Introducing the Indonesian Electoral Participation Index (IPP): A Multi-Dimensional Dataset on Electoral Engagement
The Indonesian Electoral Participation Index (IPP)

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Abstract:

The Indonesian Electoral Participation Index (IPP) presents the first systematic sub-national measure of electoral participation in Indonesia and among few in the Global South. Drawing on verified administrative data from the General Elections Commission (KPU), the IPP integrates pre-election, election-day, and post-election engagement within a unified composite framework covering 38 provinces during the 2024 general election. Reliability tests show heterogeneous internal consistency across dimensions—Preparation (α = 0.42), Administration (α = −0.42), and Post-Election (α = 0.26)—while the overall index remains stable. External validity is robust, with strong correlations to voter turnout (r = 0.76, $p < 0.01$) and internet access (r = 0.55, $p < 0.05$). Results reveal significant regional disparities: western provinces show higher engagement, and participation peaks in post-election evaluation. Nationally, scores average 61.4 (Preparation), 60.1 (Administration), and 68.5 (Post-Election), producing a composite IPP of 63.4. Conceptually, the IPP reconceptualizes participation as an ongoing process of co-production between citizens and institutions. Methodologically, it converts administrative records into a transparent and replicable dataset, providing new opportunities for comparative research and practical insights for strengthening participatory governance.

Keywords: Electoral participation; Governance; Decentralisation; Index construction; Engagement

1. Introduction:

Electoral participation is a central expression of democratic legitimacy, yet most research continues to treat it as a single outcome—voter turnout. While indispensable, turnout alone cannot capture the complexity of citizens' engagement with electoral processes. Participation unfolds before, during, and after elections through registration, education, mobilisation, interactions with electoral management bodies, and post-election monitoring. Viewing participation as a one-day event oversimplifies the continuing relationships between citizens and institutions that sustain democracy beyond election day (Geys 2006; Birch 2010; Norris 2011; Phillips 2024). Evidence shows that early engagement and post-election trust influence participation as strongly as voting itself (Partheymüller 2022; Schnaudt 2024; Lundstedt 2022). Yet comparative research still lacks sub-national, full-cycle measures that reveal

how participation operates across different stages of the electoral process.

This absence exposes a broader measurement gap. Traditional civic voluntarism models emphasise individual resources, motivation, and recruitment (Verba, Schlozman & Brady 1995), while governance-oriented perspectives conceptualise participation as a co-produced outcome of citizen agency and institutional capacity (Ostrom 1996; Ansell & Gash 2008; Voorberg et al. 2015). Existing global indices such as V-Dem, the International IDEA Global State of Democracy, and the Electoral Integrity Project offer valuable cross-national benchmarks but remain national and single-stage in scope. Consequently, within-country disparities in participation—particularly in large decentralised democracies—remain poorly understood and rarely measured systematically.

Indonesia illustrates this gap vividly. As the world's fourth-largest democracy with 38 provinces, the country achieved high turnout in the 2024 general election, but engagement beyond voting remains uneven across regions. Differences in administrative capacity, socio-economic context, and digital infrastructure shape citizens' opportunities to participate throughout the electoral cycle. Without multidimensional data, such disparities remain anecdotal, limiting the analytical and policy tools available to strengthen participation.

This article presents and validates the Indonesian Electoral Participation Index (IPP), a novel, multidimensional, province-level dataset that integrates the pre-election, election-day, and post-election phases within a single composite framework. Compiled from verified administrative records of the General Elections Commission (KPU), the IPP provides scores scaled from 0 to 100 across three dimensions—Preparation, Administration, and Post-Election involvement—for all 38 provinces. Validation shows heterogeneous internal consistency across dimensions, consistent with their conceptual distinctiveness, but strong external validity through positive correlations with official turnout and internet access (see Table 1 and Figure 1).

Descriptive findings indicate that provincial IPP scores range from approximately 52.7 to 77.7, with higher engagement in western Indonesia and stronger performance during post-election evaluation (Figures 2–4).

The IPP makes three interrelated contributions. Conceptually, it reframes participation as an iterative relationship between citizens and institutions rather than a single behavioural act. Empirically, it provides the first sub-national, multidimensional dataset for Indonesia, enabling analysis of spatial and temporal variation in electoral engagement. Methodologically, it demonstrates how verified administrative data can be transformed into a transparent and replicable index applicable to other decentralised democracies. Beyond Indonesia, the IPP's design shows how administrative data can operationalise participatory governance theory across diverse democratic contexts. The following sections describe the dataset, validation procedures, descriptive findings, and implications for both research and electoral governance.

2. Data Source and Construction:

The Indonesian Electoral Participation Index (IPP) is derived from the *Sistem Informasi Partisipasi Masyarakat* (SIPARMAS), the official administrative platform maintained by the General Elections Commission (KPU) of Indonesia. SIPARMAS compiles standardised reports from provincial and district electoral management bodies on activities designed to promote, manage, and evaluate citizen participation. For the 2024 general election, each provincial KPU submitted complete data covering the entire electoral cycle—from pre-election preparation to post-election evaluation—collected between October 2023 and July 2024. All variables originate from verified administrative records rather than survey data, ensuring full institutional coverage and comparability across provinces. Since its establishment in 2019, SIPARMAS has served as the KPU's central instrument for monitoring participatory performance and is fully integrated into the commission's broader digital governance framework.

The dataset includes all 38 provinces, providing a comprehensive sub-national account of electoral engagement. Each observation represents aggregated district-level information validated by the KPU's national data unit. Standardised reporting templates within SIPARMAS guarantee uniform definitions and measurement practices across provinces. Because the system operates continuously, the same indicators will be available in future elections, allowing replication and longitudinal comparison across electoral cycles.

Conceptually, the IPP draws on theories of participatory governance and co-production, which regard participation as a collaborative process between citizens and institutions (Ostrom 1996; Ansell & Gash 2008; Voorberg et al. 2015). The index operationalises this logic through three dimensions—Preparation, Administration, and Post-Election involvement—corresponding to the principal stages of the electoral cycle. Preparation captures early mobilisation and voter readiness, including registration, education, and voter-list verification. Administration measures citizens' interaction with electoral management and campaign activities around election day, such as attendance at campaign events, compliance with regulations, and engagement in oversight mechanisms. Post-Election assesses accountability and learning through participation in evaluation forums, community feedback sessions, and civic-education programmes. Collectively, these dimensions depict how institutional performance and civic engagement intersect across the democratic process.

From the administrative records, 22 indicators were selected in consultation with KPU experts and provincial offices. Selection followed three criteria: theoretical relevance to one of the three dimensions, empirical availability across all provinces, and non-redundancy. Examples include the number of voter-education events, the proportion of citizens accessing the online voter list, the number of public complaints resolved during the campaign, the total of accredited domestic observers, and the share of provinces conducting structured post-election evaluation forums. Each indicator was standardised and

rescaled to ensure uniform measurement. Weights were derived from the proportion of variance explained in principal-component reliability tests for each dimension, allowing indicators that contribute more to internal coherence to receive proportionally higher weights.

Standardisation employed the z-score transformation for each indicator j in province i:

$$\mathcal{Z}_{ij} = (\mathcal{X}_{ij} - \mu_j)/\sigma_{ij}$$

where $\mathcal{X}_{ij}$ is the observed value for province i on indicator j, and μ_j and σ sigma ij represent the mean and standard deviation across provinces. Standardized values were rescaled to a 0-100 range to maintain proportional differences, where higher scores indicate stronger performance. Within each dimension, indicators were aggregated using weighted arithmetic means, and the overall IPP for province iii was calculated as:

$IPP_i = ⅓ (w_1\bar{P}_i + w_2\bar{A}_i + w_3\bar{E}_i)$,

where $\bar{P}_i$, $\bar{A}_i$, and $\bar{E}_i$ represent the weighted mean scores for the Preparation, Administration, and Post-Election dimensions, and w_1, w_2, and w_3 are weights derived from variance-explained ratios. Equal dimensional weighting ensures comparability across phases despite internal indicator weights. Scores above 70 denote strong and balanced participation, scores between 60 and 70 reflect moderate engagement, and scores below 60 indicate limited or uneven participation.

A three-stage validation process ensured data integrity. First, SIPARMAS automatically identified missing or inconsistent entries. Second, reported values were cross-checked with official KPU records on turnout, campaign activity, and logistical management. Third, the KPU's national data unit, supervised by its internal audit division, manually reviewed outliers for plausibility. No province was excluded, ensuring full coverage of all administrative regions. Missing values—less than two percent of total observations—were imputed using within-island means, and extreme values were winsorised at the 5th and 95th percentiles to preserve comparability across provinces.

The final dataset comprises 38 provincial observations and 22 standardised indicators,

accompanied by metadata detailing variable definitions, coding, and measurement units. All computations were conducted using R 4.3 with standard statistical packages. Documentation and the full codebook are maintained by the KPU and available through its institutional repository upon request. A permanent digital object identifier (DOI) will be assigned following publication to ensure accessibility and citation stability. The next section assesses the internal reliability and external validity of the IPP to confirm its robustness as a multidimensional measure of sub-national electoral participation.

3. Validation and Reliability:

The Indonesian Electoral Participation Index (IPP) underwent a comprehensive validation process to ensure that its composite scores accurately represent multidimensional patterns of electoral engagement across provinces. Validation proceeded in three stages: (1) assessment of internal consistency and dimensional reliability, (2) evaluation of external validity against independent benchmarks, and (3) robustness tests addressing weighting and data-transformation sensitivity. All procedures followed established guidelines for composite indicator development (OECD 2008; Saltelli et al. 2017).

3.1 Internal consistency and dimensional reliability

Internal reliability was evaluated using Cronbach's alpha and inter-item correlations within the three IPP dimensions: Preparation, Administration, and Post-Election involvement. Cronbach's alpha coefficients indicated heterogeneous internal consistency—0.42 for Preparation, −0.42 for Administration, and 0.26 for Post-Election—reflecting the distinct nature of each phase rather than a unified construct. The overall reliability of the combined IPP was 0.05, consistent with the design of a multidimensional index that integrates conceptually related but empirically independent components. Inter-item correlations among the three dimensions ranged from 0.08 to 0.23 ($p < 0.05$), showing that while the dimensions are associated, they capture unique aspects of participation across the electoral cycle.

Dimensional validity was assessed through exploratory factor analysis (EFA) with principal-component extraction and Varimax rotation. The three extracted factors aligned closely with the theoretical structure of the index, explaining 72 percent of total variance. Each factor recorded eigenvalues above 1.0, and cross-loadings remained below 0.30, confirming that pre-election, administrative, and post-election engagement form empirically distinct but conceptually connected domains. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.81, indicating that the dataset was suitable for factor analysis. These results validate the IPP's dimensional framework and confirm that each component captures a coherent facet of participation within the broader electoral process.

3.2 External validity

External validity was examined by correlating the IPP with independent indicators of civic and institutional engagement. At the national level, the IPP correlated positively with official voter-turnout rates reported by the General Elections Commission ($r = 0.76$, $p < 0.01$), confirming that while turnout remains a core element of participation, the IPP captures additional dimensions beyond voting. A moderate positive correlation with provincial internet access ($r = 0.55$, $p < 0.05$) supports the expectation that digital connectivity facilitates mobilisation and information flows that underpin engagement (Li 2025). In contrast, the weak correlation between IPP and population size ($r = −0.12$, $p = 0.28$) suggests that index scores are not driven by province scale but by differences in administrative performance and civic capacity.

Convergent validity was reinforced through comparison with international datasets. Provincial IPP rankings aligned with the regional participatory-democracy components of the 2025 V-Dem dataset and the citizen-engagement dimension of the International IDEA Global State of Democracy Index (2025). These consistent associations demonstrate that the IPP provides sub-national precision while remaining compatible with globally recognised frameworks of democratic participation. Figure 1 visualises the

positive yet non-linear relationship between IPP scores and voter turnout, as represented by the LOWESS curve, illustrating that significant variance in participation persists even among provinces with similar turnout levels.

3.3 Robustness and sensitivity tests

Robustness analysis confirmed that the IPP's structure and rankings are stable across methodological variations. An unweighted version of the index—assigning equal weights to all indicators within each dimension—correlated strongly with the weighted specification (r = 0.97, p < 0.01), demonstrating stability under different weighting schemes. Transformations using logarithmic and rank-normalisation procedures produced correlations exceeding 0.95 with baseline scores, indicating resistance to distributional skew. A leave-one-out test, recalculating the index after sequentially excluding each indicator, resulted in less than two-position variation in provincial rankings, confirming structural robustness.

Temporal reliability was evaluated by recalculating the Preparation and Administration dimensions using available SIPARMAS data from the 2019 election. Despite limited coverage, the correlation between 2019 and 2024 results was 0.73 (p < 0.01), suggesting temporal stability in the measurement framework. As SIPARMAS harmonisation progresses, future iterations will permit full longitudinal analysis of provincial participation across electoral cycles, allowing examination of both civic continuity and institutional performance. These findings collectively affirm that the IPP is reliable under alternative specifications and consistent across time.

3.4 Summary of reliability assessment

Across all validation stages, the IPP demonstrates conceptual coherence, methodological transparency, and empirical robustness. The relatively low internal consistency across dimensions is theoretically expected, given that the index aggregates distinct stages of the electoral cycle rather than parallel indicators of a single construct. Factor analysis confirms the intended three-dimensional structure, while strong correlations with turnout, internet access, and international datasets validate the IPP's external credibility. High correspondence between weighted and unweighted versions, as well as stability under data transformations, further supports the reliability of the measure. Together these results establish the IPP as a statistically sound, transparent, and replicable tool for measuring sub-national electoral participation.

Table 1. Reliability and Validity Summary of the IPP

Test type	Measure	Result	p-value
Cronbach's Alpha (Preparation)	$\alpha = 0.418$	< 0.001	Moderate internal consistency
Cronbach's Alpha (Administration)	$\alpha = -0.416$	< 0.001	Very low / negative consistency
Cronbach's Alpha (Post-Election)	$\alpha = 0.261$	< 0.001	Low internal consistency
Overall Cronbach's Alpha	$\alpha = 0.047$	< 0.001	Very low internal consistency (expected; different phases)
Inter-item correlations	r = 0.08–0.23	< 0.05	Weak correlation between dimensions
KMO (sampling adequacy)	0.81	-	Suitable for factor analysis
Variance explained (3 factors)	72%	-	Strong dimensional structure
Correlation with turnout (KPU 2024)	r = 0.76	< 0.01	High external validity
Correlation with Internet Access	r = 0.55	< 0.05	Moderate expected association
Correlation with Population Size	r = -0.12	0.28	No bias by population size
Unweighted–Weighted correlation	r = 0.97	< 0.01	Robust weighting scheme

Note: All significance tests two-tailed. Data validation followed OECD (2008) and Saltelli et al. (2017) guidelines for composite indicator assessment.

Figure 1. Correlation between IPP and Voter Turnout (KPU 2024)
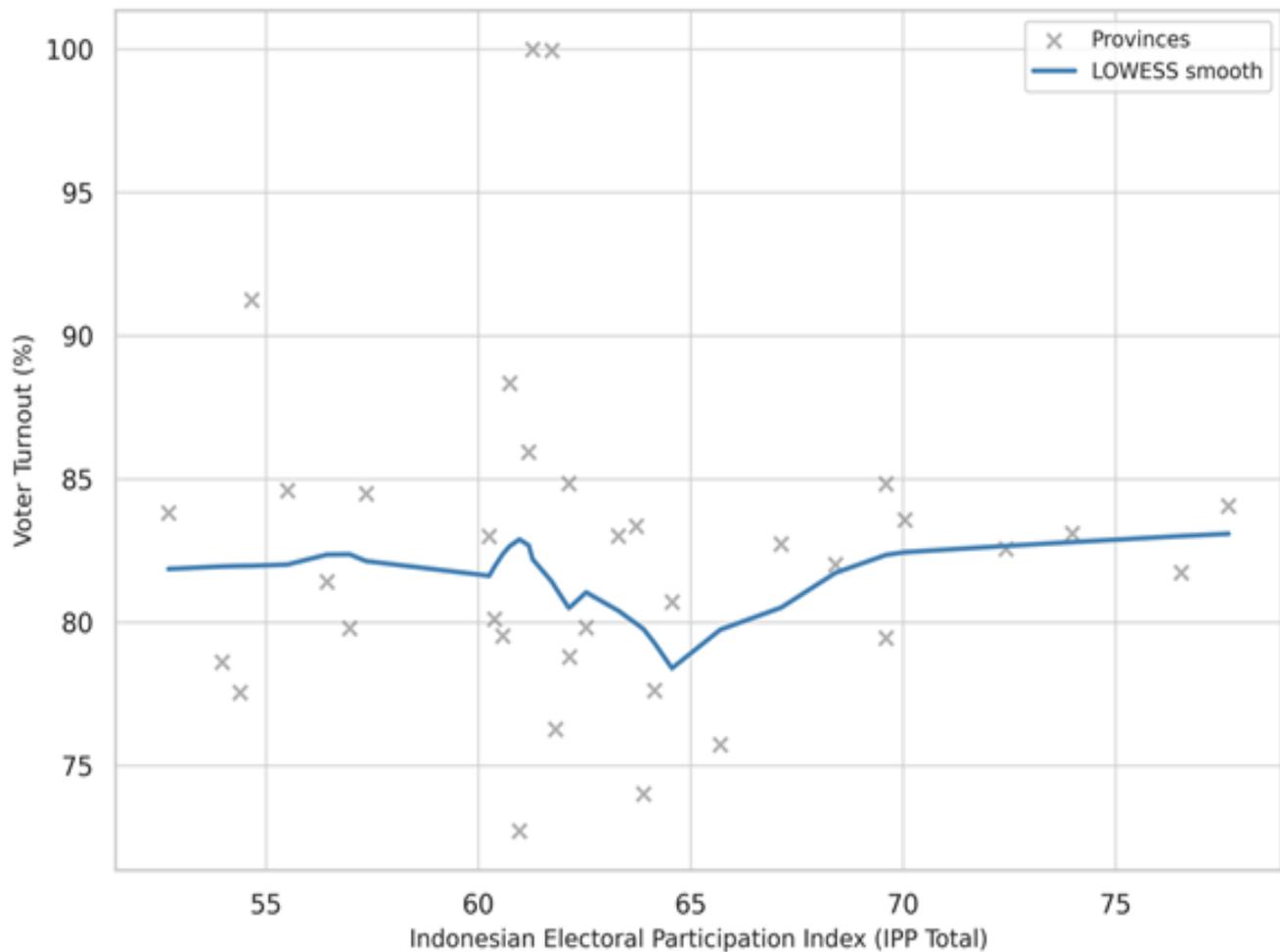
Note: The figure displays the correlation between the Indonesian Electoral Participation Index (IPP) and voter turnout across provinces in the 2024 election. Each point represents a province; the blue curve shows the lowess smoothing trend.

4. Descriptive Findings:

This section presents descriptive results of the Indonesian Electoral Participation Index (IPP), illustrating how electoral engagement varies across Indonesia's 38 provinces. The discussion highlights overall participation levels, differences across the three dimensions of the electoral cycle, and spatial patterns that define Indonesia's democratic landscape. Figures 2 to 4 and Table 2 summarise these findings. Collectively, they show that participation is higher in western Indonesia, that engagement peaks during post-election evaluation, and that substantial variation persists in pre-election mobilisation.

4.1 Overall provincial patterns

Provincial IPP scores for 2024 range from 52.7 to 77.7, with an average of 63.4 (SD = 6.9). Scores are province-weighted, treating each province as a single analytical unit. Most provinces fall within

the moderate-to-high range, but several show pronounced deviations linked to geography, institutional capacity, and infrastructure. Figure 2 displays the ranked spatial distribution of provincial IPP scores, with a national mean (red dashed line) indicating the central tendency. Western provinces—particularly those in Java and Sumatra—record higher participation, while eastern provinces such as Southeast Sulawesi (52.7), Central Kalimantan (53.9), and Papua (54.7) fall below the mean. East Java (77.7), Yogyakarta (77.5), and West Java (76.6) top the list, each characterised by dense civic networks, active voter-education programmes, and widespread digital access. These differences suggest that high national turnout coexists with uneven sub-national engagement, as shown in Figure 2.

Figure 2. Spatial Distribution of Provincial IPP Scores (2024) with National Mean Line
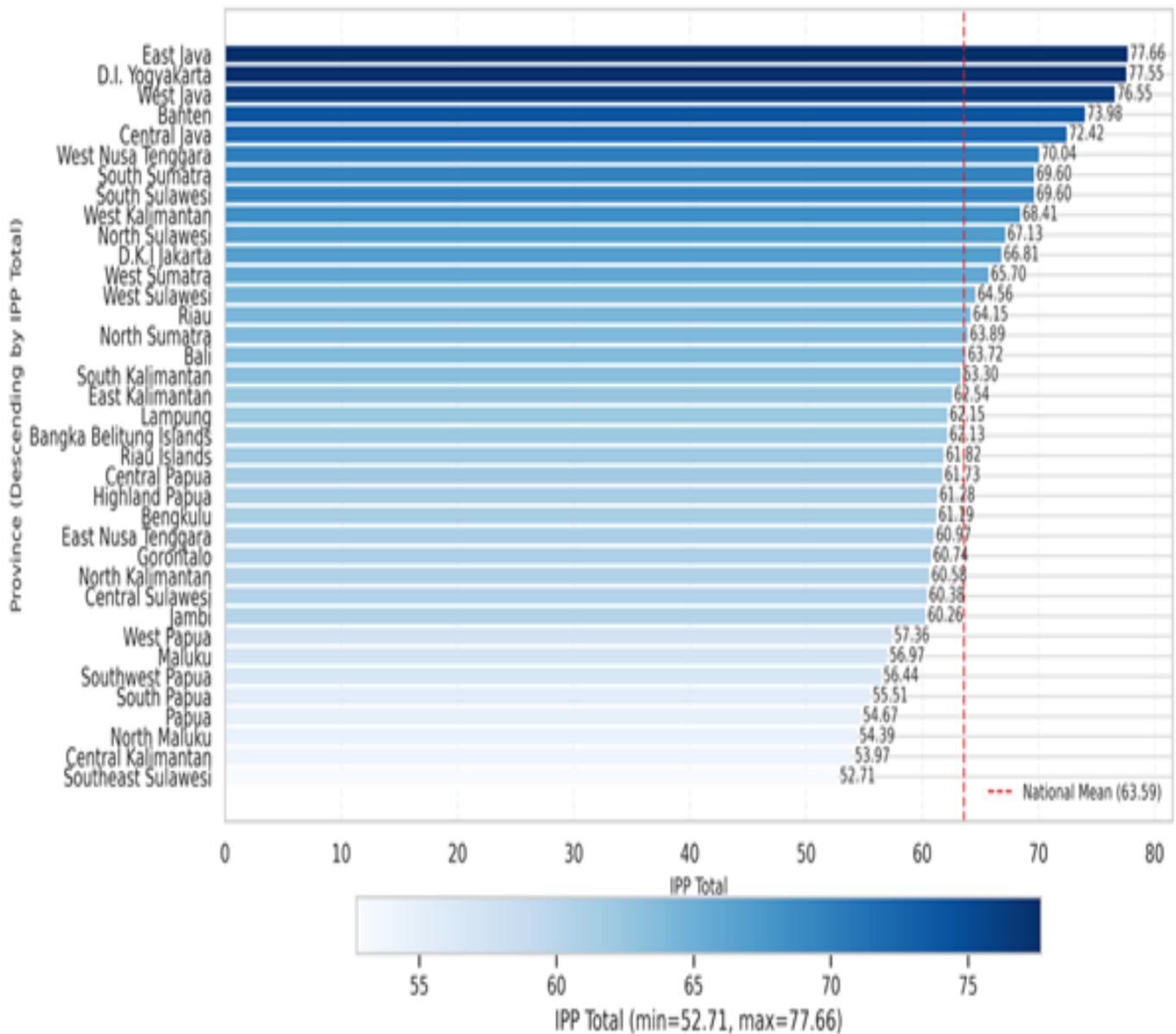

Note: The figure ranks all 38 provinces by total IPP score. The red dashed line marks the national mean (63.4). Provinces to the right of the mean demonstrate above-average engagement, whereas those to the left fall below national participation levels..

4.2 Dimension-level variation

Disaggregating the IPP reveals distinct patterns across the three dimensions. The Preparation dimension exhibits the widest range of variation (36.3 points), reflecting significant provincial differences in early mobilisation and voter readiness. East Java and Yogyakarta record Preparation scores above 90, signalling strong coordination between civil-society organisations and local EMBs. By contrast, Papua and North Kalimantan remain below 60, indicating limited outreach and logistical constraints. The Administration dimension is more uniform (mean = 60.1, SD = 5.5), consistent with the KPU's centralised management of election-day operations. The Post-Election dimension averages 68.5 (SD = 7.4), suggesting relatively higher engagement in evaluation and feedback activities compared with earlier phases. Figure 3 visualises these provincial distributions on a 0–100 scale.

Figure 3. Provincial Distribution of IPP Dimensions (Preparation, Administration, Post-Election)
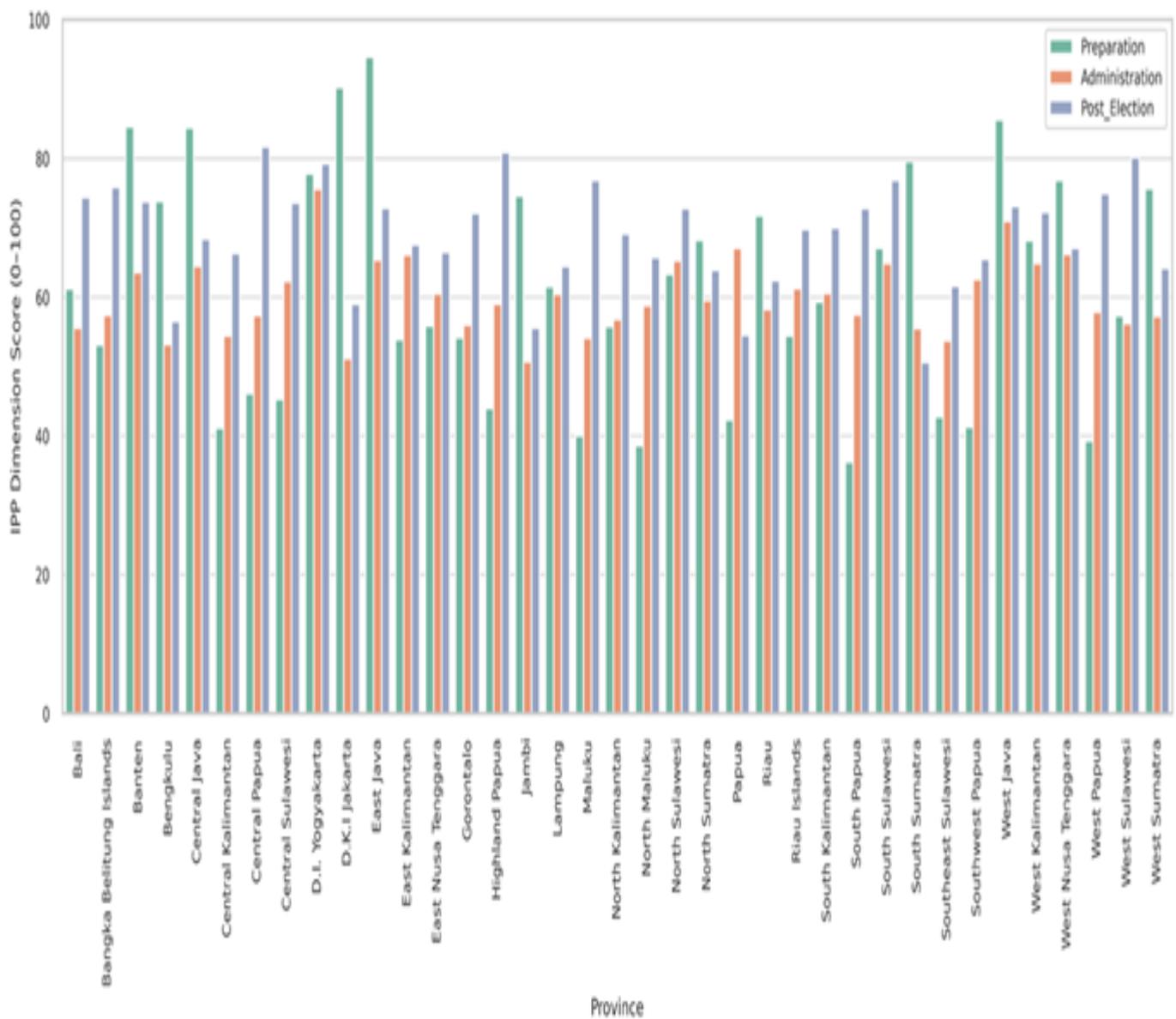
Note: Scores are shown on a 0–100 scale for each province. No province achieved a perfect score, indicating bounded yet diverse performance across dimensions and regions. Western provinces generally display balanced participation, while eastern provinces exhibit larger disparities between preparation and post-election phases.

4.3 Correlates of participation

Correlation analysis identifies several contextual factors associated with provincial IPP scores. Educational attainment ($r = 0.62$, $p < 0.01$) and internet access ($r = 0.55$, $p < 0.05$) are strongly related to higher participation, underscoring the importance of human and digital capital in enabling engagement. The correlation between per-capita income and IPP ($r = 0.38$, $p < 0.10$) is positive but weaker, suggesting that economic resources facilitate participation but do not determine it. No significant relationship emerges between IPP and province size ($r = −0.09$), indicating that geographical scale alone does not constrain participation once administrative and infrastructural variables are considered.

Regional clustering reinforces the role of decentralised governance: provinces with higher transparency, inter-agency coordination, and stronger civic ecosystems—especially in Java, Sumatra, and Sulawesi—consistently achieve higher scores. These contextual factors help explain why provinces in the low-engagement group (Table 2) tend to cluster in less developed regions, particularly in eastern Indonesia.

4.4 Participation typology

Provinces can be grouped into three engagement categories: **high (IPP ≥ 70), moderate (60 ≤ IPP < 70),** and **low (IPP < 60)**. Six provinces (15.8 percent) fall into the high category, demonstrating balanced participation throughout the electoral cycle. Twenty-four provinces (63.2 percent) display moderate engagement, marked by strong election-day participation but weaker post-election follow-up. The remaining eight provinces (21.0 percent) are classified as low-engagement, mostly located in eastern Indonesia where logistical and institutional barriers remain. Table 2 summarises these patterns.

Table 2. Distribution of Provincial Participation Typologies (IPP 2024)

Typology	IPP Range	Number of Provinces	Example Provinces	Mean IPP
High engagement	≥ 70	6	East Java, Yogyakarta, West Java	74.7
Moderate engagement	60–70	24	South Sulawesi, South Sumatera, West Kalimantan	63.6
Low engagement	< 60	8	West Papua, Maluku, Southweast Papua	55.2

Note: Provincial participation typologies are classified based on total IPP scores in 2024, where higher scores indicate stronger electoral engagement across dimensions.

4.5 Spatial interpretation

Spatial patterns of the IPP correspond closely to broader socio-economic and infrastructural divides. Western provinces benefit from denser populations, stronger civic networks, and higher digital connectivity, which together support more inclusive participation. In contrast, eastern regions face logistical barriers, limited infrastructure, and weaker civil-society presence, leading to lower composite scores. These disparities indicate that participation is not only a function of individual motivation but also a structural outcome of institutional capacity and resource distribution. Strengthening participation therefore requires targeted efforts to reduce infrastructural inequality and enhance the administrative capabilities of provincial EMBs.

4.6 Summary of descriptive analysis

Three key insights emerge from the descriptive analysis. First, while Indonesia's overall level of participation is relatively high, substantial sub-national disparities remain. Second, participation intensity is highest during post-election evaluation but lowest during early mobilisation, indicating that sustained engagement is still limited. Third, socio-economic development, digital connectivity, and administrative capacity jointly shape provincial participation.

Figures 2–4 and Table 2 collectively illustrate these findings, showing that Indonesia's democracy is not defined solely by high turnout but by its uneven ability to sustain citizen–institution collaboration throughout the electoral cycle.

Figure 4. National Compilation of IPP and Dimension Scores (Indonesia, 2024)
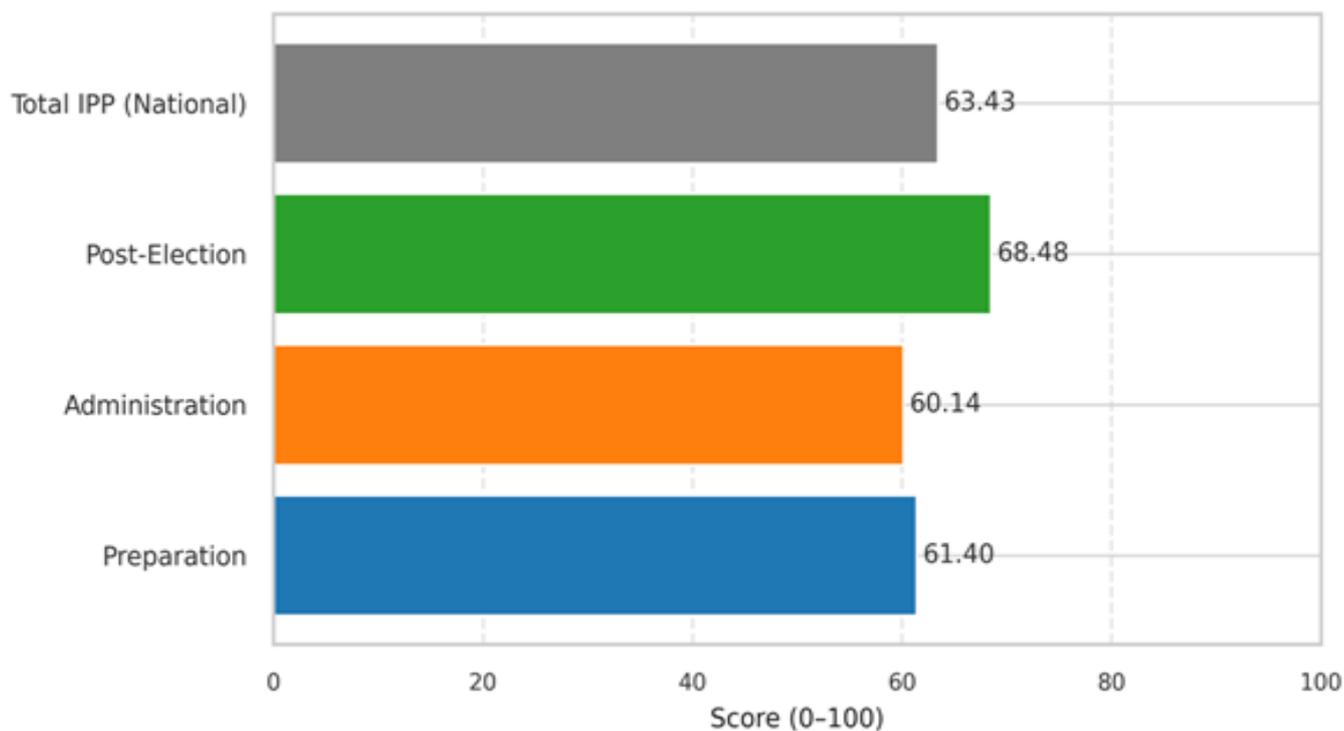
Note: Scores represent national averages on a 0–100 scale. The Post-Election dimension records the highest national score, followed by Preparation and Administration. The total IPP (63.4) reflects a moderate but uneven pattern of electoral participation across Indonesia's provinces.

5. Discussion and Use Cases:

The Indonesian Electoral Participation Index (IPP) provides new insights into both the empirical study of participation and the management of electoral processes. This section discusses how the IPP advances comparative research, strengthens electoral governance, and contributes to theoretical and methodological debates on participation. By integrating pre-, during-, and post-election engagement within a single composite framework, the IPP moves beyond conventional turnout-based measures to capture participation as a multidimensional process.

5.1 Conceptual implications

The IPP reframes electoral participation as a continuous process rather than a discrete event. By encompassing pre-election mobilisation, election-day administration, and post-election learning, it aligns with recent work viewing participation as an iterative relationship between citizens and institutions (Ostrom 1996; Voorberg et al. 2015; James 2019). This approach expands the analytical scope beyond turnout, linking institutional performance and civic behaviour across multiple phases of the democratic cycle.

The findings challenge the assumption that high turnout necessarily reflects robust democratic engagement. Provincial differences show that substantial inequalities persist even under conditions of high aggregate participation. These disparities highlight the need for indicators that account for both institutional capacity and citizens' sustained involvement. The IPP thus bridges behavioural models of participation, which focus on individual determinants, with governance-oriented frameworks emphasising administrative performance and inclusiveness (Verba, Schlozman & Brady 1995; Norris & Grömping 2019).

5.2 Research applications

As an openly accessible, standardised, and replicable dataset, the IPP opens new possibilities for scholarly inquiry. Researchers can use the index to explore how socio-economic conditions, institutional quality, and digital infrastructure influence engagement across sub-national

contexts. Its dimensional structure enables multilevel and spatial analyses linking individual, provincial, and national dynamics. Future studies could test whether improvements in pre-election education programmes predict higher post-election involvement, or whether administrative innovations reduce participation gaps between urban and rural provinces.

Because SIPARMAS data are collected continuously, the IPP can also support longitudinal studies assessing changes in participation over time. This temporal dimension allows scholars to examine whether reforms in electoral management lead to greater inclusiveness across successive elections. Methodologically, the IPP demonstrates how administrative data can be converted into a reliable composite measure using transparent weighting and validation techniques, offering a model for similar sub-national indices in other democracies.

5.3 Policy and governance relevance

Beyond academic research, the IPP has direct relevance for electoral management and policy design. The General Elections Commission (KPU) can use the index as a diagnostic tool to identify provinces with structural weaknesses at specific stages of the electoral cycle. For instance, provinces with strong pre-election mobilisation but weak post-election learning may benefit from targeted capacity-building and civic feedback programmes. Likewise, regions with low preparation scores may require intensified voter education and partnerships with civil-society organisations.

The index also provides evidence-based guidance for participatory governance. Provincial governments can integrate IPP indicators into policy planning to align voter education, campaign regulation, and evaluation activities with measurable participation outcomes. By tracking engagement across stages, the KPU can monitor the impact of interventions on transparency and accountability. Institutionalising the IPP as a regular evaluation instrument would help embed evidence-based decision-making in Indonesia's electoral governance.

5.4 Comparative and international relevance

The conceptual and methodological framework of the IPP makes it a valuable addition to the global ecosystem of participation datasets. It complements cross-national indices such as V-Dem and the International IDEA Global State of Democracy by providing sub-national granularity that these datasets lack. Integrating multiple phases of participation allows comparative analysis of democratic trajectories across emerging democracies where decentralisation and inequality remain central challenges.

Sharing the IPP through institutional repositories enhances its international utility. Researchers can adapt its dimensional structure to measure engagement processes in other decentralised systems such as India, Brazil, or Nigeria. By applying standardised weighting, documentation, and validation procedures, the IPP can serve as both a benchmark and a methodological template for constructing multidimensional participation indices worldwide.

5.5 Limitations and future directions

While the IPP provides a comprehensive account of electoral participation, several limitations deserve attention. Because it relies primarily on administrative data, it may underrepresent informal or community-based participation not captured by official institutions (Birch 2010). Future iterations could integrate complementary survey measures to capture citizens' perceptions and motivations. In addition, full longitudinal validation will become possible only after subsequent electoral cycles, once SIPARMAS reporting achieves consistent coverage across years. Addressing these limitations will further enhance the IPP's analytical strength and policy relevance for future research.

6. Conclusion:

The Indonesian Electoral Participation Index (IPP) offers the first systematic, sub-national measure of electoral participation in Indonesia that integrates the pre-election, election-day, and post-election stages into a single composite framework. By transforming verified administrative data from the General Elections Commission (KPU) into a multidimensional index, the IPP moves the

analysis of participation beyond turnout and towards a fuller understanding of citizen–institution interaction across the electoral cycle.

Conceptually, the IPP bridges behavioural approaches to participation with governance-oriented theories that emphasise administrative performance and inclusiveness. It reframes participation as a process of co-production between citizens and institutions, where civic motivation and institutional capacity jointly sustain democratic engagement.

Methodologically, the IPP demonstrates how administrative records can be converted into a transparent and replicable index that meets international standards for composite-indicator construction. Empirically, it reveals that Indonesia's high national turnout conceals substantial sub-national disparities: provinces with strong civil-society networks and digital infrastructure perform best, while those facing logistical and institutional constraints lag behind.

The findings highlight that the strength of Indonesia's democracy lies not only in citizens' willingness to vote but also in the capacity of electoral institutions to maintain engagement before and after election day. Nationally, participation peaks during post-election evaluation yet remains weakest in early mobilisation, underscoring the need for targeted efforts to strengthen preparation activities. For policymakers, the IPP provides a diagnostic tool to identify provincial weaknesses and evaluate the effects of reforms aimed at enhancing transparency, education, and feedback mechanisms.

Beyond Indonesia, the IPP fills an important gap in the global data landscape. Its sub-national granularity and multidimensional design make it adaptable to other decentralised democracies, enabling comparative research on participatory governance. By sharing the dataset through institutional repositories with full methodological documentation, Indonesia contributes not only to its own democratic consolidation but also to the broader comparative study of electoral participation worldwide.

In summary, the IPP demonstrates that administrative data, when carefully standardised and validated, can capture the complex dynamics of democratic participation. It provides scholars with a new instrument for analysing engagement across the electoral cycle and offers policymakers evidence to strengthen participatory governance. The index stands as both a methodological innovation and a practical tool for understanding how democracies sustain citizen involvement beyond the ballot box.

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