

The Role of Public Policy and Sector Synergy in the Adipura Award through Improving Human Resources Performance as a Mediation Variable in Palopo City

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Abstract

This study aims to assess the extent to which public policies and sector synergy affect the Award of Adipura in Palopo City, with the performance of human resources placed as the main link. The background of this research departs from the challenge of sustainability of environmental programs, even though Palopo has repeatedly won the Adipura award. The research method used is a quantitative survey method through a questionnaire instrument distributed to employees of the Environment Agency. The collected data is analyzed using statistical techniques in order to assess the reliability, validity, and strength of the relationship between variables. The results of the study show that clear and consistent public policies and cross-actor collaboration between the government, the private sector, and the community have a positive effect on Adipura's achievements. In addition, employee performance as a mediating variable in technical, managerial, and disciplinary aspects has proven to be an intermediary that strengthens policy relationships and synergy to measurable results. The conclusion of the study emphasizes that the success of environmental programs requires the right combination of policies, sustainable cross-party cooperation, and qualified human resource capacity.

Keywords: public_policy; sector_synergy; human_resource_performance; Adipura

1. Introduction

Environmental management in urban areas is currently a major concern for many regions in Indonesia. The rate of population growth, economic dynamics, and the expansion of urban areas present complex challenges related to the provision of hygiene facilities, waste management, and the maintenance of the sustainability of green open spaces (RTH). The Adipura program exists as a central government policy instrument to encourage local governments to improve the performance of environmental management comprehensively, not only from physical aspects but also from governance, community participation, and system sustainability [1]. Palopo City is listed as an area that has received the Adipura award up to nine times, indicating significant success in urban environmental management and planning efforts. However, these achievements still face sustainability challenges because the successes achieved have not always reflected a consistent governance system across all sectors. In the environmental governance literature, it is emphasized that the success of the urban environment is determined by policy integration, implementation effectiveness, and support of non-governmental actors [2].

A number of previous studies have reinforced this view. For example, Ansell and Gash (2008) through the collaborative governance approach explained that sector synergy is able to increase the effectiveness of the implementation of public programs. Similar research was shown by [3] which emphasized the importance of formal collaborative design in achieving sustainability of environmental governance. In the context of public management in Indonesia, community participation through waste banks and 3R programs has been proven to increase the volume of independently managed waste, as well as strengthen the achievement

of urban cleanliness indicators [4]. Most of these studies use quantitative design surveys or case studies, as well as analyze the direct relationship between policy or collaboration and hygiene and sustainability outcomes. The results consistently show that the stronger the policy or the more intensive the collaboration, the better the performance of environmental management [4]; [5].

Although various previous studies have addressed the relationship between public policy and synergies between sectors, most are still limited to direct influences on the end result such as cleanliness levels, waste volumes, or environmental performance scores. In fact, between the two variables, there is an internal mechanism that plays an important role, namely the performance of human resources (HR) as the main implementer in the field. The public management literature emphasizes that the performance of apparatus which includes technical competence, discipline, and work innovation is the main path that channels the influence of policies on organizational performance [6]. In addition, [7] highlight the importance of HR management practices as a connecting factor between policy design and public service outcomes. In the context of local government in Indonesia, especially related to the achievement of Adipura, the role of human resource performance mediation is still rarely studied empirically with a quantitative approach.

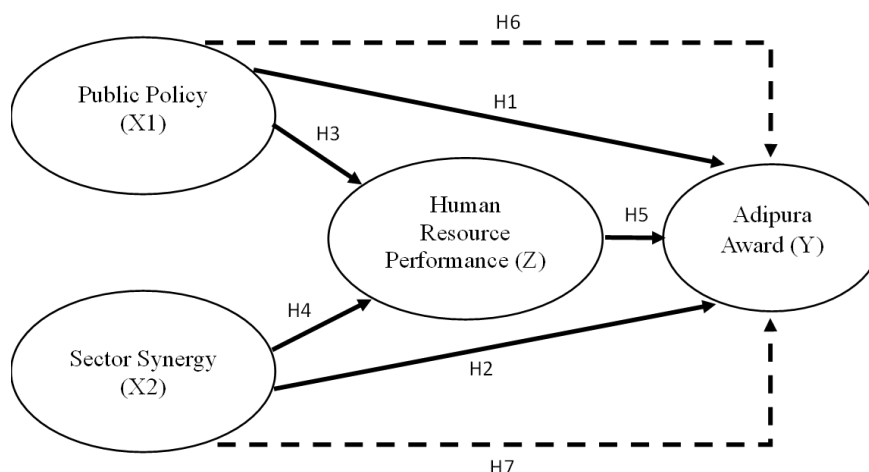


Figure 1. Conceptual Framework

Within the proposed conceptual framework, this study positions public policy (X1) and sector synergy (X2) as predictor variables that affect human resource performance (Z), which further encourages the achievement of Adipura (Y). The direct path of public policy and sector synergy towards Adipura remains open, with the aim of assessing whether the influence that occurred is indirect-only mediation or partial mediation. This approach is in line with the thinking of [8] who emphasizes the importance of mediation testing to identify more accurate causal mechanisms. Thus, this study not only emphasizes the importance of policy and collaboration, but also criticizes the assumption that these two factors automatically have an impact on outcomes, without considering the readiness of the implementing capacity. In the context of Palopo, focusing on human resources is important

because the success of environmental hygiene and innovation programs is highly determined by the quality, discipline, and technical skills of employees of related agencies.

In practical terms, this framework is supported by empirical experience in other cities, such as Makassar, which shows that the success of environmental programs is highly dependent on the active involvement of employees in integrating policies and collaboration into real work behaviors [9]. By placing human resources as mediators, this study presents a new perspective for the evaluation of Adipura at the local government level. This approach is also in line with the concept of collaborative governance which states that effective collaboration is only meaningful if the internal capacity of the organization, in this case human resources, is ready to absorb and implement policy directions [3]. Therefore, the sustainability of Adipura's achievements in Palopo City requires a systematic measurement of how public policies and cross-sector synergy are internalized through human resource performance.

Research Hypothesis

Based on the conceptual framework, this study formulates the following hypotheses:

H1: The Role of Public Policy has a positive and significant effect on the Award of Adipura. (Reason: Clear, consistent, and accountable public policies have been proven to improve environmental performance in the region. Public governance studies show a direct relationship between policy design and environmental service achievement, including award programs such as Adipura) [10].

H2: Sector synergy has a positive and significant effect on the Adipura Award.

(Reason: Cross-sectoral collaboration between the government, the private sector, and the community through collaborative governance mechanisms can strengthen the effectiveness of environmental programs and increase the achievement of clean city indicators) [11]; [3].

H3: The Role of Public Policy has a positive and significant influence on improving Human Resources (HR) Performance.

(Public policies formulated with clear directions and objectives help create measurable work guidelines for employees. This has implications for improving discipline, competence, and performance at both the individual and organizational levels [6]; [2].

H4: Synergy between sectors has a positive and significant effect on improving human resource performance.

(Reason: Cross-sectoral cooperation involving the government, the private sector, and the community encourages knowledge exchange, innovation, and capacity building for employees in carrying out environmental programs [3].

H5: Improving Human Resource Performance has a positive and significant effect on the achievement of Adipura Award.

(Reason: Employee performance in the technical, managerial, and digital fields is an important factor that determines the success of the implementation of environmental hygiene and innovation programs. With the improvement in human resource performance, the contribution to the achievement of urban cleanliness indicators is also increasing [3]; [9].

H6: The Role of Public Policy has a positive and significant effect on the Award of Adipura through Improving Human Resources Performance as a mediation variable.

(Reason: The effectiveness of policies not only has a direct impact, but also works through improving the quality of implementers, according to the mediation model in public management and policy evaluation) [12]; [8].

H7: Sector Synergy has a positive and significant effect on the Award of Adipura through Improving Human Resource Performance as a mediation variable.

(Reason: Synergy between sectors will only result in sustainable environmental achievements if the organization's internal human resources are able to absorb and implement the results of the collaboration) [8].

Based on this framework, this study aims to: (1) identify the dimensions of public policy in environmental management in Palopo City and assess its contribution to the effectiveness of human resource work; (2) measuring the level of synergy between the government, private, and community sectors in supporting environmental management; (3) evaluate the performance of technical, managerial, and digital human resources as mediator variables in the policy relationship and sector synergy with Adipura's achievements; and (4) quantitatively test the mediating effect of human resource performance using PLS-SEM-based path analysis.

Data analysis was carried out using Partial Least Squares–Structural Equation Modeling (PLS-SEM) through SmartPLS software version 3.2.9 This technique was chosen because it was able to test the causal relationship between latent variables simultaneously, including the influence of mediation, with a relatively small sample size and data distribution that did not have to be normal. The validity and reliability test of the instrument was carried out through the outer model, while the hypothesis test was carried out with the inner model through a bootstrapping procedure to assess the significance level of the influence path [13]; [14].

2. Methodology

Types of Research

This study uses a quantitative descriptive method, which aims to collect and analyze data systematically to obtain an empirical picture of the relationship between the variables studied. According to [15] in Public Sector Management (PSM), a quantitative approach is used to identify patterns and relationships between variables through measurements that are objective and statistically testable. Thus, this study is focused on processing numerical data obtained from respondents to test the hypotheses that have been formulated previously.

Research Approach

The approach used in this study is a quantitative approach, with a statistical-based analysis to test the influence between variables established in the research model. According to [16] in Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, quantitative approaches are used to measure social phenomena in a structured manner with numerical data, identify cause-and-effect relationships, and verify hypotheses through statistical analysis procedures. In the context of this study, the approach was used to test the relationship model between public policy, sector synergy, human resource performance, and Adipura's achievements in Palopo City.

According to [16] in his book "Research Design: Qualitative, Quantitative, and Mixed Methods Approaches" (5th edition, 2021), a quantitative approach is a research approach that uses numerical data to measure variables and test hypotheses through statistical analysis. This approach aims to identify relationships between variables, measure the prevalence of a phenomenon, or test theories in a broader context.

Populasi

The population in this study includes all employees and workers who are directly involved in environmental management at the Palopo City Environmental Service (DLH). The population selection was carried out using census techniques or total sampling, because all members of the population who met the inclusion criteria, namely actively working in related units, understanding environmental management tasks, and being willing to be respondents—were involved in this study. The number of respondents who were eligible for analysis was 134 people (ASN and Non-ASN) with a Likert measurement scale of 1–5.

According to Sugiyono (2022), the population is a total research subject that has certain characteristics and is used as a basis for drawing scientific conclusions. Thus, the population in this study consists of 134 DLH employees who are considered to be able to represent the actual conditions of environmental management in Palopo City.

Sample

The entire population in this study also functions as a research sample, so the approach used is total sampling. The selection of this technique aims to ensure that all relevant respondents can be represented comprehensively, so that the results of the study have a good level of generalization.

Sample sizes were established taking into account the availability of the population as well as the adequacy of the amount of data required for SEM-PLS analysis. This sampling aims to obtain representative data related to employee perceptions, experiences, and performance on the implementation of public policies, sector synergy, and human resource performance in supporting Adipura's achievements in Palopo City.

Data Collection Techniques

Data collection in this study was carried out through the following methods:

- a. Questionnaire (Questionnaire) is carried out by distributing a series of questions that have been systematically prepared to respondents to obtain valid and reliable quantitative data.
- b. Interviews are used as a supporting technique to deepen the findings through relevant sources, with the aim of exploring contextual information related to policies, cross-sector synergy, and HR performance practices in the field.

Variable Operations

To explain the variables referred to in this study, so that the importance of the definition of each variable as an effort to understand in the research. Operational definition is an explanation that provides the limitations or meaning of a variable in research. Operational definitions are used to equalize the meaning between researchers and research readers.

Consider equivalent variables, collect data correctly, avoid errors in the determination of research instruments, avoid inconsistent researcher questions.

Operational Definition of Procedures

Public Policy (X1)

Public policy in the context of environmental management in Palopo City is defined as a set of decisions, programs, and regulations designed by the government to achieve sustainable environmental goals. This variable is measured through five indicators, namely: clarity of policy objectives (indicator 1), effectiveness of program implementation (indicator 2), real benefits of policies for the community (indicator 3), transparency and ease of access to policy information (indicator 4), and positive public perception of policies that encourage participation (indicator 5). These five indicators reflect that good public policy must be clear, consistent, communicative, and have a real impact on citizens (Howlett & Ramesh, 2014; Pollitt & Bouckaert, 2017).

Sector Synergy (X2)

Sector synergy is defined as the integration of the role of the government, the private sector, and the community in supporting the success of environmental programs. This variable is measured by five indicators, namely: the quality of cross-agency communication (indicator 1), active involvement in collaborative activities (indicator 2), tangible results from cross-sector cooperation (indicator 3), collaborative implementation of hygiene programs (indicator 4), and consistency of cooperation in supporting the Award of Adipura (indicator 5). Strong sector synergy reflects the implementation of collaborative governance where the success of public governance is determined by interaction, coordination, and trust between actors [16]; [3].

Adipura (Y)

The Award of Adipura is defined as the performance achievement of the local government which is reflected in the national assessment of the cleanliness and quality of the urban environment. This variable has five indicators, namely: cleanliness and maintainability of public spaces (indicator 1), availability of green open space (indicator 2), local government commitment (indicator 3), active community participation (indicator 4), and environmental management innovation (indicator 5). This indicator is in accordance with the components of the Adipura assessment which includes aspects of cleanliness, governance, participation, and innovation of the urban environment [17]; [18].

HR Performance (Z)

Human resource performance is defined as the ability of employees to carry out their duties, responsibilities, and roles in supporting the management of the urban environment. This variable is measured by five indicators, namely: achievement of work targets in waste management (indicator 1), quality of work results according to standards (indicator 2), timeliness in the implementation of tasks (indicator 3), presence and involvement in cleanliness activities (indicator 4), and cooperation with the community and related parties

(indicator 5). Human resource performance reflects the level of productivity, discipline, and collaboration of employees that affect the effectiveness of urban cleanliness policies and outcomes [6]; [7].

Validation and Reliability Tests

Validity test

According to [19], validity testing is a process to assess the extent to which research instruments are able to measure what should be measured. In other words, validity indicates the level of accuracy between the data obtained from the field and the reality that actually occurs in the object of research. [19] explained that one of the commonly used methods to test validity is product moment correlation (Pearson correlation), with the following formula:

$$R_{xy} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n\sum X^2 - (\sum X)^2][n\sum Y^2 - (\sum Y)^2]}}$$

Description: R_{xy} = correlation coefficient between items

n = number of respondents

X = statement item score

Y = total score

A statement item is said to be valid if the resulting significance value is less than 0.05, which means that the item is statistically strongly correlated with the total score and is suitable for use in subsequent analysis

Reliability test

Reliability tests are used to assess the level of consistency of the measuring instrument in producing stable data when used repeatedly under the same conditions. According to [19], reliability describes the extent to which an instrument provides consistent results when used to measure the same phenomenon.

Reliability testing is carried out after the validity test is declared met, using Cronbach's Alpha coefficient as the main indicator. Reliability values are categorized as follows:

$\alpha > 0.90$: very high reliability

$0.70 \leq \alpha \leq 0.90$: high reliability

$0.50 \leq \alpha < 0.70$: Medium reliability

$\alpha < 0.50$: low reliability

The instrument is declared reliable when Cronbach's Alpha value is greater than 0.70, indicating that all question items have adequate internal consistency.

Data Analysis Techniques

The data analysis technique in this study is adjusted to the type of data collected, namely quantitative data obtained through questionnaires. According to [20] in his book Quantitative Research Methods and Statistical Applications, quantitative data analysis involves two main stages, namely descriptive analysis and inferential analysis used to test hypotheses, estimate population parameters, and analyze causal relationships between research variables.

In the context of this study, data processing was carried out with the help of SmartPLS 3.2.9 software through the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach. This approach was chosen because it was able to analyze the direct and indirect relationships between latent variables with relatively small sample sizes, as well as test the mediating effects comprehensively [21].

a. Outer Model Review

External model analysis is used to assess the extent to which indicators can represent latent constructs in research. Evaluation was carried out on several aspects, namely convergent validity, discriminant validity, and construct reliability. The goal is to ensure that each indicator is able to explain the constructs it represents consistently and accurately.

According to [21], outer model analysis serves to assess the relationship between latent variables and the indicators that form them. This test involves the calculation of loading factor values, composite reliability, average variance extracted (AVE), and cross-loading testing to assess the separation between variables. If all indicator values meet the recommended criteria limits, then the measurement model can be declared feasible for further analysis using the inner model.

b. Model Struktural (Inner Model)

At the research testing stage, a structural model (inner model) is used to assess the cause-and-effect relationship between latent variables in the research model. This model serves to identify and predict the direction and strength of influence between variables that cannot be measured directly. The latent variable in this context is a construct formed from a number of measurable indicators and represents an abstract concept in the research.

According to [22], the inner model is an important component in the *Structural Equation Modeling (SEM) approach* which focuses on analyzing relationships between latent variables. In the SEM framework, the inner model explains the causal relationship between variables in the research model, so that it can test the hypothesis regarding the direction of influence between constructs.

Furthermore, the relationships tested in structural models can be differentiated into two types, namely causal relationships and correlational relationships. Causal relationships describe the direct influence between one latent variable on another, while correlational relationships show the relationship or association between latent variables without directly involving cause and effect. Through this analysis, the researcher can find out the extent to which each construct in the model plays a role in explaining the phenomenon being studied.

3. Result and Discussion

3.1. Result

All elements in the SEM model independent, mediated, or dependent variables are connected through the causal pathway illustrated in the following algorithm diagram.

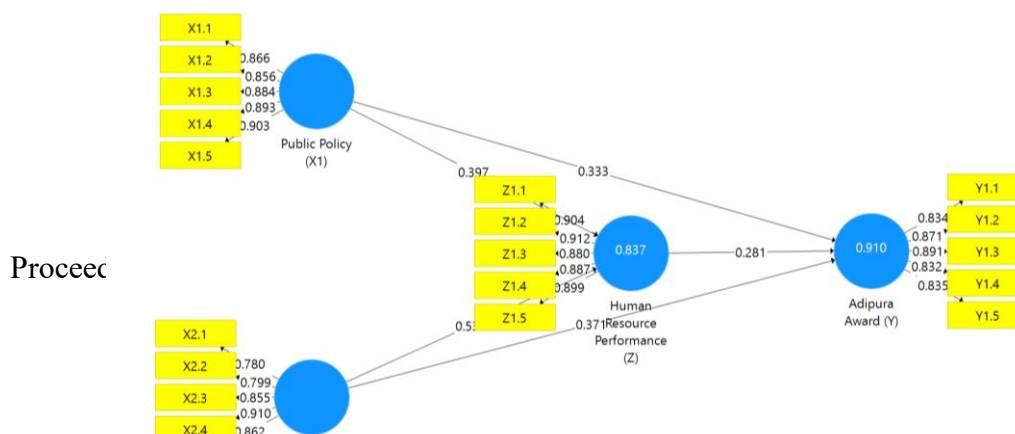


Figure 2. SEM-PLS Schema (Algorithm)

Indicator Validity Test (Outer Model)

Outer loading describes the correlation between the indicator and the latent variable (construct). In general, the criteria used, if ≥ 0.7 then the indicator is reliable, valid, and maintainable. $0.5 - 0.7 \rightarrow$ can be maintained if the AVE & reliability of the construct still meets $< 0.5 \rightarrow$ should be eliminated [21].

Table 1. Outer Loading Table

Indicator	Variabel	Outer Loading	Information
X1.1	Public Policy (X1)	0.866	VALID
X1.2	Public Policy (X1)	0.856	VALID
X1.3	Public Policy (X1)	0.884	VALID
X1.4	Public Policy (X1)	0.893	VALID
X1.5	Public Policy (X1)	0.903	VALID
X2.1	Sector Synergy (X2)	0.78	VALID
X2.2	Sector Synergy (X2)	0.799	VALID
X2.3	Sector Synergy (X2)	0.855	VALID
X2.4	Sector Synergy (X2)	0.91	VALID
X2.5	Sector Synergy (X2)	0.862	VALID
Y1.1	Adipura Award (Y)	0.834	VALID
Y1.2	Adipura Award (Y)	0.871	VALID
Y1.3	Adipura Award (Y)	0.891	VALID
Y1.4	Adipura Award (Y)	0.832	VALID
Y1.5	Adipura Award (Y)	0.835	VALID
Z1.1	HR Performance (Z)	0.904	VALID
Z1.2	HR Performance (Z)	0.912	VALID
Z1.3	HR Performance (Z)	0.88	VALID
Z1.4	HR Performance (Z)	0.887	VALID
Z1.5	HR Performance (Z)	0.899	VALID

The results of the outer loading test showed that all indicators in the variables Public Policy (X1), Sector Synergy (X2), Human Resources Performance (Z), and Adipura Award (Y) had a value above 0.70. This value indicates that each indicator is declared valid, because it is able to represent the construct it measures well [21].

Overall, these results prove that all indicators qualify for convergent validity, as they are above the 0.7 threshold as suggested by [21]. This means that this research instrument can be declared reliable in measuring the construction of Public Policy, Sector Synergy, Adipura Award, and Human Resources Performance. The study also confirms that key indicators,

particularly the quality of employee performance and inter-stakeholder collaboration, play a dominant role in supporting the research model.

Reliability and Validity Test

Table 2. Construct Reliability and Validity

Variabel	Cronbach Alpha	rho A	Composite Realibility	Average Variance Extracted(AVE)	Information
Adipura (Y)	0.906	0.908	0.93	0.728	Reliabel
Public Policy (X1)	0.927	0.928	0.945	0.775	Reliabel
HR Performance (Z)	0.939	0.939	0.953	0.804	Reliabel
Sector Synergy (X2)	0.897	0.899	0.924	0.71	Reliabel

Table 3.2 shows the results of the Construct Reliability and Validity test which shows that all variables have a high level of reliability and validity. Cronbach's Alpha value for each construct is above 0.89, while the Composite Reliability (CR) value ranges from 0.899 to 0.953, which indicates that all indicators have good internal consistency in measuring their respective constructs. In addition, the value of Average Variance Extracted (AVE) is in the range of 0.710 to 0.804, so it can be concluded that each construct is able to explain more than 70% of the variance of the indicators that make it up.

The criteria meet the limits recommended by Fornell and Larcker in [21], namely $CR \geq 0.70$ and $AVE \geq 0.50$, which indicates that all constructs in the model have met the requirements of convergent reliability and validity. Thus, the measurement model used can be declared stable, consistent, and feasible to continue in the testing of structural models (inner models).

These results are also in line with several previous studies that emphasized the importance of reliability and validity of instruments in the PLS-SEM model. [23] reported that the urban waste management research instrument was declared valid when the CR value exceeded 0.8 and the AVE was above 0.5. Similar findings were presented by [4] with an alpha value greater than 0.9 in the waste bank effectiveness study. Research by [24] also strengthens that strong public policies can improve public service performance with a CR of 0.91 and AVE of 0.72. The results of this study also support the findings of [25] and [5], who affirm that collaborative governance and sectoral synergy have sufficient reliability and validity to describe the effectiveness of cross-sector work.

Inner Model Evaluation

Coefficient of Determination (R²)

The R-Square value (R²) is used to measure how much proportion of variation in dependent variables can be explained by independent variables in the model. The higher the R² value, the better the model's ability to explain endogenous variables. According to Hair et al. (2019; 2021), R² values can be classified into three categories: weak (≈ 0.25), moderate (≈ 0.50), and strong/substantial (≥ 0.75).

Table 3. Coefficient of Determination (R²)

Variabel	R Square	R Square Adjusted
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Adipura (Y)	0,910	0,908
HR Performance (Z)	0,837	0,834

The table above displays the value of R Square (R^2) which represents the ability of independent variables to explain the variance of dependent variables in the research model. The R^2 value for the Adipura variable (Y) of 0.910 indicates that around 91% of the variation in Adipura's achievement can be explained by the influence of Public Policy (X1), Sector Synergy (X2), and HR Performance (Z). The remaining 9% was influenced by other factors outside the model studied. This value is included in the category of very strong, so it can be concluded that the research model has high predictive power and is able to explain the relationship between variables well.

Meanwhile, the R^2 value for the HR Performance variable (Z) of 0.837 shows that 83.7% of the variation in employee performance can be explained by Public Policy (X1) and Sector Synergy (X2). This indicates that both independent variables have a substantial contribution in influencing the improvement of human resource performance.

Overall, the high R^2 value in both endogenous variables shows that this research model is relevant and stable, and is able to provide an in-depth explanation of the relationship between public policy, sector synergy, and human resource performance to the achievement of the Adipura award.

Hypothesis Test

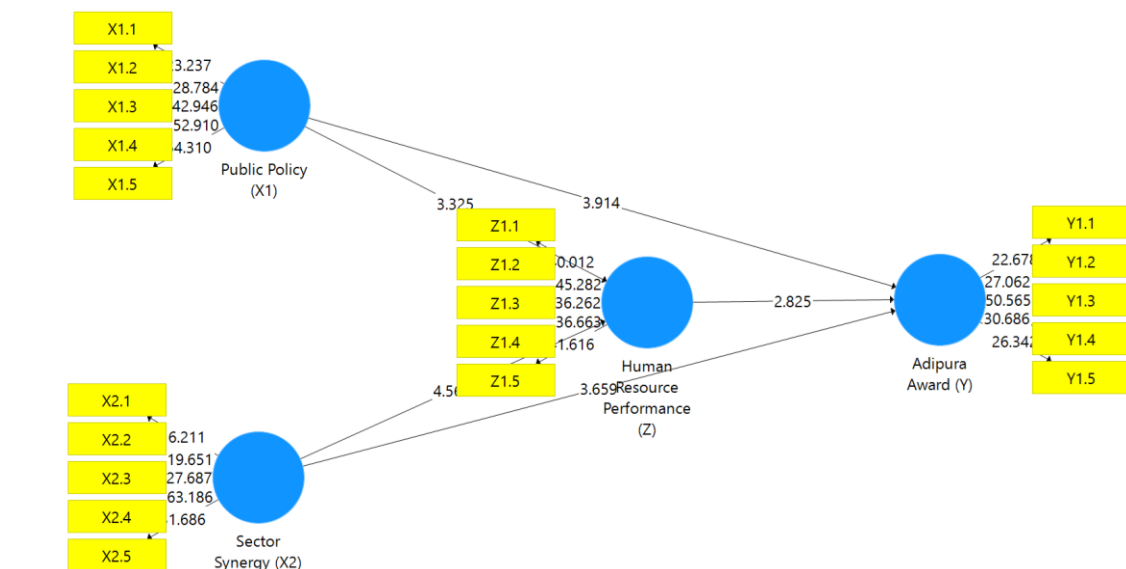


Figure 3.2 SEM-PLS (Bootstrapping) Schema

Bootstrapping in PLS-SEM is used as a way to measure the statistical significance of path coefficients, indicator loading, and mediation effects. Bootstrapping is used to provide a statistical basis for prediction-based PLS models, so that the results of the study are not only descriptive but can also be tested for significance [21].

The 3.2 bootstrapping diagram shows the relationship between variables in the SEM-PLS model, where Public Policy (X1) and Sector Synergy (X2) play the role of independent variables that affect Human Resource Performance (Z) as an intervening variable, and directly or indirectly affect the Adipura Award (Y) as a dependent variable.

Path Coefficients Test

Table 3.4 presents the results of path coefficients analysis obtained from structural model testing using the PLS-SEM approach. This test aims to determine the magnitude of the direct influence between variables in the research model, especially the influence of Public Policy (X1) and Sector Synergy (X2) on HR Performance (Z) and Adipura Award (Y).

The values of the path coefficient (β), t-statistics, and p-values in the table show the direction, strength, and significance of the relationship between the variables being tested. A relationship is declared significant when the p-value is < 0.05 and the t-statistic is > 1.96 [21].

Table 4. Path Coefficients Test Results

Relationship Pathway	Coeficin (O)	t-statistic	p-value	Information
Public Policy (X1) → Adipura (Y)	0,333	3,911	0,000	Positive Significance
Public Policy (X1) → HR Performance (Z)	0,397	3,188	0,002	Positive Significance
HR Performance (Z) → Adipura (Y)	0,281	2,978	0,003	Positive Significance
Sector Synergy (X2) → Adipura (Y)	0,371	4,129	0,000	Positive Significance
Sector Synergy (X2) → HR Performance (Z)	0,536	4,382	0,000	Positive Significance

H1 Hypothesis

H1 states that Public Policy (X1) has a positive effect on the Award of Adipura (Y). The test results showed a coefficient of $\beta = 0.333$ with $p < 0.001$, meaning that the H1 hypothesis is supported. This confirms that clear, consistent, and accountable policies contribute directly to the achievement of city cleanliness indicators. This research is consistent with recent research showing that good public policy design promotes regional environmental performance [26].

H2 Hypothesis

H2 stated that Sector Synergy (X2) had a positive effect on the Award of Adipura (Y). The test results showed a coefficient of $\beta = 0.371$ with $p < 0.001$, so the H2 hypothesis was supported. This means that the sector synergy between the government, the private sector, and the community has a direct role in increasing Adipura's achievements.

H3 Hypothesis

H3 states that Public Policy (X1) has a positive influence on HR Performance (Z). Where the coefficient $\beta = 0.397$ with $p = 0.002$ proves this hypothesis to be supported. This means that policies that are clearly designed are able to provide a more measurable work direction for employees.

H4 Hypothesis

H4 states that Sector Synergy (X2) has a positive effect on HR Performance (Z). The test results showed $\beta = 0.536$ with $p < 0.001$, so this hypothesis is very supported. Cross-actor

collaboration has been proven to strengthen human resource capacity through knowledge transfer and innovation.

Hypothesis H5

H5 states that HR Performance (Z) has a positive effect on the Award of Adipura (Y). The coefficient of $\beta = 0.281$ with $p = 0.003$ suggests that this hypothesis is supported. Employee performance, both technical, managerial, and digital aspects, has proven to be an important factor for the achievement of urban environmental indicators.

Specific Indirect Effects

The Specific Indirect Effects table is used to test the indirect influence (mediation) of independent variables on dependent variables through mediation variables. This test is important because there is a possibility that independent variables not only affect the dependent variables directly, but also through intermediary channels. By looking at the coefficient, t-statistic, and p-value values, researchers can assess whether the role of mediation is significant and how much it contributes to the research model [21].

Table 5. Path Coefficients Test Results

Indirect Relationship Pathway	Coefficin (O)	t-statistic	p-value	Information
Public Policy (X1) → Human Resources Performance (Z) → Adipura (Y)	0,111	2,482	0,013	Significant
Sector Synergy (X2) → HR Performance (Z) → Adipura (Y)	0,150	2,209	0,028	Significant

Hypothesis H6

H6 states that Public Policy (X1) has a positive effect on the Award of Adipura (Y) through HR Performance (Z). The results of the data test showed a significant indirect influence with a coefficient $\beta = 0.111$; $t = 2,482$; $p = 0.013$. This proves that public policies not only have a direct impact, but also work through the path of improving the quality of human resources. In other words, the effectiveness of the policy will be maximized if it is followed by increasing the capacity of employees in the implementation of environmental programs. This research is consistent with recent studies that emphasize the importance of HR-based policy implementation as a connecting factor between policy design and organizational performance [27]; [28].

Hypothesis H7

H7 stated that Sector Synergy (X2) has a positive effect on the Award of Adipura (Y) through HR Performance (Z). The test results also obtained indirect and significant influence results, namely the coefficient of $\beta = 0.150$; $t = 2.209$; $p = 0.028$. This result is of course also in line with previous research that the success of collaborative governance in environmental issues is highly dependent on the quality and readiness of human resources as mediators [5]; [29].

3.2. Discussion

The Influence of Public Policy on Adipura

The results of the study show that public policies have a positive and significant influence on the Award of Adipura, this result is in line with [26], who affirm that public policies that have a measurable and accountability-oriented design are able to make a significant contribution to the effectiveness of environmental governance and the achievement of sustainability indicators.

Furthermore, the success of public policies and the consistency of their implementation. [10] emphasize that accountability based public policy reforms result in a real improvement in the quality of environmental services. Thus, this study reinforces the view that the success of the Adipura program does not only depend on technical factors such as waste management or green open spaces, but rather on the quality of policy design and public governance implemented by local governments.

The Influence of Sector Synergy on Adipura

This study found that sector synergy has a positive and significant effect on the Award of Adipura, this result confirms that collaboration across actors—both government, private, and community—plays an important role in increasing the effectiveness of environmental management. The synergy built encourages a clearer division of roles, active community participation, and resource support from the private sector in the implementation of hygiene programs.

These findings are in line with [30], who explain that collaborative governance in urban management is able to strengthen the achievement of cleanliness indicators while increasing public participation. The results of this study are also supported by [25], who affirm that collaborative governance between actors is an important factor in increasing urban environmental resilience and policy sustainability. Thus, Adipura's achievements in Palopo City can be seen as the result of consistent and sustainable cross-sector synergy, not just the performance of one government agency.

The Influence of Public Policy on Human Resource Performance

The results of the test show that public policy has a positive and significant influence on human resource performance, This shows that the clarity of policy direction and consistency of its implementation contribute to improving the performance of the apparatus through mechanisms to strengthen regulations, discipline, and employee work motivation.

These findings support the research of Lee and [31], who highlight that public policies designed with a transparent and accountable system can improve employee motivation and performance in the government sector. The results of this study are also consistent with [27], who explained that clarity of public policy can strengthen the work spirit of the apparatus and have an impact on increasing the productivity of public services. Thus, public policies in Palopo City are proven to have direct implications for improving the quality of human resources involved in the management of environmental programs and the achievement of Adipura indicators.

The Influence of Sector Synergy on Human Resource Performance

The findings of the study show that sector synergy has a positive and significant influence on the performance of human resources (HR). These results show that cross-actor collaboration between the government, the private sector, and the community plays an important role in strengthening employee capabilities through knowledge transfer mechanisms, innovation, and improvement of work competencies in the field of environmental management.

These findings are in line with the results of research by [5], which emphasized that multi-actor collaboration in environmental governance is able to improve the capabilities of public organizations through strengthening human resource capabilities. In addition, [29] emphasized that collaborative governance can effectively expand employee skills due to the shared learning process among various stakeholders. In the context of this study, the results show that the success of human resource performance in Palopo City is not only determined by the government's internal policies, but also highly dependent on cross-sector synergy and continuous external support from various parties in the implementation of hygiene programs.

The Influence of Human Resources Performance on Adipura Award

This study found that human resource performance has a positive and significant effect on the Award of Adipura. This indicates that employee performance both in technical, managerial, and disciplinary aspects has a real contribution to the successful implementation of environmental programs and the achievement of urban cleanliness indicators.

These findings are consistent with the research of [7], which affirmed that the implementation of HR management practices has a direct effect on the effectiveness and performance of public organizations. In line with that, [9] also found that employee performance has a significant relationship with the success of urban environmental management, where the quality of work of the apparatus is the main determinant of the achievement of sustainability indicators. Thus, the results of this study confirm that improving the performance of employees of the Environmental Agency in Palopo City is one of the keys to success in obtaining the Adipura award.

The Influence of Public Policy on the Award of Adipura through Human Resources Performance

The test results show that public policy has an effect on the Award of Adipura through human resource performance as a mediation variable. This means that the effectiveness of public policies not only contributes directly to Adipura's achievements, but also works indirectly through improving the quality and productivity of human resources. In other words, a clearly formulated public policy will produce maximum impact when supported by employees with adequate abilities and competencies.

These findings are in line with the research of [28], which emphasized the importance of the role of human resources as mediators in strengthening the relationship between public policy and public service performance. [27] also stated that effective public policies can only be implemented properly if the implementers have adequate technical and managerial capabilities.

The Influence of Sector Synergy on Adipura Award through Human Resources Performance

The test results showed that the synergy of the sector had a positive and significant effect on the Award of Adipura through the performance of human resources as a mediation variable. This means that cross-actor collaboration between the government, the private sector, and the community will only produce sustainable environmental achievements if supported by the performance of competent and adaptive apparatus in managing the results of the collaboration. Thus, the success of sector synergy in the context of environmental management is not only determined by coordination between institutions, but also by the capacity of internal human resources to absorb, process, and implement the results of cooperation effectively.

These findings are in line with the research of [5], which affirms that the success of collaborative governance in managing environmental issues is highly dependent on the quality of internal human resources of public organizations.

Research by [29] also strengthens this finding by explaining that in collaborative governance, government employees play a key role in ensuring that the results of cross-sector synergies can be translated into concrete actions. Therefore, this study provides empirical evidence that the performance of the Human Resources of the Environment Agency in Palopo City is a key factor that bridges the real contribution of cross-sector collaboration to improving the achievement of city cleanliness indicators through the Adipura program.

4. Conclusion

This study confirms that public policy has a positive effect on the Award of Adipura in Palopo City. Clear, consistent, and accountable policies have been proven to provide a more measurable work direction, so that they can support the improvement of the quality of environmental management. Thus, the formulation and implementation of appropriate policies is an important foundation in achieving urban cleanliness indicators.

Sector synergy has also been proven to have a positive influence on the Award of Adipura. Cross-actor collaboration between the government, the private sector, and the community is an important factor in strengthening the effectiveness of environmental programs. This collaboration between sectors encourages active participation, knowledge transfer, and the creation of sustainable innovations.

In addition to having a direct effect, public policies and sector synergy contribute to improving human resource performance. Employee performance in technical, managerial, and disciplinary aspects is the main channel that channels the influence of policies and collaboration towards Adipura's achievements. So that human resource performance plays a significant mediating variable.

The results of the study prove that the relationship between variables is complementary. Public policy and sector synergy not only have a direct impact, but also work through the role of human resources as a liaison. Thus, the success of environmental programs is highly determined by a combination of policy design, sector synergy, and the readiness and quality of implementers in the field.

The contribution of this research is to strengthen the environmental governance literature by presenting empirical evidence on the mediation mechanism of human resource performance in the relationship between public policy and sector synergy to Adipura's achievements. In addition, this study contributes methodologically through the effective application of PLS-SEM in testing the relationship between latent variables.

Further research is suggested using a multi-region longitudinal design, integrating objective indicators such as hygiene audits, as well as examining the role of other variables such as organizational culture, digital innovation, and community participation. This will enrich the understanding of sustainable environmental management strategies.

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