating good overall model fit to the data. Although AVIF (12.090) and AFVIF (18.919) exceed the recommended thresholds, suggesting potential multicollinearity, this is considered tolerable due to the use of secondary data and purposive sampling. Consequently, analysis can proceed to the inner model stage.

Structural Analysis (Inner Model)

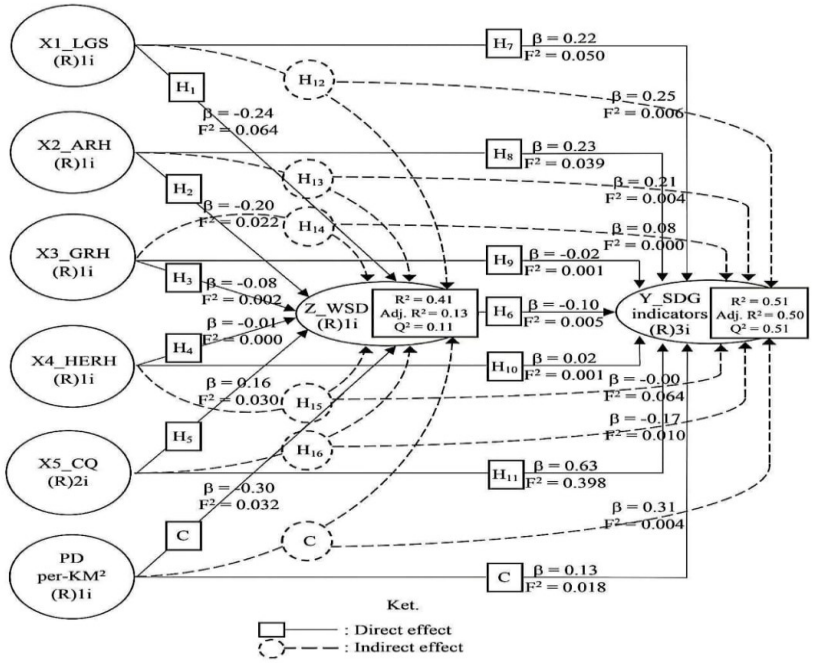

Figure 2. Parth coefficient
Source: Output from WarpPLS version 8.0 (2025)

Discussion

Local government size, WSD, and SDG indicators

Based on the results of the direct effect hypothesis test presented in Figure 2, the size of local government, proxied by fiscal capacity per capita, has a negative effect on the level of WSD (β = -0.24; F^2 = 0.064), indicating that as per capita budget increases, the quality of sustainability information disclosure tends to decrease, albeit with a small effect. This finding aligns with Ulyati et al. (2024), who reported that government size does not significantly affect WSD in Indonesia, yet contrasts with García-Sánchez et al. (2013), Guerrero-Gómez et al. (2021) and León-Silva et al. (2022), who found a positive relationship between fiscal size and population with sustainability disclosure. Following Ulyati et al. (2024) recommendation to employ alternative proxies, this study used the APBD-per-capita ratio and obtained similar results, namely that a larger local government size corresponds with lower levels of sustainability disclosure. Nevertheless, fiscal capacity demonstrates a positive effect on the achievement of SDG indicators (β = 0.22; F^2 = 0.050), reaffirming that financial strength remains a critical enabler of sustainable development implementation, consistent with Bisogno et al. (2023), who emphasize the role of financial stability in successful development agendas. This phenomenon highlights a gap between financial capacity and digital transparency practices, wherein regions with strong fiscal resources have not fully integrated website-based accountability as a mechanism for legitimacy and public trust enhancement. Transparency through WSD, however, remains a vital

instrument to bolster local government credibility, ensure fiscal accountability, and maintain societal support for sustainable development initiatives.

Age of regional heads, WSD, and SDG indicators

The results indicate that the age of regional heads has a negative effect on the level of WSD (β = -0.20; F^2 = 0.022), suggesting that older leaders tend to disclose less sustainability information on official government websites. This finding is consistent with Abang'a & Tauringana (2024) and Oware & Awunyo-Vitor (2021), which reported that the age of leaders negatively affects social and environmental disclosure due to a more conservative stance toward digital innovation. Conversely, the age of regional heads exhibits a positive effect on the achievement of SDG indicators (β = 0.23; F^2 = 0.039), indicating that greater age maturity supports more stable, long-term-oriented development policies. This result is supported by EmadEldeen et al. (2025), who emphasize that age diversity in leadership strengthens sustainable governance practices. The apparent contradiction suggests that while older regional heads may be less adaptive to digital transparency, they demonstrate greater wisdom in steering sustainable development strategies.

Gender of regional heads, WSD, and SDG indicators

The gender of regional heads exhibits a negative effect on both the level of Website Sustainability Disclosure (WSD) (β = -0.08; F^2 = 0.002) and the achievement of SDG indicators (β = -0.02; F^2 = 0.001), with both effects being extremely weak and statistically insignificant. This finding suggests that gender differences among regional leaders in Indonesia have not yet emerged as a distinguishing factor in digital transparency practices or sustainable development performance. This result contrasts with prior studies by Latif et al. (2023), Rieiro-García et al. (2023) and Zampone et al. (2024), which found a positive relationship between gender and sustainability disclosure. Other studies have also demonstrated that gender diversity in leadership positively influences SDG achievement and the effectiveness of sustainable development policies (Faugoo, 2024; Amalikhah & Haryono, 2024). These divergent findings reflect the still-limited substantive role of female regional leaders in local governance. Although female leadership is often associated with greater transparency and a stronger sustainability orientation, Indonesia's predominantly patriarchal bureaucratic culture continues to constrain the transformative potential of gender representation in fostering more inclusive and sustainable governance practices.

Educational background of regional heads, WSD, and SDG indicators

The educational attainment of regional heads shows a positive directional influence on both WSD (β = 0.01; F^2 = 0.000) and SDG achievement (β = 0.02; F^2 = 0.001), although with very weak effects. This finding aligns with Guerrero-Gómez et al. (2021) and Santoso et al. (2025), who argue that higher education levels among leaders increase their awareness of transparency and sustainable development principles. However, the weakness of this effect suggests that formal education has not yet been fully translated into practical capacity for sustainability-oriented governance, particularly when political experience and bureaucratic culture remain more dominant determinants in local-level decision-making.

Quality of society, WSD, and SDG indicators

Community quality, measured through the HDI and the GER-USS, exerts a positive influence on WSD (β = 0.16; F^2 = 0.030), albeit with a relatively weak effect. This result is consistent with Guerrero-Gómez et al. (2021) and Ulyati et al. (2024), who found that HDI and education levels positively affect sustainability information transparency on government websites. Moreover, community quality demonstrates the strongest and most substantial influence on SDG achievement (β = 0.63; F^2 = 0.398), confirming that improvements in human development are the primary drivers of sustainable development success. Studies by Morales-Casetti et al. (2024) and Salleh et al. (2023) similarly emphasize that higher community quality and active participation in education contribute positively to SDG attainment. Thus, an educated and healthy society is more capable of engaging in democratic

processes and promoting governmental transparency ultimately serving as a cornerstone of legitimacy and the success of sustainable development.

WSD and SDGs indicators

WSD has a negative impact on the achievement of SDG indicators (β = -0.10; F^2 = 0.005), indicating a misalignment between information transparency and the practical implementation of sustainable development at the regional level. This finding suggests that the legitimacy of local governments in realizing sustainable development depends not only on fiscal capacity or leadership profiles but also on their ability to respond to public demands for transparency, accountability, and tangible developmental outcomes. These results contrast with prior studies by Guerrero-Gómez et al. (2021), León-Silva et al. (2022) and Ulyati et al., 2024), which reported a positive relationship between WSD and SDG achievement, highlighting WSD as not merely a transparency mechanism but a strategic instrument for strengthening sustainable governance.

Local government size, regional head profile, community quality, WSD, and SDG indicators

The indirect effects analysis reveals that fiscal capacity has a positive influence on the achievement of SDG indicators through WSD (β = 0.02; F^2 = 0.006), suggesting that local governments' fiscal strength can contribute to SDG attainment, although the effect is very weak. The regional head's age also shows a positive influence on SDGs through WSD (β = 0.02; F^2 = 0.004), indicating that more mature leaders contribute only marginally to sustainable development through enhanced disclosure practices. Gender likewise exerts a positive but negligible effect (β = 0.008; F^2 = 0.000), with no substantive statistical significance. In contrast, the educational attainment of regional heads has a negative effect (β = -0.000; F^2 = 0.000), implying that formal education alone does not necessarily translate into meaningful contributions to SDG achievement through WSD.

An interesting finding appears in the variable of community quality, measured through the HDI and GER-USS, which shows a negative effect (β = -0.017; F^2 = 0.010) on SDGs through WSD. This indicates that when indirect effects are tested, the previously significant positive influence of community quality in the direct effect disappears. This confirms that official local government websites have not functioned as an effective medium of legitimacy between increasingly critical citizens and sustainable development demands. The digital transparency presented remains symbolic and administrative rather than reflecting the substantive accountability expected by the public. Local governments have not yet optimized their official websites as participatory instruments to build trust, strengthen public oversight, and support SDG achievement. This limitation is not caused by a lack of community participation but by insufficient institutional commitment to embedding transparency as the foundation of democratic legitimacy in the post-adoption era of the global SDG agenda.

The R-squared values show that the model explains 15% of the variance in WSD (Adj. R^2 = 0.13; low category) and 51% of the variance in SDGs (Adj. R^2 = 0.50; moderate to substantial category). The F-square results indicate that most paths exhibit small effect sizes, particularly for WSD. The paths UPD → WSD (F^2 = 0.064) and KM → WSD (F^2 = 0.030) show weak effects, while UKD → WSD (F^2 = 0.022), GKD → WSD (F^2 = 0.002), PTKD → WSD (F^2 = 0.000), and WSD → SDGs (F^2 = 0.005) fall within the very small category (below 0.02). Similarly, indirect paths such as UKD → WSD → SDGs (F^2 = 0.050) and UKD → SDGs (F^2 = 0.039) are weak, while GKD → WSD → SDGs (F^2 = 0.001), PTKD → WSD → SDGs (F^2 = 0.001), and KM → WSD → SDGs (F^2 = 0.010) are very small.

These results confirm that fiscal capacity, leadership characteristics, and community quality have yet to significantly enhance WSD quality, indicating that WSD has not yet played an optimal role as an instrument of accountability and transparency. In contrast, the effects on SDGs show greater variability, with the KM → SDGs path exhibiting a large effect (F^2 = 0.365), whereas other paths—UPD → SDGs (F^2 = 0.018), UKD → SDGs (F^2 = 0.016), PTKD → SDGs (F^2 = 0.011), GKD → SDGs (F^2 = 0.000), and WSD → SDGs (F^2 = 0.002)—remain very small. This suggests that community capacity is the most dominant contributor to SDG achievement, although it is not yet supported by an effective system of web-based public information disclosure. The Q-square values

reinforce these findings, showing low predictive relevance for WSD (0.11) and high predictive relevance for SDGs (0.51).

CONCLUSIONS

This study aims to evaluate the influence of local government size, leadership profile, and community quality on the achievement of SDG indicators, with WSD serving as an intervening variable. The research focuses on regency and city governments across Indonesia using purposive sampling, including only definitive regional heads (non-Acting heads/ interim heads). Acting Acting heads were excluded due to their temporary tenure, which is considered insufficient to objectively represent policy direction and performance outcomes.

Based on data collection, processing, testing, and interpretation, several key findings emerged. First, local government size, proxied by fiscal capacity per capita, has a negative effect on WSD but a positive, albeit small, effect on SDG achievement. This suggests that higher fiscal capacity does not necessarily correlate with improved digital transparency, yet it remains important in supporting sustainable development implementation.

Second, the age of the regional head negatively affects WSD but positively affects SDGs, indicating that older leaders tend to be less adaptive to transparency technologies but may exhibit more strategic and long-term development planning.

Third, the gender of the regional head shows a negative but very weak effect on both WSD and SDGs, suggesting that gender differences have not yet become a significant distinguishing factor in governance and regional development practices.

Fourth, the educational attainment of regional heads has a positive but very small effect on WSD and SDGs, indicating that formal education does not automatically translate into leadership capacity oriented toward sustainability.

Fifth, community quality, measured through the HDI and the GER-USS, has a weak positive effect on WSD but demonstrates the most dominant and substantial influence on SDG achievement. This finding underscores that enhancing community quality is a key factor in strengthening the legitimacy and effectiveness of sustainable development.

Sixth, in testing indirect effects, fiscal capacity, age, and gender of regional heads show positive but very weak effects on SDGs through WSD, while education and community quality exhibit negative effects, indicating that the mediating function of WSD has not yet operated effectively.

Overall, the results reveal that WSD has not yet become an effective instrument in bridging the relationship between fiscal capacity, leadership profile, and community quality with SDG achievement. This highlights the need for strengthening local government legitimacy through more participatory and accountability-oriented digital transparency.

This study has several limitations. First, due to constraints in secondary data availability, not all SDG indicators could be analyzed; the study only covered literacy, GDP per capita, and open unemployment rate indicators.

Second, the leadership profile variable only includes demographic characteristics (age, gender, education), without considering psychological factors, leadership style, or political experience, which may influence governance outcomes.

Third, WSD was used as the sole mediating variable, which does not fully represent the broader dimensions of digital transparency, such as open data or online civic participation.

Fourth, this research does not take into account institutional and political factors, including legislative support, bureaucratic capacity, and digital infrastructure availability, which may affect the effectiveness of WSD and SDG implementation.

Fifth, limited regional coverage due to the exclusion of acting regional heads and incomplete data in several provinces restrict the generalizability of the findings to the national context.

Based on these findings and limitations, it is recommended that local governments strengthen their commitment to digital transparency through official websites as instruments of public accountability that are informative, measurable, and easily accessible, serving as a foundation for government legitimacy.

Future researchers are encouraged to develop a more comprehensive model that integrates institutional factors, leadership style, policy innovation, and local political dynamics using a mixed-methods approach to deepen contextual analysis.

Meanwhile, civil society organizations (CSOs) and the public are expected to play an active role in monitoring public information disclosure, enhancing digital literacy, and promoting social participation in development oversight, thereby fostering governance that is more transparent, participatory, and sustainable.

REFERENSI

Abang'a, A. O. G., & Tauringana, V. (2024). The impact of board characteristics on corporate social responsibility disclosures: Evidence from state-owned enterprises in Kenya. *Journal of Accounting in Emerging Economies*, *14*(3), 612–638.

Abdul Latif, R., Taufil Mohd, K. N., Kamardin, H., & Mohd Ariff, A. H. (2023). Determinants of sustainability disclosure quality among plantation companies in Malaysia. *Sustainability*, *15*(4), Article 3799. https://doi.org/10.3390/su15043799

Alcaraz-Quiles, F. J., Navarro-Galera, A., & Ortiz-Rodríguez, D. (2019). The contribution of the right to information laws in Europe to local government transparency on sustainability. *International Environmental Agreements: Politics, Law and Economics*, *20*(1), 161–178. https://doi.org/10.1007/s10784-019-09461-8

Arif, I., & Dutta, N. (2024). Legitimacy of government and governance. *Journal of Institutional Economics*, *20*, [page numbers needed]. https://doi.org/10.1017/S1744137423000334

Bentley Brymer, A. L., Toledo, D., Spiegal, S., Pierson, F., Clark, P. E., & Wulfhorst, J. D. (2020). Social-ecological processes and impacts affect individual and social well-being in a rural western U.S. landscape. *Frontiers in Sustainable Food Systems*, *4*, Article 38. https://doi.org/10.3389/fsufs.2020.00038

Bisogno, M., Cuadrado-Ballesteros, B., Rossi, F. M., & Peña-Miguel, N. (2023). Sustainable development goals in public administrations: Enabling conditions in local governments. *International Review of Administrative Sciences*, *89*(4), 1223–1242. https://doi.org/10.1177/00208523221146458

BPS RI. (2025). *Statistik Indonesia: Statistical yearbook of Indonesia 2025* (Vol. 53). Badan Pusat Statistik/BPS-Statistics Indonesia.

Brinkmann, M. (2024). *An instrumentalist theory of political legitimacy*. Oxford University Press.

Chaves-Avila, R., & Gallego-Bono, J. R. (2020). Transformative policies for the social and solidarity economy: The new generation of public policies fostering the social economy in order to achieve sustainable development goals. The European and Spanish cases. *Sustainability*, *12*(10), Article 4059. https://doi.org/10.3390/su12104059

Chin, W. W. (2015). *The partial least squares approach to structural equation modeling*. Psychology Press.

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. https://doi.org/10.4324/9780203771587

Collevecchio, F., Temperini, V., Barba-Sanchez, V., & Meseguer-Martinez, A. (2024). Sustainable governance: Board sustainability experience and the interplay with board age for firm sustainability. *Journal of Business Ethics*, *197*(2), 371–389. https://doi.org/10.1007/s10551-024-05739-3

Crossley, R. M., Elmagrhi, M. H., & Ntim, C. G. (2021). Sustainability and legitimacy theory: The case of sustainable social and environmental practices of small and medium-sized enterprises. *Business Strategy and the Environment*, *30*(8), 3740–3762. https://doi.org/10.1002/bse.2837

Dias, G. P. (2020). Determinants of e-government implementation at the local level: An empirical model. *Online Information Review*, *44*(7), 1307–1326. https://doi.org/10.1108/OIR-04-2020-0148

EmadEldeen, R., Elbayuomi, A. F., Elmoursy, H., Bouaddi, M., & Basuony, M. A. K. (2025). Does board diversity drive sustainability? Evidence from UK-listed companies. *Sustainability*, *17*(3), Article 1177. https://doi.org/10.3390/su17031177

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–7. https://doi.org/10.11648/j.ajtas.20160501.11

Faugoo, D. (2024). Women's leadership as an accelerator for gender equality and advancing SDGs for a sustainable future. *Asian Journal of Research in Business and Management*, *6*(3), 25–39. https://doi.org/10.55057/ajrbm.2024.6.3.3

Fuchs, D., Schlipphak, B., Treib, O., Nguyen Long, L. A., & Lederer, M. (2020). Which way forward in measuring the quality of life? A critical analysis of sustainability and well-being indicator sets. *Global Environmental Politics*, *20*(2), 12–36. https://doi.org/10.1162/glep_a_00554

García-Sánchez, I. M., Frías-Aceituno, J. V., & Rodríguez-Domínguez, L. (2013). Determinants of corporate social disclosure in Spanish local governments. *Journal of Cleaner Production*, *39*, 60–72. https://doi.org/10.1016/j.jclepro.2012.08.037

Gezgin, T., Özer, G., Merter, A. K., & Balcıoğlu, Y. S. (2024). The mediating role of corporate governance in the relationship between net profit and equity and voluntary disclosure in the context of legitimacy theory. *Sustainability*, *16*(10), Article 4097. https://doi.org/10.3390/su16104097

Guerrero-Gómez, T., Navarro-Galera, A., & Ortiz-Rodríguez, D. (2021). Promoting online transparency to help achieve the sustainable development goals: An empirical study of local governments in Latin America. *Sustainability*, *13*(4), 1–18. https://doi.org/10.3390/su13041837

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using* R. Springer Nature. https://library.oapen.org/handle/20.500.12657/51463

Igalla, M., Edelenbos, J., & van Meerkerk, I. (2020). What explains the performance of community-based initiatives? Testing the impact of leadership, social capital, organizational capacity, and government support. *Public Management Review*, *22*(4), 602–632. https://doi.org/10.1080/14719037.2019.1604796

Ikizer, I. (2021). Localised strategies and principles of good governance for the sustainable development goals: Where do the local authorities in Turkey stand. *International Journal of Environment and Sustainable Development*, *20*(4), 382–402. https://doi.org/10.1504/ijesd.2021.10042160

Gustiah, I. P., & Nawangsari, L. C. (2023). Patterns of women's leadership to create gender equality in building a sustainable organization. *International Journal of Law, Policy, and Governance*, *2*(2), 77–90. https://doi.org/10.54099/ijlpg.v2i2.697

International Monetary Fund. (2024). *GDP per capita, current prices: U.S. dollars per capita MAP (2024)*. https://www.imf.org/external/datamapper/NGDPDPC@WEO/OEMDC/ADVEC/WEOWORLD

International Monetary Fund. (2025). *Unemployment rate: Percent MAP (2024)*. https://www.imf.org/external/datamapper/LUR@WEO/OEMDC/ADVEC/WEOWORLD

Ji, M., Jiao, Y., & Cheng, N. (2023). An innovative decision-making scheme for the high-quality economy development driven by higher education. *Journal of Innovation and Knowledge*, *8*(2), Article 100345. https://doi.org/10.1016/j.jik.2023.100345

Joseph, C., Sawani, Y., Janggu, T., Hossen, R., & Atan, P. (2021). Development of a sustainable development goals disclosure index (SDGDi) for Malaysian local authorities. *IPN Journal of Research and Practice in Public Sector Accounting and Management*, *11*(1), 61–79. https://doi.org/10.58458/ipnj.v11.01.04.0070

Kementerian PPN/Bappenas. (2020). *Pedoman teknis penyusunan rencana aksi tujuan pembangunan berkelanjutan (TPB)/sustainable development goals (SDGs)* (Vol. 2). Kedeputian Bidang Kemaritiman dan Sumber Daya Alam, Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional.

Kock, N. (2024). *WarpPLS user manual: Version 8.0*. ScriptWarp Systems.

Kurzhals, C., Graf-Vlachy, L., & König, A. (2020). Strategic leadership and technological innovation: A comprehensive review and research agenda. *Corporate Governance: An International Review*, *28*(6), 437–464. https://doi.org/10.1111/corg.12351

Latupeirissa, J. J. P., Dewi, N. L. Y., Prayana, I. K. R., Srikandi, M. B., Ramadiansyah, S. A., & Pramana, I. B. G. A. Y. (2024). Transforming public service delivery: A comprehensive review of digitization initiatives. *Sustainability*, *16*(7), Article 2818. https://doi.org/10.3390/su16072818

León-Silva, J. M., Dasí-González, R. M., & Julve, V. M. (2022). Determinants of sustainability information disclosure of local governments in Latin America. *Revista de Contabilidad-Spanish Accounting Review*, *25*(2), 244–256. https://doi.org/10.6018/rcsar.421811

Liu, Z., Venkatesh, S., Murphy, S. E., & Riggio, R. E. (2021). Leader development across the lifespan: A dynamic experiences-grounded approach. *Leadership Quarterly*, *32*(5), Article 101382. https://doi.org/10.1016/j.leaqua.2020.101382

Martinez-Leon, I. M., Olmedo-Cifuentes, I., Martínez-Victoria, M., & Arcas-Lario, N. (2020). Leadership style and gender: A study of Spanish cooperatives. *Sustainability*, *12*(12), Article 5107. https://doi.org/10.3390/su12125107

Ma, Y., Zhang, Q., Yin, Q., & Wang, B. (2019). The influence of top managers on environmental information disclosure: The moderating effect of company's environmental performance. *International Journal of Environmental Research and Public Health*, *16*(7), Article 1167. https://doi.org/10.3390/ijerph16071167

Morales-Casetti, M., Bustos-Gutiérrez, M., Manquepillán-Calfuleo, F., & Hochstetter-Diez, J. (2024). Quality of government, democracy, and well-being as determinants in achieving the sustainable development goals. *Sustainability*, *16*(13), Article 5430. https://doi.org/10.3390/su16135430

Nazrul, N. (2024). Exploring gender disparities in executive leadership positions in Norway: A qualitative analysis. *Journal of Economics, Innovative Management and Entrepreneurship*, *2*(2), [page numbers needed]. https://doi.org/10.59652/jeime.v2i2.234

Amalikhah, N. A., & Haryono, S. (2024). The effect of financial performance, environmental performance, tax avoidance, and gender diversity on sustainable development goals (SDGs). *Jurnal Magister Ekonomi Syariah*, *3*(2), 1–14. https://doi.org/10.14421/jmes.2024.032-01

Oware, K. M., & Awunyo-Vitor, D. (2021). CEO characteristics and environmental disclosure of listed firms in an emerging economy: Does sustainability reporting format matter? *Business Strategy and Development*, *4*(4), 399–410. https://doi.org/10.1002/bsd2.166

Ramírez-Herrero, V., Ortiz-de-Urbina-Criado, M., & Medina-Merodio, J. A. (2024). Intergenerational leadership: A leadership style proposal for managing diversity and new technologies. *Systems*, *12*(2), Article 50. https://doi.org/10.3390/systems12020050

Rieiro-García, M., Aibar-Guzmán, C., & Aibar-Guzmán, B. (2023). The 2030 agenda in local entities: Does gender matter in reporting on the sustainable development goals? *Cities*, *141*, Article 104461. https://doi.org/10.1016/j.cities.2023.104461

Rohdewohld, R. (2022). Localizing the sustainable development goals in Asia and the Pacific. In *Decentralization, local governance, and localizing the sustainable development goals in Asia and the Pacific* (1st ed., pp. 159–191). Routledge. https://doi.org/10.4324/9781003282297

Salleh, K., Sulaiman, N., Puteh, S., & Jamaludin, A. M. (2023). Impact of community engagement on sustainable development goals (SDGs): The global goals to local implementation. *Journal of Technical Education and Training*, *15*(3), 201–211. https://doi.org/10.30880/jtet.2023.15.03.018

Santoso, E. B., Marlina, M. A. E., & Setiobudi, A. (2025). Does board diversity influence corporate SDG disclosure in an emerging economy? *South African Journal of Business Management*, *56*(1), Article 5040. https://doi.org/10.4102/sajbm.v56i1.5040

Sarkar, M. S. K., Okitasari, M., Ahsan, M. R., & Al-Amin, A. Q. (2022). Localisation of sustainable development goals (SDGs) in Bangladesh: An inclusive framework under local governments. *Sustainability*, *14*(17), Article 10817. https://doi.org/10.3390/su141710817

Schwarz, G., Eva, N., & Newman, A. (2020). Can public leadership increase public service motivation and job performance? *Public Administration Review*, *80*(4), 543–554. https://doi.org/10.1111/puar.13182

Sustainable Development Report. (2025, October 1). Rankings: The overall performance of all 193 UN member states. *Sustainable Development Report*. https://dashboards.sdgindex.org/rankings/

Tejedo-Romero, F., & Ferraz Esteves Araujo, J. F. (2023). Critical factors influencing information disclosure in public organisations. *Humanities and Social Sciences Communications*, *10*(1), Article 343. https://doi.org/10.1057/s41599-023-01814-8

Ulyati, S., Adelia, Sabila, M., Mutia, K., Rahmawaty, Darwanis, & Fahlevi, H. (2024). Website sustainability disclosure, government size, and human development: Evidence from Indonesian local governments. In *2024 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems* (pp. 1544–1548). IEEE. https://doi.org/10.1109/ICETSIS61505.2024.10459537

United Nations. (2025). *Transforming our world: The 2030 agenda for sustainable development*.

Wang, H., & Guo, J. (2024). New way out of efficiency-equity dilemma: Digital technology empowerment for local government environmental governance. *Technological Forecasting and Social Change*, *200*, Article 123184. https://doi.org/10.1016/j.techfore.2023.123184

World Population Review. (2024). *Literacy rate by country 2024*. https://worldpopulationreview.com/country-rankings/literacy-rate-by-country

Zampone, G., Nicolò, G., Sannino, G., & De Iorio, S. (2024). Gender diversity and SDG disclosure: The mediating role of the sustainability committee. *Journal of Applied Accounting Research*, *25*(1), 171–193. https://doi.org/10.1108/JAAR-06-2022-0151

Zhu, Y. (2011). "Performance legitimacy" and China's political adaptation strategy. *Journal of Chinese Political Science*, *16*(2), 123–140. https://doi.org/10.1007/s11366-011-9140-8

Appendix 1. Matrix of sustainability disclosure indicators on regency/city government websites in indonesia

Regency/ city…					
Items per Category			**WSD**		
			0	**1**	**2**
Block 1: General category					
1	**Strategy and Analysis**				
	1	Information on the strategic management of the regency/city government (mission, vision, values, and objectives).			
	2	Declaration of the regency/city government's vision and general strategy aimed at sustainability.			
	3	Report on Sustainable Development Initiatives.			
2	**Regional heads' profiles**				
	4	Identification and contact details of the organization.			
	5	Information on the procedures and services provided by the regency/city government.			
	6	Organizational chart showing dependencies and areas of responsibility within the regency/city government.			
	7	Information regarding economic, environmental, or social initiatives undertaken by the regency/city government (at least one item).			
	8	Information on membership and active participation of the regency/city government in regional, national, or international associations.			
	9	Disclosure of awards or recognitions received by the regency/city government within the reporting period.			
	10	Information on regulations issued by the regency/city government.			
3	**Scope aspects**				
	11	Identification of the regency/city government or autonomous agencies forming part of it.			
4	**Stakeholder participation**				
	12	Identification of the government's key stakeholder groups.			
	13	Disclosure of regulations or public participation guidelines on local issues.			
	14	Identification of citizen participation mechanisms in strategic decision-making.			
	15	Availability of contact tools for stakeholder engagement.			
	16	Presence of social media platforms for stakeholder interaction.			
5	**Government structure and composition**				
	17	Identification of officials responsible for administrative management.			
	18	Identification of areas or officials responsible for economic, environmental, and social affairs.			
	19	Publication of biographical data of the mayor/deputy mayor or regent/deputy regent.			
	20	Publication of contact details (email/phone) of officials responsible for city administration.			
6	**Evaluation of government performance**				
	21	Disclosure of current government programs or local development plans.			
	22	Reports on management or accountability of local government bodies.			
7	**Fees and incentives**				
	23	Disclosure of remuneration details of top local government officials.			
8	**Ethics and integrity**				
	24	Disclosure of the public code of ethics or good governance policy.			
Block 2: Economic categor					
9	**Budget information**				
	25	Disclosure of the annual local government budget.			
	26	Disclosure of the budget for decentralized agencies.			
	27	Disclosure of budget revisions during the fiscal period.			
	28	Publication of the local budget realization report.			
	29	Separate presentation of revenue and expenditure items in the local budget.			
10	**Financial information**				

	30	Publication of local government financial information (financial statements, account balances).			
	31	Public financial reporting based on international public sector accounting standards.			
	32	Disclosure of revenue and expenditure items in financial reports.			
	33	Information on expenditures related to social programs.			
11	**Government Debt**				
	34	Information regarding the public liabilities or debts of local governments.			
	35	Historical overview of government debt.			
12	**Management Indicators**				
	36	Disclosure of per capita tax indicators related to local finances (investment, debt, costs, surplus/deficit)			
	37	Disclosure of indicators related to demographic and/or environmental conditions (e.g., unemployment, GDP).			
	38	Disclosure of indicators related to local government program management.			
	39	Information on the short- and medium-term economic outlook.			
13	**Procurement Practices**				
	40	Publication of procurement policies or regulations.			
	41	Publication of tenders and bidding opportunities.			
	42	Disclosure of tender results and awarded contracts.			
	43	List and number of main suppliers.			
	44	List and contract numbers of winning bidders.			
14	**Other information**				
	45	Publication of external audit reports on local government.			
	46	Disclosure of the cost of public goods and services provided.			
	47	Disclosure of public resource allocations to third parties.			
	48	Information on infrastructure investment (capital expenditure).			
Block 3: Social category					
15	**Labor practices and decent work**				
	49	Information on employee benefits or entitlements.			
	50	Information on occupational health and safety policies.			
	51	Information on employee training programs.			
	52	Disclosure of civil servant composition by profession and gender.			
	53	Information on civil servant performance evaluations.			
	54	Disclosure of remuneration by gender.			
	55	Information on programs promoting or protecting human rights.			
	56	Disclosure of discrimination cases and corrective measures.			
	57	Information on freedom of association and collective bargaining rights.			
	58	Initiatives related to indigenous communities.			
	59	Disclosure of programs, policies, or institutions related to gender equality.			
16	**Community**				
	60	Information on local community development or empowerment programs.			
	61	Disclosure of anti-corruption policies and procedures.			
	62	Disclosure of actions taken to combat corruption.			
	63	Measurement of citizen satisfaction with government programs and services.			
	64	Information on public job offers or recruitment announcements.			
Block 4: Environmental category					
17	**Environmental information**				
	65	Updated information on the local environmental situation.			
	66	Disclosure of environmental costs and investments.			
	67	Dissemination of local, national, or international initiatives to reduce environmental impacts.			
	68	Disclosure of efforts to mitigate negative environmental impacts.			
	69	Disclosure of recycling or waste reduction campaigns.			
	70	Disclosure of local environmental policies or regulations.			
	71	Disclosure of the local government's environmental management system.			

18	**Energy**				
	72	Information on local government energy consumption.			
	73	Dissemination of actions to promote energy efficiency and/or renewable energy use.			
19	**Water**				
	74	Information on local water sources.			
	75	Information on total water consumption and related actions.			
20	**Biodiversity**				
	76	Availability of facilities to protect global biodiversity.			
	77	Description of protected or restored habitats.			
21	**Emissions**				
	78	Disclosure of direct and indirect greenhouse gas emissions.			
	79	Information on local air pollution levels.			
22	**Waste**				
	80	Information on local waste classification and management.			
23	**Transportation**				
	81	Disclosure of environmental impacts related to public transportation services.			
24	**Noise Pollution**				
	82	Availability of updated information on noise pollution across urban areas.			
Total			**…..**		
			….. /164		
			….. %		