The Impact of Intergovernmental Relations and Community Participation on Voter List Quality in Surabaya's 2024 Election

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Abstrak

One manifestation of the democratic process is people's political participation in elections, where every individual has the freedom to exercise their right to vote. The success of general elections is closely linked to the accuracy of voter data, which is influenced by intergovernmental relations and community participation. Surabaya, the city with the largest number of registered voters in East Java, totaling 2,218,586 people, serves as the focus of this study. In this research, intergovernmental relations refer to the collaboration between the Surabaya General Election Commission and its ad hoc bodies, while community participation pertains to Surabaya's permanent voter list. However, challenges persist in voter data updating, including inadequate coordination among ad hoc bodies and a lack of cooperation from certain community segments. This study aims to assess the impact of intergovernmental relations and community participation on the quality of the 2024 General Election Permanent Voter List in Surabaya. The research used a quantitative research approach; data was collected through offline and online questionnaires distributed to 100 respondents. This finding shows that independent variables such as intergovernmental relations and community participation resulted in an R^2 of 80.5% of the dependent variable, data quality. This indicates that they are categorized as having a strong influence. Moreover, the f^2 test results reveal that the community participation variable (1.953) has a greater effect than the intergovernmental relations variable (0.110). The suggestion of this research is to strengthen the regulatory transparency of the intergovernmental communication mechanism and develop a legal mandate for participatory verification and oversight.

Kata kunci: intergovernmental relations; community participation; data quality.

I. Introduction

Indonesia is one of the countries that implements the principles of democracy. Democracy means that every citizen has the right and freedom to have an opinion. One of the essential manifestations of democratic principles is the active political participation of citizens in the electoral process. This participation reflects the public's right to engage in general elections, which are conducted every five years, as mandated by Article 22E, paragraph 6 of the 1945 Constitution (Arniti, 2020).

The organization of general elections is inseparable from community involvement. Every Indonesian citizen has the same right to voice their aspirations and cast their votes, especially regarding elections. Community participation based on awareness and compliance with the law will have a better impact in the future (Fitrianingrum, 2021). However, the real reality is that some citizens have lost their voting rights. This phenomenon can be attributed to several factors, including ambiguous personal identification, population displacement, and inaccuracies in data collection and management. To prevent the emergence of duplicate NIK, national standardization is needed in a consistent population numbering system supported by sufficient population data updates. Limited integration between administrative systems means that data verification is not carried out in real time, increasing the risk of duplication. In addition, although the scope of KTP has expanded, the effectiveness of utilizing computerized systems in KTP management is still lacking. Many areas experience infrastructure constraints, such as unstable internet networks and outdated equipment, as well as a lack of protected human resources for operating systems, thus hampering the validation and data recording process (Nurany et al., 2021).

Every citizen who has fulfilled the eligibility criteria to vote and is officially registered by the Election Commission is included in the permanent voters list. The permanent voter list requirements have been regulated in General Election Commission Regulation Number 2, Year 2017. However, before the determination of the Permanent Voters List, it is necessary to synchronize the data by the authorized institution. In this context, voter data updating officers from the lowest administrative level to the General Election Commission must ensure the accuracy and validity of voter data in accordance with the actual conditions of eligible voters. The issue of the quality and accuracy of the permanent voter list is the joint responsibility of election stakeholders such as the General Election Commission, the Ministry of Home Affairs (MoHA), the Ministry of Foreign Affairs (MoFA), the Population and Civil Registration Office (Disdukcapil), the Election Supervisory Agency (Bawaslu), and active participation from all levels of society. All stakeholders in the election participated in making a very big contribution to be able to realize the accuracy and quality of the Permanent Voters List (Delviani, 2019).

In July 2023, the General Elections Commission of the Republic of Indonesia held an open plenary meeting. It resulted in the determination of the permanent voter list for the 2024 General Elections, as many as 204,807,222 voters, with details of the number of domestic permanent voters (as many as 203,056,748) and the number of overseas permanent voters (as many as 1,750,474). The following is a description of the recapitulation of the permanent voter list at the national level in organizing the 2024 General Election:
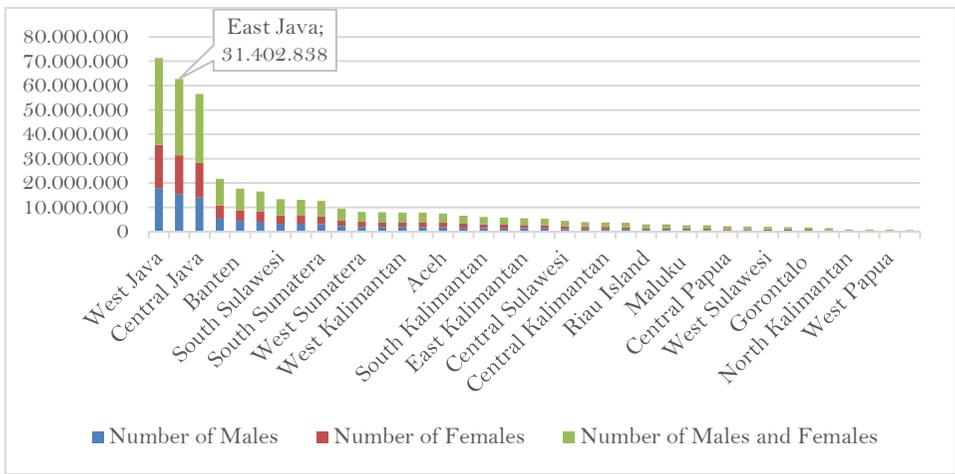
Figure 1. Details of the 2024 National Election Permanent Voter List

Source: Data processed by researchers from the General Election Commission of the Republic of Indonesia, 2024

Based on the recapitulation of the permanent voter list for the 2024 General Elections at the national level determined by the General Elections Commission of the Republic of Indonesia, the permanent voter list of East Java Province is the region with the second largest permanent voter list for the General Elections after Central Java Province, which has 31,402,838 voters. If it is broken down again, the permanent voter list election data will be obtained based on regencies/cities as follows:
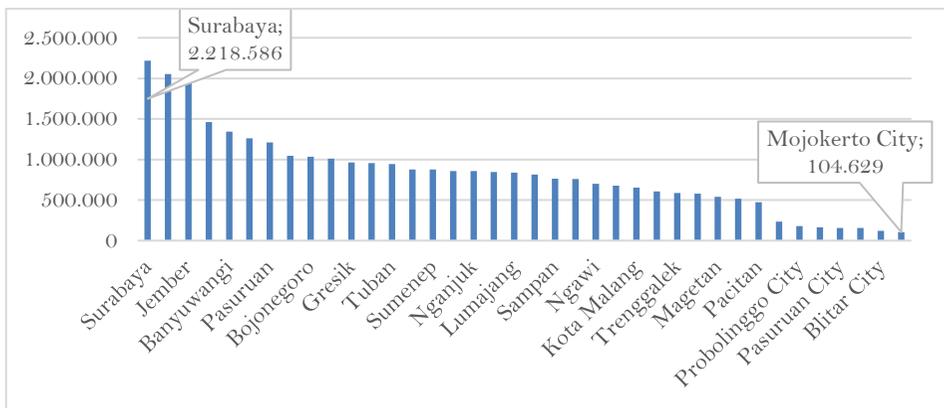
Figure 2. Details of the Permanent Voter List for the 2024 General Election at the East Java Province Level

Source: Data processed by researchers from the General Election Commission of the Republic of Indonesia, 2024

Among the 38 districts/cities in East Java province, Surabaya is the top region with the largest permanent voters list, which is 2,218,586. Meanwhile, the smallest number of permanent voters on the list in East Java is in Mojokerto City, with 104,629 voters. The list of permanent voters in Surabaya can be seen in detail below:
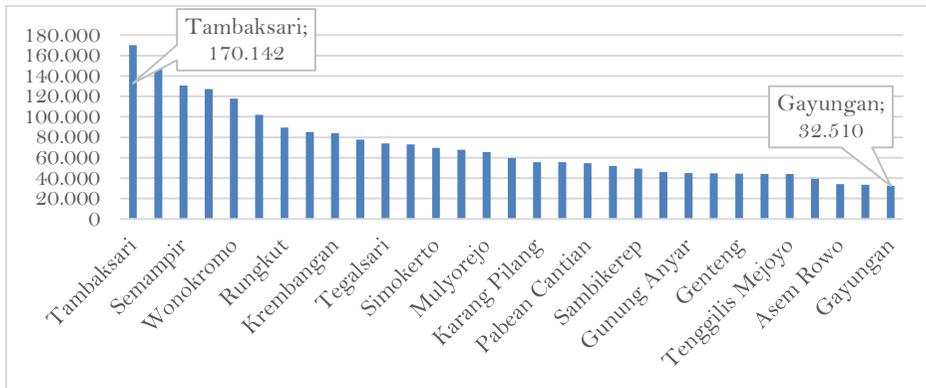
Figure 3. Details of the Permanent Voter List for the 2024 Election in Surabaya City

Source: Data processed by researchers from the General Election Commission of the Republic of Indonesia, 2024

Based on the data above, it is known that the permanent voter list for the 2024 General Election in Surabaya City is 2,218,586 people. The region with the most Permanent voter list data comes from Tambaksari Subdistrict, which has 170,142 voters, while the least permanent voter list data comes from Gayungan Subdistrict, which has 32,510 voters.

The success of preparing an accurate and synchronized permanent voter list is significantly influenced by community participation. This participation reflects an active and continuous engagement initiated by the community through tangible actions. When such participation is supported by the community's willingness and capacity, it becomes a crucial contributing factor to the success of various activities or programs aimed at achieving collective benefits (Monofa and Eprilianto, 2023). In updating voter data, there is often a lack of cooperative community participation. Community awareness and involvement play an important role in preparing the permanent voter list for the 2024 General Election in Surabaya City. The success of the preparation of the permanent voter list for the General Election is also based on community participation. In this case, community participation is characterized by community awareness in validating or checking election voting rights in their respective areas of residence.

In this study, intergovernmental relations will be measured based on Wright in Irwanto 2015 in Aryanti and Setyowati 2018, where there are five kinds of indicators, namely the roles of government, the interactions of public officials, sustainability communication, the roles of administrators, and focused attention on the policy. Meanwhile, community participation is analyzed based on the opinion of Cohen and Uphoff in Siti Irine Astuti D (2009), which consists of participation in decision-making, participation in implementation, participation in benefits, and participation in evaluation. In addition, data quality is measured from the opinion of Ladewi et al. (2024), which consists of completeness, uniqueness, validity, accuracy, consistency, and timeliness.

II.   Research Question

In a democratic system, the credibility of electoral processes is closely tied to the integrity of voter data. The quality of the Permanent Voter List (DPT) reflects how effectively electoral institutions coordinate and how actively the public engages in data verification processes. This study is centered on Surabaya, the city with the largest voter population in East Java, and aims to evaluate two key determinants of voter data quality: intergovernmental relations and

community participation. By examining the collaboration between the Surabaya General Election Commission (KPU) and its ad hoc bodies, as well as the level of public involvement in voter data management, this research seeks to uncover which factor exerts greater influence on DPT accuracy and what challenges persist in the field. Based on this aim, the following research question is formulated:

How do intergovernmental relations and community participation affect the quality of the 2024 General Election Permanent Voter List (DPT) in Surabaya?

III.   Method

This research uses quantitative research, with data collection methods by distributing questionnaires offline and online. The population taken in this study is data on people registered in the permanent voter list for the 2024 election in Surabaya City, totaling 2,218,586 people. The sample of this research was selected using probability sampling with a simple random side technique. The sample calculation was carried out based on the Slovin formula (in Husein, 2003) as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Description:
n   =   Sample size
N   =   Population size
e   =   The percentage of inaccuracy due to sampling error that can still be
          tolerated (e=10%)
So, the calculations can be made using the Slovin formula as follows:

$$n = \frac{2.218.586}{1 + 2.218.586 \ (10)^2}$$

$$n = \frac{2.218.586}{1 + 2.218.586 \ (0,1)^2}$$

$$n = \frac{2.218.586}{1 + 2.218.586 \ x \ 0,01}$$

$$n = \frac{2.218.586}{22.186,86}$$

$$n = 99,99 = 100$$

Based on the calculations above, the sample size is determined to be 99.99, which is rounded up to 100. Therefore, the researcher used a sample of 100 respondents for this study.

The independent variables in this study are the intergovernmental network and community participation. The independent variables, indicators, and symbols are presented in the following table:

Table 1. Independent Variables

Independent Variable	Indicator	Symbol
Intergovernmental Relations	The Roles of Government	X1.1
	The Interaction of Public Officials	X1.2
	Sustainability Communication	X1.3
	The Roles of Administrator	X1.4
	Focus Attention on The Policy	X1.5
Community Participation	Participation in decision-making	X2.1
	Participation in implementation	X2.2
	Participation in benefit	X2.3
	Participation in evaluation	X2.4

Source: Researcher processed data, 2024

The dependent variable in this study is data quality. The dependent variables, indicators, and symbols are presented in the following table 2:

Table 2. Dependent Variables

Dependent Variable	Indicator	Symbol
Data quality	Completeness	Y1.1
	Uniqueness	Y1.2
	Validity	Y1.3
	Accuracy	Y1.4
	Consistency	Y1.5
	Timeliness	Y1.6

Source: Researcher processed data, 2024

The research instrument, in the form of a questionnaire distributed to respondents, contains questions with a Likert measurement scale using a scale of answer choices scored 1 - 5, with details of the scale of answer choices 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, and 5 = Strongly Agree. After the data is obtained, it will be inputted using the help of Smart PLS 3.0, and then the results will be analyzed. The hypothesis in this study is

1. Intergovernmental Relations positively influence the data quality of the permanent voter list for the 2024 General Election in Surabaya City.
2. Community participation has a positive effect on the data quality of the permanent voter list for the 2024 General Election in Surabaya City.

IV.   Result and Discussion

Surabaya is the second-largest city in Indonesia after Jakarta and serves as the capital of East Java Province. Administratively, the city comprises 31 sub-districts and 154 villages, covering an area of approximately 335.28 km². As of mid-2023, Surabaya's population reached 3,009,286 residents, consisting of 1,490,358 men and 1,518,928 women (Dinas, 2023).

Based on General Election Commission of Surabaya Decree Number 535 of 2023, stipulated on June 21, 2023, the recapitulation of the permanent voter list for the General Election in Surabaya City in 2024 amounted to 2,218,586 voters. The permanent voter list election data

can be seen in the following table 3:

Table 3. Recapitulation of Permanent Voter List For 2024 Elections in Surabaya City

No.	Name of Sub-Districts	Male	Female	Total
1	Karang Pilang	26.756	28.881	55.637
2	Wonocolo	28.894	30.706	59.600
3	Rungkut	43.411	46.081	89.492
4	Wonokromo	56.464	61.440	117.904
5	Tegalsari	35.852	38.107	73.959
6	Sawahan	72.858	77.322	150.180
7	Genteng	21.413	22.928	44.341
8	Gubeng	48.796	53.079	101.875
9	Sukolilo	41.310	43.733	85.043
10	Tambaksari	82.760	87.382	170.142
11	Simokerto	34.019	35.514	69.533
12	Pabean Cantian	26.613	28.086	54.699
13	Bubutan	35.419	37.563	72.982
14	Tandes	32.781	35.064	67.845
15	Krembangan	40.769	43.042	83.811
16	Semampir	64.026	66.528	130.554
17	Kenjeran	62.768	64.497	127.265
18	Lakarsantri	22.598	23.519	46.117
19	Benowo	25.270	26.468	51.738
20	Wiyung	27.059	28.416	55.475
21	Dukuh Pakis	21.299	22.878	44.177
22	Gayungan	15.383	17.127	32.510
23	Jambangan	19.114	20.465	39.579
24	Tenggilis Mejoyo	21.282	22.694	43.976
25	Gunung Anyar	21.768	23.183	44.951
26	Mulyorejo	31.663	33.993	65.656
27	Sukomanunggal	37.899	39.775	77.674
28	Asem Rowo	17.025	17.106	34.131
29	Bulak	16.309	17.145	33.454
30	Pakal	22.168	22.607	44.775
31	Sambikerep	24.255	25.256	49.511
	Total			2.218.586

Source: Data processed by researchers from the KPU of Surabaya City, 2024

The sample in this study consists of individuals registered in the 2024 General Election permanent voter list in Surabaya City. A detailed overview of the respondents' profiles is presented in Table 4.

The table above explains the distribution of respondents based on gender, age, and involvement in the General Election. Based on the collected questionnaires, both online and offline, the respondent distribution reveals several key demographic patterns. In terms of gender, the majority of respondents were women, totaling 56 individuals, or 56%. Regarding age, the 17-25 years age group constituted the largest portion, comprising 72 respondents, or 72% of the total sample. Furthermore, based on General Election involvement, the general public category dominated, with 71 respondents, or 71% of the total participants.

Table 4. Characteristics of Respondents

Characteristics	Total Respondents	Percentage (%)
Gender		
Men	44	44
Female	56	56
Age		
17-25 years old	72	72
26-35 years old	18	18
35-45 years old	6	6
>45 years old	4	4
Election Involvement		
General Public	71	71
Voting Organizing Group (KPPS)	22	22
Voter Data Updating Committee (Pantarlih)	2	2
Voting Committee (PPS)	2	2
Sub-district Election Committee (PPK)	2	2
Surabaya General Election Commission (KPU Surabaya)	1	1

Source: Researcher processed data, 2024

4.1. Descriptive Analysis of Research

In this study, intergovernmental relations will be measured based on Wright in Irwanto 2015 in Aryanti and Setyowati 2018, where there are five types of indicators, namely the roles of government ($X1.1$), the interactions of public officials ($X1.2$), sustainability communication ($X1.3$), the roles of administrators ($X1.4$), and focused attention on the policy ($X1.5$). The distribution of data and the average score of each indicator of the intergovernmental relations variable ($X1$) can be seen through the following Table 5.

Table 5. Descriptive Statistics of Intergovernmental Relations Variables

Research Variables	Research Dimension Symbols	Research Indicator Symbols	Mean	Standard Deviation
X1	X1.1	X1.1.1	3.420	1.168
		X1.1.2	3.390	1.148
		X1.1.3	3.400	0.990
	X1.2	X1.2.1	3.600	1.105
		X1.2.2	3.560	1.061
		X1.2.3	3.580	0.982
		X1.2.4	3.650	1.052
	X1.3	X1.3.1	3.300	1.091
		X1.3.2	3.550	1.023
		X1.3.3	3.420	1.124
	X1.4	X1.4.1	3.550	0.942
		X1.4.2	3.490	0.995
		X1.4.3	3.540	0.953
	X1.5	X1.5.1	3.560	1.061
		X1.5.2	3.630	1.016
		X1.5.3	3.660	1.022

Source: Researcher processed data from Smart PLS 3, 2024

The data in Table 5 shows a mean value range of 3.300 to 3.660, which means that the majority of respondents in this study answered quite agree for each indicator of the intergovernmental relations variable from the questionnaire that had been given. The standard deviation with the lowest value of the dimension of the roles of government (X1.1) is the research indicator code (X1.1.3) with a value of 0.990. The interaction dimension of public officials (X1.2) has the lowest standard deviation at 0.982, specifically for the research indicator code (X1.2.3). Similarly, in the sustainability communication dimension (X1.3), the lowest standard deviation is observed in the research indicator code (X1.3.2), with a value of 1.023. The dimension of the roles of administrators (X1.4) has the lowest standard deviation with the research indicator code (X1.4.1) with a value of 0.942. While the dimension of focusing attention on the policy (X1.5) has the lowest standard deviation with the research indicator code (X1.5.2) with a value of 1.016. Each indicator in one variable that has the lowest standard deviation means that the answers are the most homogeneous in one variable. The lower the standard deviation on an indicator, the closer the response to the average value (Haryonno et al, 2023).

Meanwhile, community participation is measured based on the theory of community participation proposed by Cohen and Uphoff in Siti Irine Astuti D. (2009), which consists of four kinds of indicators, namely participation in decision-making (X2.1), participation in implementation (X2.2), participation in benefits (X2.3), and participation in evaluation (X2.4). The distribution of data and the average score of each indicator of the community participation variable (X2) can be seen in Table 6.

Table 6. Descriptive Statistics of Community Participation Variables

Research Variables	Research Dimension Symbols	Research Indicator Symbols	Mean	Standard Deviation
X2	X2.1	X2.1.1	3.850	1.052
		X2.1.2	4.020	0.938
		X2.1.3	3.890	1.009
		X2.1.4	3.950	1.090
	X2.2	X2.2.1	4.020	0.927
		X2.2.2	4.160	0.902
		X2.2.3	4.100	0.995
		X2.2.4	4.080	0.935
	X2.3	X2.3.1	3.740	0.879
		X2.3.2	4.010	0.954
		X2.3.3	3.970	0.842
		X2.3.4	4.010	0.911
	X2.4	X2.4.1	3.940	0.870
		X2.4.2	3.820	0.865
		X2.4.3	3.910	0.814
		X2.4.4	4.010	0.900

Source: Researcher processed data from Smart PLS 3, 2024

The data presented in Table 6 indicates a mean value range between 3.740 and 4.160, suggesting that the majority of respondents expressed responses ranging from moderately agree to agree for each indicator of the community participation variable, based on the distributed questionnaire. The standard deviation with the lowest value of the participation of the decision-making dimension (X2.1) with the research indicator code (X2.1.2) with a value of 0.938. The dimension of participation in implementation (X2.2) has the lowest standard deviation with the research indicator code (X2.2.2) with a value of 0.902. The dimension of participation in benefits

(X2.3) has the lowest standard deviation with the research indicator code (X2.3.3) with a value of 0.842. The dimension of participation in evaluation (X2.4) has the lowest standard deviation with the research indicator code (X2.4.3) with a value of 0.814. Each indicator in one variable that has the lowest standard deviation means that the answers are the most homogeneous in one variable. The lower the standard deviation on an indicator, the closer the response to the average value.

In this study, data quality is measured based on the data quality theory put forward by Ladewi et al. (2024), which consists of six indicators, namely completeness (completeness) (Y1.1), uniqueness (uniqueness) (Y1.2), validity (valid) (Y1.3), accuracy (accurate) (Y1.4), and consistency (consistent) (Y1.5). The distribution of data and the number of average scores for each indicator of the data quality variable (Y1) can be seen in Table 7.

The data in Table 7 above shows a mean value range of 3.800 to 4.250, which means that the majority of respondents in this study answered moderately agree to agree for each indicator of the public participation variable from the questionnaire that has been given. The standard deviation with the lowest value of the completeness dimension (Y1.1) is the research indicator code (Y1.1.1) with a value of 0.853. The dimension of uniqueness (Y1.2) has the lowest standard deviation with the research indicator code (Y1.2.1) with a value of 0.921. The validity dimension (Y1.3) demonstrates the lowest standard deviation in the research indicator code (Y1.3.1), with a value of 0.872. Similarly, the accuracy dimension (Y1.4) records its lowest standard deviation at 0.853 for the research indicator code (Y1.4.2). In the consistency dimension (Y1.5), research indicator code (Y1.5.2) shows the lowest standard deviation of 0.808, while the timeliness dimension (Y1.6) exhibits its lowest standard deviation in research indicator code (Y1.6.2), with a value of 0.828. Each indicator in one variable that has the lowest standard deviation means that the answers are the most homogeneous in one variable. The lower the standard deviation on an indicator, the closer the response to the average value (Haryonno et al., 2023).

Table 7. Descriptive Statistics of Community Participation Variables

Research Variables	Research Dimension Symbols	Research Indicator Symbols	Mean	Standard Deviation
Y1		Y1.1.1	4,250	0,853
	Y1.1	Y1.1.2	4,150	0,921
		Y1.1.3	4,090	0,895
		Y1.2.1	4,250	0,921
	Y1.2	Y1.2.2	4,070	0,962
		Y1.2.3	4,060	0,925
		Y1.3.1	3,980	0,872
	Y1.3	Y1.3.2	3,800	0,927
		Y1.3.3	3,970	0,888
		Y1.4.1	4,150	0,921
	Y1.4	Y1.4.2	4,180	0,853
		Y1.4.3	3,860	0,928
		Y1.5.1	4,010	0,877
	Y1.5	Y1.5.2	4,080	0,808
		Y1.5.3	3,980	0,894
		Y1.6.1	4,020	0,948
	Y1.6	Y1.6.2	4,070	0,828
		Y1.6.3	3,930	0,863

Source: Researcher processed data from Smart PLS 3, 2024

4.2. Outer Model Testing

Outer model testing is a testing model that aims to assess each indicator on respondents who have a relationship with other variables. This test is also used for validity and reliability (Ghozali et al., 2015). The following is presented as the path diagram in this research model:
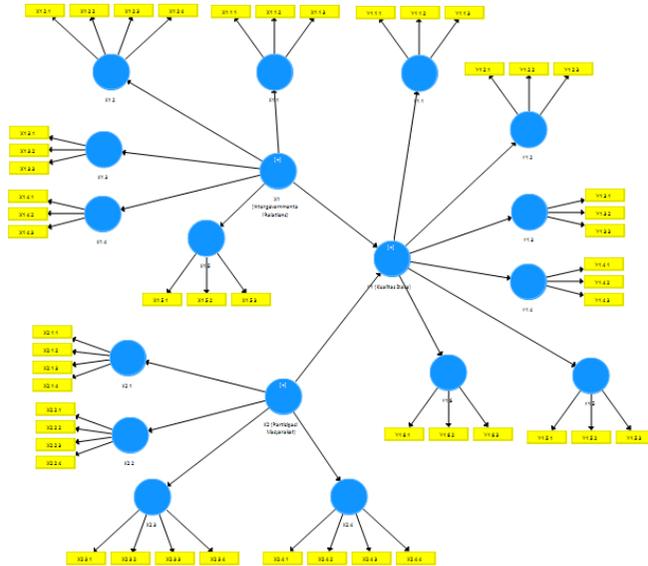

Figure 4. Research Path Diagram

Source: Data from output SmartPLS 3, 2024

The path diagram connects variables, namely the intergovernmental network (X1) and community participation (X2) variables as exogenous variables. And then the data quality variable (Y1) as an endogenous variable. The single arrow shows the causal relationship between exogenous variables and endogenous variables. The path diagram above includes second-order confirmatory factor analysis (CFA), where the intergovernmental network variable (X1) has six dimensions, and each dimension has three indicators. The community participation variable (X2) has four dimensions, and each dimension has four indicators. The data quality variable (Y1) has six dimensions, with each dimension having three indicators.

In the assessment of the outer model using Smart PLS 3, three fundamental criteria are used to evaluate the quality of the measurement model, such as convergent validity, discriminant validity, and composite reliability.

4.2.1 Convergent Validity Test (Convergent Validity)

The validity test, specifically convergent validity, is conducted to determine the strength of the correlation between constructs and their corresponding latent variables. This test evaluates the extent to which the statements or indicators in the questionnaire accurately represent the intended construct, ensuring consistency and alignment within the measurement model. According to Sekaran (2016), indicators can be considered to meet convergent validity if they have an outer loading value > 0.70. Below is the result of the outer loading value test:

Table 8. Outer Loading Test Results

Research Indicators	Loading Factor on Variables	Dec	Loading Factor on Indicators	Dec
X1.1.1	0,738	Valid	0,874	Valid
X1.1.2	0,791	Valid	0,919	Valid
X1.1.3	0,819	Valid	0,860	Valid
X1.2.1	0,837	Valid	0,857	Valid
X1.2.2	0,811	Valid	0,894	Valid
X1.2.3	0,827	Valid	0,877	Valid
X1.2.4	0,681	Out	0,811	Out
X1.3.1	0,790	Valid	0,851	Valid
X1.3.2	0,768	Valid	0,842	Valid
X1.3.3	0,754	Valid	0,830	Valid
X1.4.1	0,780	Valid	0,899	Valid
X1.4.2	0,765	Valid	0,871	Valid
X1.4.3	0,742	Valid	0,918	Valid
X1.5.1	0,731	Valid	0,793	Valid
X1.5.2	0,802	Valid	0,894	Valid
X1.5.3	0,753	Valid	0,862	Valid
X2.1.1	0,661	Out	0,784	Out
X2.1.2	0,773	Valid	0,818	Valid
X2.1.3	0,516	Out	0,675	Out
X2.1.4	0,707	Valid	0,809	Valid
X2.2.1	0,747	Valid	0,795	Valid
X2.2.2	0,833	Valid	0,894	Valid
X2.2.3	0,861	Valid	0,883	Valid
X2.2.4	0,782	Valid	0,879	Valid
X2.3.1	0,672	Out	0,770	Out
X2.3.2	0,876	Valid	0,922	Valid
X2.3.3	0,847	Valid	0,862	Valid
X2.3.4	0,846	Valid	0,892	Valid
X2.4.1	0,821	Valid	0,855	Valid
X2.4.2	0,774	Valid	0,851	Valid
X2.4.3	0,735	Valid	0,806	Valid
X2.4.4	0,761	Valid	0,805	Valid
Y1.1.1	0,863	Valid	0,935	Valid
Y1.1.2	0,832	Valid	0,927	Valid
Y1.1.3	0,784	Valid	0,862	Valid
Y1.2.1	0,821	Valid	0,901	Valid
Y1.2.2	0,763	Valid	0,837	Valid
Y1.2.3	0,777	Valid	0,866	Valid
Y1.3.1	0,801	Valid	0,840	Valid
Y1.3.2	0,771	Valid	0,881	Valid

Research Indicators	Loading Factor on Variables	Dec	Loading Factor on Indicators	Dec
Y1.3.3	0,805	Valid	0,916	Valid
Y1.4.1	0,892	Valid	0,930	Valid
Y1.4.2	0,860	Valid	0,886	Valid
Y1.4.3	0,746	Valid	0,800	Valid
Y1.5.1	0,789	Valid	0,908	Valid
Y1.5.2	0,817	Valid	0,869	Valid
Y1.5.3	0,827	Valid	0,903	Valid
Y1.6.1	0,834	Valid	0,862	Valid
Y1.6.2	0,853	Valid	0,904	Valid
Y1.6.3	0,832	Valid	0,921	Valid

Source: Researcher processed data from Smart PLS 3, 2024

The results of the outer loading value in the table above can be seen in the following path diagram output:
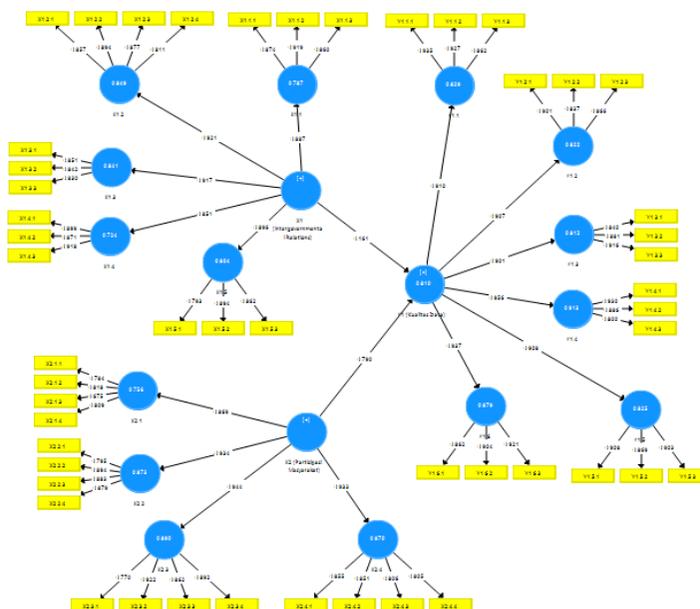

Figure 5. Path Diagram Outer Loading Tes Results
Source: Data from output SmartPLS 3, 2024

In Table 8, certain dimensions and indicators still exhibit values below 0.7, rendering them invalid. Consequently, these indicators must be eliminated to ensure the overall reliability and validity of the measurement model. Indicators that have a value of less than 0.70 are indicator X1.2.4 with a value of 0.681; dimension X2.1.1 with a value of 0.661; indicator X2.1.3 with a value of 0.516; and indicator X2.3.1 with a value of 0.672. After removing the invalid indicators, the updated results are presented in Table 9.

Table 9. Outer Loading Test Results

Research Indicators	Loading Factor on Variables	Dec	Loading Factor on Indicators	Dec
X1.1.1	0,737	Valid	0,873	Valid
X1.1.2	0,797	Valid	0,920	Valid
X1.1.3	0,818	Valid	0,860	Valid
X1.2.1	0,839	Valid	0,894	Valid
X1.2.2	0,806	Valid	0,919	Valid
X1.2.3	0,813	Valid	0,858	Valid
X1.3.1	0,786	Valid	0,851	Valid
X1.3.2	0,762	Valid	0,841	Valid
X1.3.3	0,752	Valid	0,831	Valid
X1.4.1	0,788	Valid	0,899	Valid
X1.4.2	0,777	Valid	0,872	Valid
X1.4.3	0,751	Valid	0,918	Valid
X1.5.1	0,734	Valid	0,793	Valid
X1.5.2	0,806	Valid	0,894	Valid
X1.5.3	0,761	Valid	0,863	Valid
X2.1.2	0,777	Valid	0,882	Valid
X2.1.4	0,705	Valid	0,855	Valid
X2.2.1	0,748	Valid	0,793	Valid
X2.2.2	0,842	Valid	0,894	Valid
X2.2.3	0,872	Valid	0,884	Valid
X2.2.4	0,808	Valid	0,881	Valid
X2.3.2	0,876	Valid	0,935	Valid
X2.3.3	0,856	Valid	0,890	Valid
X2.3.4	0,849	Valid	0,898	Valid
X2.4.1	0,833	Valid	0,857	Valid
X2.4.2	0,766	Valid	0,850	Valid
X2.4.3	0,726	Valid	0,805	Valid
X2.4.4	0,757	Valid	0,804	Valid
Y1.1.1	0,863	Valid	0,935	Valid
Y1.1.2	0,832	Valid	0,927	Valid
Y1.1.3	0,784	Valid	0,862	Valid
Y1.2.1	0,821	Valid	0,901	Valid
Y1.2.2	0,763	Valid	0,837	Valid
Y1.2.3	0,777	Valid	0,866	Valid
Y1.3.1	0,801	Valid	0,840	Valid
Y1.3.2	0,771	Valid	0,881	Valid
Y1.3.3	0,805	Valid	0,916	Valid
Y1.4.1	0,892	Valid	0,930	Valid
Y1.4.2	0,860	Valid	0,886	Valid
Y1.4.3	0,746	Valid	0,800	Valid
Y1.5.1	0,789	Valid	0,908	Valid
Y1.5.2	0,817	Valid	0,869	Valid
Y1.5.3	0,827	Valid	0,903	Valid
Y1.6.1	0,834	Valid	0,862	Valid
Y1.6.2	0,853	Valid	0,904	Valid
Y1.6.3	0,832	Valid	0,921	Valid

Source: Researcher processed data from Smart PLS 3, 2024

Based on the table above, after eliminating dimensions and indicators with values below 0.70, the outer loading test result is valid. It indicates that the outer model representing the

correlation between constructs and variables, has satisfied the convergent validity criteria as outlined by Hair et al. (2014), where indicators with loading factor values exceeding 0.70 are deemed valid. The following section presents a path diagram illustrating that all remaining dimensions and indicators meet the validity requirements.
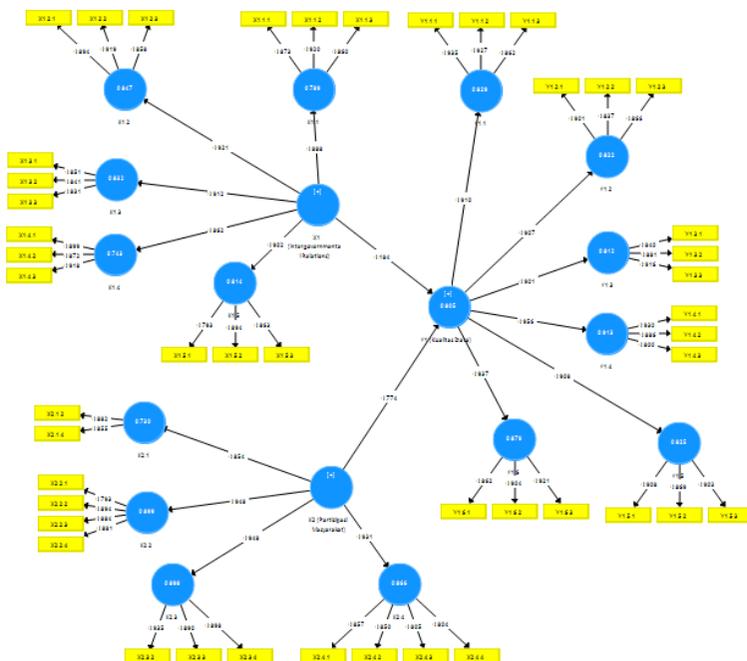

Figure 6. Path Diagram Outer Loading Tes Results (After Removing Indicators)
Source: Data from output SmartPLS 3, 2024

4.2.2   Discriminant Validity Test (Discriminant Validity)

Discriminant validity is used to ensure that each latent variable is conceptually different from other variables (Prasetyo and Jannah, 2005). If each indicator shows the highest loading value on the corresponding latent variable compared to the others, then the model is considered to have strong discriminant validity. The results of the discriminant validity test are presented in Table 10, Table 11, and Table 12.

Table 10. Discriminant Validity Test of X1

	X1.1	X1.2	X1.3	X1.4	X1.5
X1.1.1	0,873	0,634	0,665	0,564	0,568
X1.1.1	0,873	0,634	0,665	0,564	0,568
X1.1.2	0,920	0,654	0,688	0,674	0,641
X1.1.2	0,920	0,654	0,688	0,674	0,641
X1.1.3	0,860	0,700	0,729	0,690	0,686
X1.1.3	0,860	0,700	0,729	0,690	0,686
X1.2.1	0,663	0,894	0,736	0,673	0,787
X1.2.1	0,663	0,894	0,736	0,673	0,787

	X1.1	X1.2	X1.3	X1.4	X1.5
X1.2.2	0,640	0,919	0,727	0,604	0,713
X1.2.2	0,640	0,919	0,727	0,604	0,713
X1.2.3	0,702	0,858	0,765	0,624	0,692
X1.2.3	0,702	0,858	0,765	0,624	0,692
X1.3.1	0,708	0,714	0,851	0,604	0,656
X1.3.1	0,708	0,714	0,851	0,604	0,656
X1.3.2	0,599	0,722	0,841	0,536	0,726
X1.3.2	0,599	0,722	0,841	0,536	0,726
X1.3.3	0,675	0,667	0,831	0,611	0,599
X1.3.3	0,675	0,667	0,831	0,611	0,599
X1.4.1	0,672	0,686	0,622	0,899	0,650
X1.4.1	0,672	0,686	0,622	0,899	0,650
X1.4.2	0,686	0,603	0,666	0,872	0,661
X1.4.2	0,686	0,603	0,666	0,872	0,661
X1.4.3	0,602	0,624	0,576	0,918	0,647
X1.4.3	0,602	0,624	0,576	0,918	0,647
X1.5.1	0,611	0,647	0,660	0,588	0,793
X1.5.1	0,611	0,647	0,660	0,588	0,793
X1.5.2	0,659	0,748	0,682	0,633	0,894
X1.5.2	0,659	0,748	0,682	0,633	0,894
X1.5.3	0,556	0,697	0,663	0,636	0,863
X1.5.3	0,556	0,697	0,663	0,636	0,863

Table 11. Discriminant Validity Test of X2

	X2.1	X2.2	X2.3	X2.4
X2.1.2	0,882	0,775	0,648	0,647
X2.1.2	0,882	0,775	0,648	0,647
X2.1.4	0,855	0,629	0,619	0,611
X2.1.4	0,855	0,629	0,619	0,611
X2.2.1	0,688	0,793	0,674	0,608
X2.2.1	0,688	0,793	0,674	0,608
X2.2.2	0,770	0,894	0,753	0,690
X2.2.2	0,770	0,894	0,753	0,690
X2.2.3	0,688	0,884	0,806	0,797
X2.2.3	0,688	0,884	0,806	0,797
X2.2.4	0,660	0,881	0,736	0,670
X2.2.4	0,660	0,881	0,736	0,670
X2.3.2	0,655	0,800	0,935	0,801
X2.3.2	0,655	0,800	0,935	0,801

	X2.1	X2.2	X2.3	X2.4
X2.3.3	0,666	0,792	0,890	0,781
X2.3.3	0,666	0,792	0,890	0,781
X2.3.4	0,666	0,752	0,898	0,794
X2.3.4	0,666	0,752	0,898	0,794
X2.4.1	0,619	0,732	0,825	0,857
X2.4.1	0,619	0,732	0,825	0,857
X2.4.2	0,572	0,657	0,710	0,850
X2.4.2	0,572	0,657	0,710	0,850
X2.4.3	0,587	0,600	0,673	0,805
X2.4.3	0,587	0,600	0,673	0,805
X2.4.4	0,625	0,671	0,677	0,804
X2.4.4	0,625	0,671	0,677	0,804

Table 12. Discriminant Validity Test of Y1

	Y1.1	Y1.2	Y1.3	Y1.4	Y1.5	Y1.6
Y1.1.1	0,935	0,813	0,728	0,787	0,734	0,759
Y1.1.1	0,935	0,813	0,728	0,787	0,734	0,759
Y1.1.2	0,927	0,814	0,658	0,781	0,675	0,729
Y1.1.2	0,927	0,814	0,658	0,781	0,675	0,729
Y1.1.3	0,862	0,686	0,675	0,733	0,658	0,707
Y1.1.3	0,862	0,686	0,675	0,733	0,658	0,707
Y1.2.1	0,795	0,901	0,642	0,791	0,656	0,750
Y1.2.1	0,795	0,901	0,642	0,791	0,656	0,750
Y1.2.2	0,667	0,837	0,680	0,730	0,638	0,669
Y1.2.2	0,667	0,837	0,680	0,730	0,638	0,669
Y1.2.3	0,751	0,866	0,625	0,695	0,621	0,732
Y1.2.3	0,751	0,866	0,625	0,695	0,621	0,732
Y1.3.1	0,731	0,717	0,840	0,744	0,677	0,721
Y1.3.1	0,731	0,717	0,840	0,744	0,677	0,721
Y1.3.2	0,610	0,604	0,881	0,754	0,739	0,677
Y1.3.2	0,610	0,604	0,881	0,754	0,739	0,677
Y1.3.3	0,651	0,646	0,916	0,774	0,773	0,694
Y1.3.3	0,651	0,646	0,916	0,774	0,773	0,694
Y1.4.1	0,814	0,822	0,768	0,930	0,764	0,822
Y1.4.1	0,814	0,822	0,768	0,930	0,764	0,822
Y1.4.2	0,824	0,835	0,704	0,886	0,697	0,797
Y1.4.2	0,824	0,835	0,704	0,886	0,697	0,797
Y1.4.3	0,555	0,554	0,797	0,800	0,724	0,697
Y1.4.3	0,555	0,554	0,797	0,800	0,724	0,697
Y1.5.1	0,654	0,672	0,682	0,710	0,908	0,726
Y1.5.1	0,654	0,672	0,682	0,710	0,908	0,726
Y1.5.2	0,704	0,645	0,736	0,749	0,869	0,800
Y1.5.2	0,704	0,645	0,736	0,749	0,869	0,800
Y1.5.3	0,674	0,654	0,802	0,769	0,903	0,767

	Y1.1	Y1.2	Y1.3	Y1.4	Y1.5	Y1.6
Y1.5.3	0,674	0,654	0,802	0,769	0,903	0,767
Y1.6.1	0,708	0,773	0,721	0,803	0,735	0,862
Y1.6.1	0,708	0,773	0,721	0,803	0,735	0,862
Y1.6.2	0,734	0,741	0,735	0,802	0,787	0,904
Y1.6.2	0,734	0,741	0,735	0,802	0,787	0,904
Y1.6.3	0,724	0,708	0,674	0,775	0,778	0,921
Y1.6.3	0,724	0,708	0,674	0,775	0,778	0,921

Source: Data from output SmartPLS 3, 2024

Referring to the cross-loading test results above shows that the value of the indicator's outer load on the related construct is greater than the cross-loading value on other constructs, where the value shows greater than 0,70 so it can be said that all constructs have good discriminant validity.

4.2.3 Construct Reliability Test (Composite Reliability)

A construct (variable) can be considered reliable if Cronbach's alpha value is more than 0.60 and the combined reliability value is more than 0.70 (Ghozali and Latan, 2015). The results of composite reliability testing can be seen in Table 13.

Table 13. Construct Reliability Test Results

Variables	Cronbach's Alpha	Composite Reliability	Reliability
Intergovernmental Relations (X1)	0,955	0,959	Reliable
X1.1	0,861	0,915	Reliable
X1.2	0,869	0,920	Reliable
X1.3	0,793	0,879	Reliable
X1.4	0,877	0,925	Reliable
X1.5	0,808	0,887	Reliable
Community Participation (X2)	0,954	0,959	Reliable
X2.1	0,675	0,860	Reliable
X2.2	0,886	0,921	Reliable
X2.3	0,893	0,934	Reliable
X2.4	0,849	0,898	Reliable
Data Quality (Y1)	0,970	0,973	Reliable
Y1.1	0,893	0,934	Reliable
Y1.2	0,836	0,902	Reliable
Y1.3	0,853	0,911	Reliable
Y1.4	0,843	0,906	Reliable
Y1.5	0,874	0,922	Reliable
Y1.6	0,877	0,924	Reliable

Source: Researcher processed data from Smart PLS 3, 2024

Based on the results of the composite reliability and Cronbach's alpha tests, all Cronbach's alpha values exceeded 0.60, and the composite reliability value exceeded 0.70. It indicates that the model fulfills the reliability criteria, allowing for further analysis.

Based on the outer model test results, this research indicates good and acceptable convergent validity and discriminant validity values. In addition, this research also results in good composite reliability and Cronbach's alpha values. Therefore, this research is ready to

proceed to the next stage of the test.

4.3. Rekomendasi

Inner model testing is carried out to assess the goodness of fit and path coefficient on a constructed variable to assess the significance of the relationship between each variable. The goodness-of-fit test is carried out by looking at the R^2, Q^2, and f^2 values, while the path coefficient test is carried out to see the modeling path relationship based on t-statistics and P-value (Kuncaravita, 2021).

4.3.1 Test Coefficient Determination or R Square (R^2)

The coefficient of determination (R^2) is used to evaluate the extent to which endogenous variables are influenced by other endogenous variables. R-squared values include 0.75 (strong), 0.50 (moderate), and 0.25 (weak) (Kuncaravita, 2021). The R^2 value for each endogenous variable can be seen in Table 14 as follows:

Table 14. R-Square Results

Variables	R Square	Category
X1.1	0,789	Strong
X1.2	0,847	Strong
X1.3	0,832	Strong
X1.4	0,743	Strong
X1.5	0,814	Strong
X2.1	0,730	Strong
X2.2	0,899	Strong
X2.3	0,898	Strong
X2.4	0,866	Strong
Data Quality (Y1)	0,805	Strong
Y1.1	0,829	Strong
Y1.2	0,822	Strong
Y1.3	0,812	Strong
Y1.4	0,913	Strong
Y1.5	0,825	Strong
Y1.6	0,879	Strong

Source: Researcher processed data from Smart PLS 3, 2024

Referring to Table 14, the high R^2 values for all constructs are considered strong, especially above the 0.75 threshold. It indicates a significant influence of the independent variables on the dependent variables. In the case, the R^2 value for construct Y (Data Quality), which is 0.805, indicates that 80.5% of the variance in the data quality variable is explained by intergovernmental relations and community participation.

4.3.2 The f-square (f^2) effect

The f-square (f^2) effect is used to assess the magnitude of the influence between endogenous and exogenous variables. The f^2 value is calculated from the R^2 value of the latent variable when latent predictors are used in structural equation modeling (Kuncaravita, 2021). The f^2 values of 0.02, 0.15, and 0.35 indicate weak, moderate, and strong influence, respectively, while values below 0.02 are considered to have no effect (Kuncaravita, 2021). The following f-square (f^2) effect value can be seen in Table 15.

Table 15. F Square Results

Independent Variables	F²	Category
Intergovernmental Relations	0,110	Weak
Community Participation	1,953	Strong

Source: Researcher processed data from Smart PLS 3, 2024

Based on Table 15, the f^{value} for intergovernmental relations on data quality is 0.110, indicating that the effect size of intergovernmental relations on data quality is in the weak category, while the effect size of community participation on data quality is 1.953, indicating an effect size in the strong category. This means that between intergovernmental relations and community participation, among the two exogenous variables, judging by the effect size value, the factor that has the most influence on data quality is community participation.

4.3.3 Predictive Relevance Test or Q Square (Q^2)

The predictive relevance test, or Q^2, assesses the ability of the model to generate observed values and estimate parameters effectively. A Q^2 value greater than zero indicates that the model has a predictive relevance value. In contrast, a Q^2 value of less than zero indicates that the model has a low predictive relevance value (Kuncaravita, 2021). The following presents the results of the Q^2 test in the following table:

Table 16. Q Square Results

Variables	SSO	SSE	Q²(=1-SSE/SSO)
X1	1500,000	1500,000	
X1.1	300,000	116,758	0,611
X1.2	300,000	101,576	0,661
X1.3	300,000	125,464	0,582
X1.4	300,000	124,138	0,586
X1.5	300,000	125,271	0,582
X2	1300,000	1300,000	
X2.1	200,000	91,550	0,542
X2.2	400,000	135,161	0,662
X2.3	300,000	79,642	0,735
X2.4	400,000	165,660	0,586
Y1	1800,000	860,040	0,522
Y1.1	300,000	97,534	0,675
Y1.2	300,000	115,665	0,614
Y1.3	300,000	113,487	0,622
Y1.4	300,000	93,238	0,689
Y1.5	300,000	106,622	0,645
Y1.6	300,000	90,616	0,698

Source: Researcher processed data from Smart PLS 3, 2024

Based on the data presented in Table 16, the endogenous variable Data Quality (Y1) has a Q^2 value of 0.522. It indicates that the overall model of PLS that describes the relationship between intergovernmental relations, community participation, and data quality has a strong predictive relevance, because its value is more than zero.

4.4. Path Coefficient

The next stage of testing the inner model is to measure the significance and strength of the hypothesized path coefficient (structural path) between constructs (Ghozali and Latan, 2015). The significance and relevance of the path coefficient are measured using the bootstrapping process in SEM-PLS, where this method is based on the standard error value in bootstrapping as the basis for calculating the t-statistic and p-value of the path coefficient. Path coefficients can also be used to test hypotheses. The value of the path coefficient results ranges from -1 to +1, which means that if the value is closer to +1, the relationship between the two constructs is stronger. Otherwise, if the value is close to -1, it indicates a negative or weaker relationship. This research uses a two-tailed test, as the direction of the hypothesis, whether positive or negative, is not predetermined. The two-tailed test will refer to the t-statistic value of 1.96 with alpha (α) = 10% and p-values < 0.10. If these criteria are met, the variable can be declared to have a significant and positive effect. The following presents the results of the path coefficient test, which can be seen in Table 17.

Table 17. Path Coefficient Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
X1->Y1	0,184	0,183	0,057	3,245	0,002
X2->Y1	0,774	0,771	0,059	13,061	0,000

Source: Researcher processed data from Smart PLS 3, 2024

From the results of the variable significance test using bootstrapping, as presented in Table 17, the results show that:

1. Intergovernmental Relations have a positive and significant effect on data quality, indicated by a p-value of 0.002, a T statistic of 3.245, and a path coefficient of 0.184

2. Community participation has a positive and significant effect on data quality, indicated by a p-value of 0.000, a T statistic of 13.061, and a path coefficient of 0.774

4.5. Hypothesis Test

The results of PLS analysis were used to test the hypotheses in this research. A summary of the results of hypothesis testing, based on the findings of PLS analysis, is presented in Table 18.

Table 18. Hypothesis Test Results

Hypothesis	Results	Conclusion
H0: Intergovernmental Relations has no effect on data quality H1: Intergovernmental Relations affects on data quality	• Path Coef: 0,184 • T Stat: 3,245 • P Value: 0,002	Intergovernmental Relations affect data quality
H0: Community Participation has no effect on data quality H1: Community Participation affects on data quality	• Path Coef: 0,774 • T Stat: 13,061 • P Value: 0,000	Community Participation effects data quality

Source: Researcher processed data from Smart PLS 3, 2024

The explanation of the hypothesis testing summary above is as follows:

1. Hypothesis 1

    Intergovernmental relations have a positive and significant effect on data quality, as proven by a p-value of 0.002, a t-statistic of 3.245, and a path coefficient of 0.184. These results support hypothesis 1 in this study, so hypothesis 1 is accepted.

2. Hypothesis 2

    Community participation has a positive and significant effect on data quality, as proven by a p-value of 0.000, a t-statistic of 13.061, and a path coefficient of 0.774. These results support hypothesis 2 in this study, so hypothesis 2 is accepted.

4.6.   Discussion

The first hypothesis of this study states that intergovernmental relations have a positive and significant effect on data quality, as indicated by a p-value of 0.002, a t-statistic of 3.245, and a path coefficient of 0.184. These findings are consistent with the broader governance literature, which affirms that strong coordination among government agencies can enhance administrative effectiveness and outcomes. For instance, analysis from the OECD highlights that data-driven collaboration across levels of government can improve citizen registration and strengthen public trust in electoral systems. Similarly, the United Nations' e-government study (UN, 2020) emphasizes the importance of clear institutional frameworks and information-sharing mechanisms in maintaining the integrity and accuracy of public data. In the local context, the Surabaya General Election Commission (KPU) and its ad hoc bodies exemplify an effective model of intergovernmental collaboration. Their coordination has supported the development of a more complete and up-to-date Permanent Voter List (DPT). Conversely, weakened inter-institutional relations can lead to fragmented data collection processes and diminished data quality and validity, as highlighted in a study by Kamarianil et al. (2024) that investigated coordination failures in a similar setting. Furthermore, research by Yandra et al. (2025), using a qualitative approach to examine voter list inaccuracies in Riau Province, found that poor coordination between KPUD and the Civil Registry Office (Disdukcapil), along with limited transparency and restricted data access, resulted in a high number of invalid voters. This further underscores the critical role of intergovernmental relations in ensuring the accuracy of voter databases. In contrast, Cenne's (2024) study demonstrates that the Makassar KPU succeeded in updating voter data optimally through collaboration with its ad hoc bodies and the Election Supervisory Board. This process was conducted transparently, carefully, and accurately, ensuring citizens' constitutional right to vote was protected and upheld. Overall, this study confirms that intergovernmental relations significantly contribute to the quality of the 2024 Permanent Voter List (DPT) in Surabaya. These findings reinforce the existing governance literature that emphasizes how vertical and horizontal institutional collaboration is crucial to maintaining data accuracy and integrity. In practice, the coordination among KPU Surabaya, its ad hoc bodies, and related agencies such as Disdukcapil enables more comprehensive and transparent voter data updating. In contrast, weakened intergovernmental relations may cause data fragmentation and reduce the validity of the voter list.

Furthermore, the second hypothesis of this study, which is community participation positively and significantly affects data quality, received strong empirical support. This is demonstrated by a p-value of 0.000, a t-statistic of 13.061, and a path coefficient of 0.774. The large effect size highlights the critical importance of grassroots involvement. Several case studies in Indonesia consistently show that active public participation in the voter registration and data verification processes significantly enhances accuracy. These findings are in line with the research

of Iswanto and Pamungkas (2023), who mapped the roles of various stakeholders in the 2024 General Elections. The central and local governments act as contest setters, defining the context and rules of the elections, while institutions such as the KPU, Bawaslu, NGOs, media, and political parties serve as players. Official candidates function as subjects, and the general voting population is categorized as the crowd. This framework offers valuable insights into the structure and dynamics of actors involved in strategically increasing public political participation. Additionally, research by Gunawan and Ruldeviyani (2020) revealed that collective digital public participation significantly contributed to improving the quality of election results data through real-time publication and self-verification processes. This supports the findings of the present study regarding the effectiveness of technology-based public engagement in enhancing voter data quality. Furthermore, Kao et al. (2024) found that innovations such as online reporting systems and multi-stakeholder collaboration hold great potential for enhancing the effectiveness of electoral oversight. A case study in Surabaya demonstrated that the integration of technology with community participation significantly improved election monitoring practices. The study concluded that despite these promising developments, election oversight in Indonesia still requires continuous strengthening to effectively respond to evolving political dynamics and technological advancements. These significant effects underscore that public engagement, whether through direct participation in data verification or through the use of technology such as crowdsourcing and online reporting, is a crucial factor in ensuring the integrity of voter data. Therefore, to improve the quality of electoral data in the future, it is necessary to strengthen inter-agency coordination mechanisms and mainstream public participation through digital, educational, and collaborative approaches.

V.   Conclusion and Recommendation

5.1.   Conclusion

Based on the results of the analysis that has been processed using Smart PLS 3 software, it is found that there is a significant influence between intergovernmental relations and community participation on the quality of the 2024 election permanent voter list data in Surabaya City. The results of testing the two variables resulted in a construct R^2 value Y (data quality) of 0.805, indicating that 80.5% of the data quality variable is influenced by the intergovernmental relations and community participation variables with the following details:

1. Testing the significance of the path coefficient between the intergovernmental relations constructs resulted in a t-statistic value of 3.245 and p-values of 0.002. The criteria used in this test are with an alpha (α) value of 10%; the path coefficient is considered significant if the t-statistic value is ≥ 1.96 and the p-value is ≤ 0.10. Therefore, the results of the analysis determine that intergovernmental relations have a significant effect on the data quality of the permanent voter list for the 2024 General Election in Surabaya City.

2. Testing the significance of the path coefficient between the community participation constructs resulted in a t-statistic value of 13.061 and p-values of 0.000. The criteria used in this test are with an alpha (α) value of 10%; the path coefficient is considered significant if the t-statistic value ≥ 1.96 and the p-value ≤ 0.10. Therefore, the results of the analysis determine that community participation has a significant effect on the data quality of the permanent voter list for the 2024 General Election in Surabaya City.

3. In the intergovernmental relations variable, the indicator with the highest average value is indicator X1.5.3, with a value of 3.660. It indicates the respondents realize that the

cooperation between the Surabaya General Election Commission (KPU) and the ad hoc body will continuously exist in future election activities and regional head elections. Meanwhile, the indicator with the lowest average value is X1.3.1, with a value of 3.300. It indicates that respondents do not know the form of communication carried out by the Surabaya KPU and the ad hoc body in preparing the election permanent voter list.

4. In the community participation variable, the indicator with the highest average value is indicator X2.2.2, with a value of 4.160. It indicates that the respondents preferred to be cooperative when the voter data updating committee officers conducted data collection in the area where they lived. Meanwhile, the indicator that has the lowest average value is indicator X2.3.1, with a value of 3.740. It indicates that respondents are less satisfied with the cooperation carried out between the KPU Surabaya and the ad hoc body in the preparation of the permanent voter list election. This dissatisfaction can be motivated by the fact that there are still discrepancies in the election permanent voter list that occur in the community.

5.2. Recommendation

Based on the research that has been carried out, there are suggestions and recommendations that can be addressed to the Surabaya KPU and ad hoc bodies and the people of Surabaya. The suggestions and recommendations refer to the results of the PLS quantitative analysis and continued with qualitative analysis as follows:

1. Institutionalize Transparent Intergovernmental Communication Mechanisms. To address the gap in public awareness about the Surabaya KPU and its ad hoc bodies' activities, it is recommended that the General Election Commission formalize a multi-channel transparency framework. This regulation should require KPU offices to publish routine operational reports, progress updates, and voter data improvement activities both offline (through community forums and coordination meetings) and online (via integrated digital dashboards and social media). The Ministry of Home Affairs and Bawaslu (Election Supervisory Body) should collaborate to standardize these reporting formats nationally. This transparency not only builds public trust but also aligns with Law No. 14 of 2008 on Public Information Disclosure.

2. Mandate Continuous Civic Data Education Through Electoral Literacy Policies. The findings on community participation in decision-making reveal the need for stronger civic literacy. The Surabaya KPU, supported by national electoral authorities, should propose a local electoral literacy ordinance, obligating sustained, inclusive, and accessible education on the importance of identity data validation in the DPT. These campaigns should be incorporated into school curricula, community centers, and digital platforms, using a multilingual and culturally relevant approach. Additionally, electoral literacy should be embedded as part of regional development planning (RPJMD) to ensure long-term budgetary and policy support.

3. Strengthen Regulatory Support for Non-Domicile Voter Inclusion (DPTb). The absence of adequate mechanisms for DPTb (non-domicile voter list) inclusion highlights a systemic equity issue. To address this, the KPU should revise Regulation No. 7 of 2022 on Voter Data Compilation to mandate that DPTb facilities be available in all administrative villages (kelurahan), especially in urban migrant areas like Surabaya. Additionally, the regulation should ensure inter-city interoperability of voter data systems, allowing real-time identity verification through a centralized portal, possibly integrated with Dukcapil (Population and Civil Registration Agency) databases.

4. Institutionalize Capacity-Building Standards for Ad Hoc Electoral Bodies. The finding

that accuracy is affected by the performance of ad hoc officials calls for a regulatory intervention. KPU RI should enact a binding technical guideline (Petunjuk Teknis) requiring regular training modules for PPK, PPS, and KPPS that include digital literacy, layered data verification, and anti-disinformation practices. Furthermore, it is essential to establish a performance monitoring unit that evaluates the quality of data verification practices and provides direct feedback loops to regional offices.

5. Develop a legal mandate for participatory verification and oversight. Beyond institutional actors, communities must be formally involved in verifying DPT data. A strategic policy would be to amend the electoral law (e.g., UU No. 7 Tahun 2017 on General Elections) to require the establishment of Community-Based Voter Monitoring Committees (CBVMCs) at the kelurahan level. These committees would collaborate with PPS and RT/RW leaders to conduct door-to-door verification. especially targeting high-risk populations such as the elderly, disabled, or internal migrants.

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