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The Impact of Corporate Social Responsibility on the Achievement of Sustainable Development in East Java: Community-Perception Evidence from Three Clusters of Industrial Intensity

Abstract

Corporate social responsibility (CSR) is commonly assessed through corporate disclosures, whereas the perspectives of people living around company operations remain less visible. This study investigates whether residents' perceptions of CSR are associated with perceived sustainable development in three East Java localities that represent contrasting industrial contexts. A cross-sectional survey produced 1,154 usable responses from resident's familiar with local CSR programmes in Gresik Regency (n = 412), Malang City (n = 353), and Bojonegoro Regency (n = 389). Covariance-based structural equation modelling was combined with measurement-invariance tests and multigroup comparisons. Perceived CSR was positively associated with perceived sustainable development in each locality ($p < 0.001$). The association was weaker in Gresik than in Malang City and Bojonegoro, while the latter two did not differ significantly. Thus, the principal comparative finding distinguishes the high-industry locality from the other two territorial settings rather than demonstrating a progressive low-to-medium-to-high industrial-intensity gradient. Dimensional weights also varied across settings. The social dimension generally carried lower weights, but differences between loadings were not formally tested. These patterns are compatible with stakeholder and legitimacy perspectives, although the proposed explanatory mechanisms were not examined directly. Policy interpretation should therefore rely on context-sensitive assessment, community participation, and direct outcome indicators rather than treating factor loadings or R^2 as measures of programme performance or causal impact.

Keywords: corporate social responsibility; sustainable development; community perception; legitimacy theory; structural equation modelling; East Java

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Introduction

Business has a central role in the 2030 Agenda because firms mobilise capital, technology, employment, and organisational capacity that can support development, while their operations may also create environmental and social pressures (Udeagha & Muchapondwa, 2023). CSR emerges within this tension. It can channel corporate resources towards public value, but it can also function mainly as a means of maintaining legitimacy when conditions around operating sites change little.

Indonesia offers a distinctive institutional setting because CSR is partly embedded in law rather than left entirely to managerial discretion. Article 74 of Law No. 40 of 2007 requires companies operating in, or related to, natural-resource sectors to undertake social and environmental responsibility, with Government Regulation No. 47 of 2012 providing further implementation provisions. A statutory obligation, however, does not ensure that programmes correspond to community priorities. Assessing how residents experience CSR is therefore necessary because corporate disclosure alone cannot establish whether programmes are perceived as contributing to sustainable development.

The literature leaves three issues insufficiently resolved. First, much CSR research relies on firm-centred outcomes such as corporate value, reputation, and disclosure quality (Elmaghrabi, 2021), while large-scale assessments from residents around operating sites remain less common (Muslih, 2022; Revika Septianingsih et al., 2019). Second, comparative evidence across localities with different industrial structures is limited, even though institutional conditions and community expectations may vary geographically. Third, environmental, economic, and social dimensions are often examined separately rather than modelled together as dimensions of broader CSR and sustainable-development constructs.

East Java is useful for examining such contextual variation because its regencies and cities operate under broadly similar national and provincial rules but differ substantially in economic and industrial structure. The present design, however, includes only one locality for each industrial-intensity category. Locality-specific characteristics and industrial-intensity category are therefore inseparable in the empirical comparison. Differences are consequently interpreted as contrasts among the territorial contexts represented by Gresik, Malang City, and Bojonegoro, not as isolated effects of industrial intensity.

Three questions follow. Is community-perceived CSR positively related to perceived attainment of sustainable development? Does the strength of that relation differ across localities of high, medium, and low industrial intensity? Which pillar most strongly carries community judgement of CSR, and why? The objectives are correspondingly to test the relation from the resident perspective, compare its strength across clusters, and account for the differences theoretically, the unit of analysis being the resident familiar with local corporate CSR.

The study's contribution lies in combining several design features that have received limited joint attention in CSR and sustainable-development research. It uses assessments from residents familiar with local CSR programmes rather than relying solely on corporate reporting, compares three contrasting localities within the same province, establishes measurement invariance before conducting between-group comparisons, and models environmental, economic, and social dimensions for both CSR and sustainable development. This combination is not presented as unprecedented. Rather, it provides a community-centred comparison of whether the perceived relationship between CSR and sustainable development varies across the selected territorial settings.

Theoretically, the analysis qualifies stakeholder-oriented CSR evaluation by indicating that the perceived CSR-sustainable-development association is not uniform across the three localities. Practically, it points to the value of locally responsive CSR assessment while recognising that the present design cannot separate industrial intensity from other characteristics of place.

Literature Review and Hypothesis Development

The two constructs are often treated as interchangeable although they occupy different analytical levels (Simionescu, 2015). Sustainable development names a societal objective meeting present needs without foreclosing those of future generations whereas CSR names an organisational construct, the firm's accountability for the effects of its decisions (Carroll, 1991) (Carroll, 1991; Ebner & Baumgartner, 2006; Steurer, Langer, Konrad, & Martinuzzi, 2005; Steurer, Langer, Konrad, & Martinuzzi, 2005) warn that collapsing the two mistakes activity for attainment. Both are operationalised here across the same three pillars (Elkington, 1997, 2018) but kept separate: the CSR construct captures perceptions of what firms undertake, the sustainable development construct perceptions of local conditions. Without this input–outcome distinction the estimated relation would be tautological.

(Freeman, 1984) stakeholder theory casts the firm as a node in a web of relations with groups that affect and are affected by its objectives. Communities around operating sites experience externalities first-hand, so if CSR responds to stakeholder claims, their assessments provide an important perspective on perceived CSR contribution that corporate self-report cannot substitute for.

Legitimacy theory (Dowling & Pfeffer, 1975; Suchman, 1995) holds that organisations seek congruence between the values their activity implies and the norms of the system hosting them. Where pollution or ill health is visible the legitimacy gap widens and communities raise their standard of judgement, so identical programmes may be rated less favourably where externalities are heavier. Institutional theory (DiMaggio & Powell, 1983) explains convergence of practice through coercive, mimetic, and normative pressure: Indonesia's statutory duty encourages formal uniformity, which helps explain why programme architecture may look similar everywhere while acceptance does not, since pressure from residents is filtered through local values (Risi et al., 2023)

(Elkington, 1997, 2018) proposed that performance be judged across three pillars of equal standing, but the framework has served more as a reporting checklist than as a latent structure whose weights might be estimated, and (Elkington, 1997) himself criticised its use as an accounting device presuming parity without testing it. Here the pillars become dimensions of a second-order latent construct on both sides, so which pillar best represents corporate responsibility is settled empirically. (Barney, 1991; Hart, 1995) treat environmental capability and social relations as resources yielding advantage, which predicts that programmes gravitate towards fields adjacent to the core business, while (Haski-Leventhal, 2021; Porter & Kramer, 2011) argue that economic and social value can be created simultaneously. Review nonetheless finds SDG alignment concentrated at the level of reporting rather than measurable outcomes (Fatima & Elbanna, 2023).

Rather than treating the CSR-sustainable-development relationship as self-explanatory, this study uses four theoretical mechanisms as interpretive

lenses. Resource provision refers to the jobs, services, infrastructure, and environmental improvements through which CSR may accompany better local conditions (Kantabutra & Ketprapakorn, 2020). Legitimacy thresholds capture the possibility that residents facing greater industrial burdens judge corporate programmes against higher expectations (Suchman, 1995). Institutional uniformity reflects the tendency of regulatory pressure to standardise programme forms even when local needs differ (DiMaggio & Powell, 1983; Manes-Rossi & Nicolo', 2022). Observability and attribution distinguish benefits that residents can readily connect to a firm from collective benefits that are harder to attribute (Visser, 2008). These mechanisms guide interpretation only; none is estimated as a mediator in the empirical model.

Recent reviews show that research connecting business strategy with the SDGs has expanded rapidly, with substantial attention to disclosure, implementation, and corporate strategy (Domingo-Posada et al., 2024; Fatima & Elbanna, 2023; Mio et al., 2020). Related work has increasingly distinguished symbolic from substantive CSR, examined greenwashing perceptions, restored attention to local stakeholder interpretation, and connected environmental policy with development outcomes and organisational resilience (Awa et al., 2024; Bothello et al., 2023; Manes-Rossi & Nicolo', 2022; Risi et al., 2023; Waheed et al., 2024; YAN et al., 2025). Within Indonesian research, qualitative and firm-focused designs remain prominent (Kurnia et al.,

2020; Putri et al., 2022; Putrijanti & Cahyaningtyas, 2023). This leaves room for comparative evidence based directly on resident assessments.

Stakeholder theory implies that programmes perceived as present and relevant accompany more favourable appraisals; legitimacy theory, that the threshold of judgement rises with the externality borne; and the resource-based perspective, that where income and employment press hard the economic component attracts more attention than the social (Visser, 2008). Four hypotheses follow.

- H1.** Community-perceived CSR implementation is positively and significantly related to perceived attainment of sustainable development.
- H2.** The strength of that relation differs significantly across clusters of industrial intensity.
- H3.** The relation is weakest in the high-industry cluster relative to the medium and low clusters.
- H4.** The economic dimension is expected to show a descriptively greater weight than the social dimension in representing the constructs across the three localities. Because within-model loading differences are not formally tested, H4 is evaluated as a pattern-level expectation rather than a fully inferential hypothesis.

Methods

A quantitative cross-sectional survey was employed to assess associations between latent constructs across the three territorial settings. Because all observations were collected at a single point in time

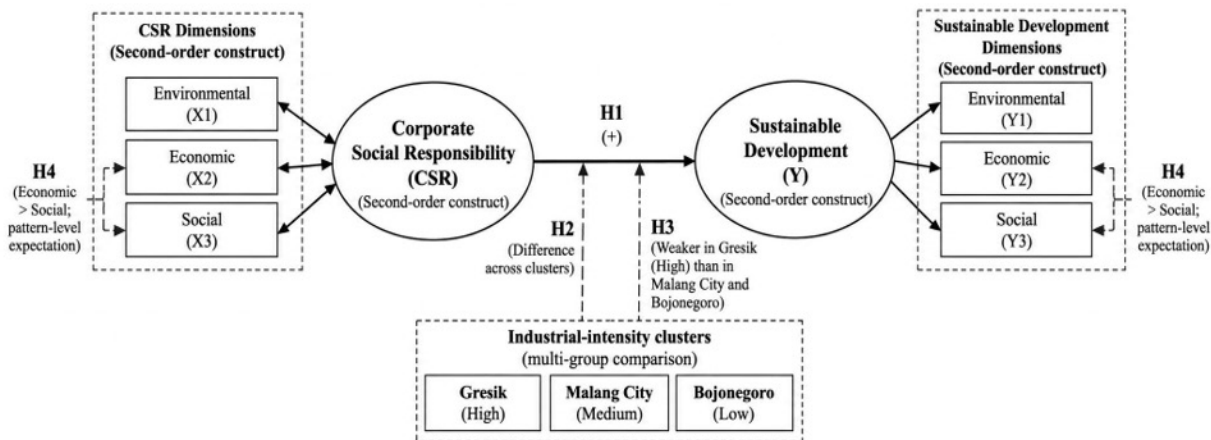


Figure 1. Conceptual Model and Position of the Hypotheses

Source: Authors' analysis, 2026

and reflect respondents' perceptions, the estimated coefficients are interpreted as associations rather than evidence of causal effects.

Study sites and cluster assignment

Cluster assignment followed two stages. First, East Java regencies and cities were grouped using the number of large and medium industrial establishments together with manufacturing's share of gross regional domestic product, based on Statistics Indonesia (BPS) data. The establishment measure came from the BPS Medium and Large Manufacturing Industry Survey reported in Jawa Timur Province in Figures 2024, while manufacturing's contribution to regional GDP was used to characterise each locality's industrial structure. Tertiles of the joint distribution defined the three categories. Second, one locality was selected purposively from each category based on typological relevance, broadly comparable population scale, and documented CSR activity. Because each category is represented by only one locality, the resulting comparison cannot separate industrial-intensity category from locality-specific conditions.

The selected cases were Gresik, where chemical, cement, and other processing industries

are prominent; Malang City, whose economy is more service-oriented; and Bojonegoro, which combines an agrarian base with oil and gas extraction. Population scale and the presence of identifiable CSR activity were also considered so that respondents had a concrete local context to evaluate. The one-locality-per-category design necessarily limits generalisation beyond these cases.

Population, sample, and sampling procedure

The target population comprised residents aged 17 years or older who lived near corporate operating sites and were familiar with CSR programmes implemented in their locality. Sample-size planning used Cochran's finite-population formula for estimating a population proportion (Cochran, 1977; Udeagha & Muchapondwa, 2023) at the level of the combined study population. For planning purposes only, the calculation used $N = 3,514,304$, $Z = 1.96$, $p = 0.50$, and $e = 0.05$, yielding a benchmark of approximately 384 respondents. The achieved analytical sample was deliberately larger to permit multigroup analysis and included 1,154 usable questionnaires: 412 from Gresik, 353 from Malang City, and 389 from

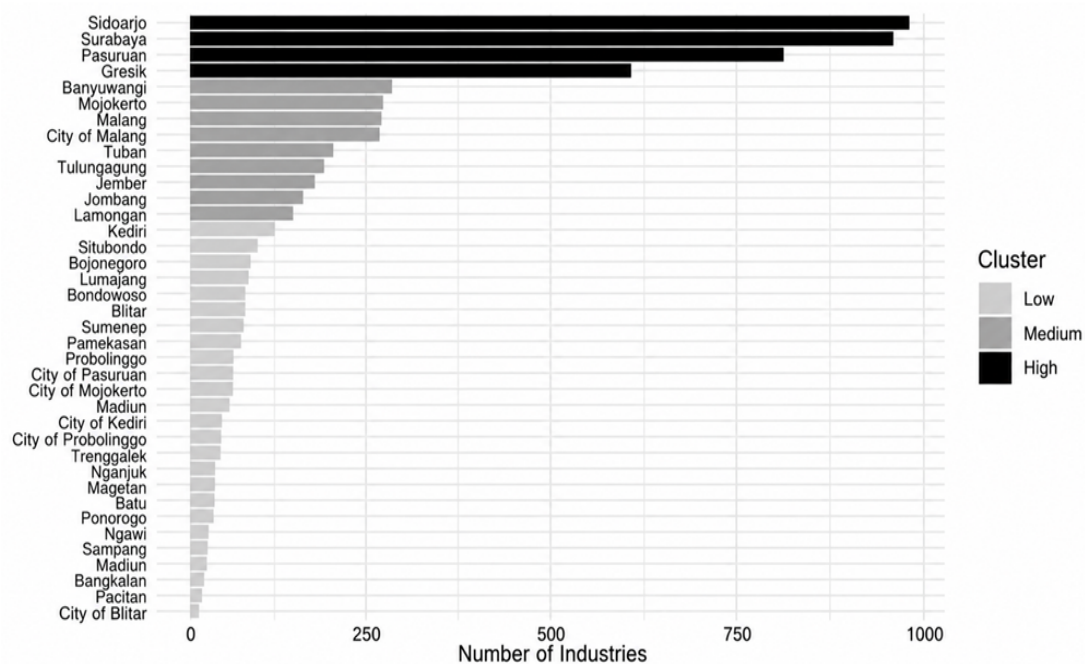


Figure 2. Clustering of Regencies and Cities in East Java by Industrial Intensity

Source: Authors' analysis, 2026

Bojonegoro. Since respondent recruitment at the final stage was not fully probability-based, Z and e are treated strictly as planning inputs. The realised sample is therefore not claimed to provide a design-based 95% confidence interval or a $\pm 5\%$ margin of error.

$$n = \frac{NZ^2p(1-p)}{(N-1)e^2 + Z^2p(1-p)}$$

The population figures used for planning were 1,322,474 residents in Bojonegoro Regency, 847,182 in Malang City, and 1,344,648 in Gresik Regency. The corresponding usable samples were 389, 353, and 412 respondents. These locality-level sample counts document the realised data set; they are not probability-proportional allocations and should not be interpreted as locality-specific estimates with fixed confidence levels or margins of error.

All 1,154 questionnaires included in the analysis were complete. Exclusion criteria covered respondents younger than 17 years, temporary or non-permanent residents of the study area, respondents who did not know or recognise local corporate CSR programmes at screening, incomplete responses on the core variables, and duplicate submissions. Recruitment took place in communities adjoining operating sites in Roomo Village, Manyar District, Gresik Regency; Tunggulwulung Urban Village, Lowokwaru District, Malang City; and Gayam Village, Gayam District, Bojonegoro Regency. The allocation was intended to support comparison among localities rather than population-proportional estimation. Accordingly, pooled results are not presented as statistically representative of East Java, and conventional confidence-level or margin-of-error claims are not made for the

final non-probability recruitment stage.

Construct operationalisation and instrument

A structured questionnaire with a five-point Likert response scale (1 = strongly disagree to 5 = strongly agree) was used. Each latent construct was specified reflectively through three dimensions, as summarised in Table 1.

Items adapted from (Carroll, 1991; Elkington, 1997, 2018; Freeman, 1984; Lim & Yang, 2009; Porter & Kramer, 2011; Rany et al., 2020a, 2020b) and GRI indicators.

The questionnaire was developed from the study's conceptual framework and adapted from established conceptual and empirical sources listed in Table 1 rather than copied from a single validated scale. CSR items drew on (Carroll, 1991; Elkington, 1997, 2018; Freeman, 1984; Lim & Yang, 2009; Porter & Kramer, 2011), and GRI indicators; sustainable-development items drew on (Elkington, 1997, 2018; Rany et al., 2020a), and related sustainability indicators. Wording was contextualised to CSR practices and community conditions in East Java. Content validity was reviewed by three experts: an academic in CSR and community empowerment, a public-policy and governance specialist, and a CSR/community-relations practitioner. They assessed construct alignment, clarity, contextual relevance, and operational suitability. A pilot involving 30 Gresik residents outside the main sample was used for initial item screening and reliability assessment. Corrected item-total correlations were above 0.367 and Cronbach's alpha was 0.903; no item was removed, merged, or

Table 1. Construct Operationalisation

Construct	Dimension	Item coverage	Items
CSR (X): corporate effort	Environmental (X1)	Waste, pollution control, greening, energy efficiency	5
	Economic (X2)	Training, local hiring, MSME partnership, infrastructure	4
	Social (X3)	Education, health, empowerment, citizen involvement	6
Sustainable development (Y): territorial conditions	Environmental (Y1)	Air and water quality, cleanliness, green cover	4
	Economic (Y2)	Employment, household income, local business	5
	Social (Y3)	Education and health access, cohesion, quality of life	5

Source: Authors' analysis, 2026.

substantively revised. To reduce common-method concerns, anonymity was maintained, and predictor and outcome blocks were separated. Harman's single-factor test and a comparison between a one-factor CFA and the hypothesised multidimensional CFA were subsequently used as diagnostics. Because both focal constructs came from the same respondents at the same time, these procedures cannot eliminate the possibility of common method bias (Podsakoff et al., 2003).

Analysis

The model was estimated with covariance-based structural equation modelling using maximum likelihood in IBM SPSS Amos 27. A confirmatory SEM approach was appropriate because the study tests a theoretically specified measurement and structural model rather than prioritising prediction (Kline, 2016).

Multivariate normality was evaluated using Mardia's coefficients. Confirmatory factor analysis was then estimated separately for each locality. Measurement quality was assessed through standardised loadings, average variance extracted (AVE), composite reliability, Cronbach's alpha, the Fornell-Larcker criterion (Fornell & Larcker, 1981) and HTMT (Henseler, Ringle, & Sarstedt, 2015; Henseler, Ringle, & Sarstedt, 2015). Commonly used reference values were ≥ 0.70 for loadings, composite reliability, and alpha; ≥ 0.50 for AVE; and < 0.85 for HTMT. Overall fit was evaluated jointly using χ^2/df , CFI, TLI, RMSEA, and SRMR (Hu & Bentler,

1999). Because H2 and H3 concern between-locality differences, measurement invariance was examined sequentially, using $\Delta CFI \leq 0.01$ as the primary criterion (Cheung & Rensvold, 2002), before structural paths were compared by equality constraints.

Results

Respondent characteristics

Table 2 summarises composition, tested for comparability by chi-square for categorical variables and one-way analysis of variance for continuous ones.

Sex, age, and length of residence were broadly comparable across the three samples, whereas education and occupation differed significantly. These differences are substantively relevant because they reflect the distinct socioeconomic composition of the selected territorial contexts. They also reinforce the need to interpret subsequent contrasts as comparisons among whole localities rather than as effects attributable solely to industrial intensity. The instrument did not distinguish direct programme exposure, indirect exposure, and familiarity without direct participation; these forms of familiarity are therefore pooled in the analysis.

Assumption testing and common method bias

Absolute critical ratios for Mardia's coefficient lie below 2.58 ($\alpha = 1\%$) in all three groups, so multivariate normality is not rejected; skewness

Table 2. Respondent Characteristics by Industrial Cluster

Characteristic	Gresik (n = 412)	Malang City (n = 353)	Bojonegoro (n = 389)	Test
Male / female	57.8 / 42.2%	58.1 / 41.9%	58.1 / 41.9%	$\chi^2(2) = 0.01$; $p = 0.994$
Mean age, years (SD)	38.4 (10.6)	38.0 (10.9)	38.4 (10.7)	$F = 0.21$; $p = 0.813$
Secondary education or below	61.1%	42.4%	74.6%	$\chi^2(10) = 110.96$; $p < 0.001$
Diploma or above	37.8%	57.5%	25.5%	
Labourer / private employee	36.7%	19.8%	17.2%	$\chi^2(12) = 219.13$; $p < 0.001$
Self-employed / trader	22.3%	29.2%	20.8%	
Farmer / fisher	6.6%	2.0%	32.1%	
Other occupations	34.5%	49.0%	29.9%	
Mean residence, years (SD)	27.1 (10.3)	27.0 (10.2)	27.5 (10.0)	$F = 0.20$; $p = 0.822$

Source: Authors' analysis, 2026

ranges from -0.25 to 0.20 and kurtosis from -0.55 to 0.25 (Curran et al., 1996), and ordinary maximum likelihood was therefore retained.

Harman's single-factor test showed that the first unrotated factor accounted for 30.6% of variance in Gresik, 34.5% in Malang City, and 34.9% in Bojonegoro. A one-factor CFA also fitted markedly worse ($\chi^2/\text{df} = 3.54\text{--}5.71$; CFI = 0.628–0.760) than the hypothesised six-dimensional specification ($\chi^2/\text{df} = 1.08\text{--}1.24$; CFI approximately 0.98–1.00). Together, these diagnostics do not suggest that one general factor dominates the responses. They do not, however, remove common method bias as a possible source of covariance because CSR and sustainable-development perceptions were reported by the same respondents.

Measurement model

Table 3 summarises the six-dimensional confirmatory factor analysis conducted in each group.

Overall, the measurement model provides sufficient support for the subsequent analysis, although its quality is uneven across dimensions. Cronbach's alpha ranges from 0.769 to 0.856 and composite reliability from 0.733 to 0.879. Standardised loadings range between 0.606 and 0.815 and are statistically significant, yet several fall below the preferred 0.70 benchmark. AVE ranges from 0.407 to 0.618, with several dimensions below 0.50. The model can therefore be retained but claims about convergent validity should remain qualified rather than uniformly favourable.

HTMT values are below 0.85 in each locality, offering additional evidence that the dimensions are empirically distinguishable. The Fornell-Larcker criterion, however, is not met for every construct pair, especially where AVE is comparatively low. The six-dimensional specification is therefore retained with explicit acknowledgement that convergent and discriminant validity are acceptable only with these qualifications.

Table 3. Construct Validity and Reliability by Industrial Cluster

Dimension	Gresik: loadings / α / CR / AVE	Malang City: loadings / α / CR / AVE	Bojonegoro: loadings / α / CR / AVE
Environmental (X1)	0.740–0.799 / 0.836 / 0.876 / 0.585	0.742–0.767 / 0.817 / 0.869 / 0.571	0.700–0.740 / 0.819 / 0.846 / 0.524
Economic (X2)	0.743–0.815 / 0.806 / 0.863 / 0.612	0.606–0.663 / 0.774 / 0.733 / 0.407	0.754–0.804 / 0.819 / 0.866 / 0.618
Social (X3)	0.649–0.704 / 0.856 / 0.837 / 0.461	0.708–0.737 / 0.844 / 0.869 / 0.524	0.647–0.731 / 0.846 / 0.834 / 0.455
Environmental (Y1)	0.733–0.776 / 0.814 / 0.845 / 0.578	0.683–0.715 / 0.769 / 0.795 / 0.492	0.687–0.732 / 0.811 / 0.801 / 0.502
Economic (Y2)	0.709–0.758 / 0.835 / 0.855 / 0.542	0.743–0.803 / 0.825 / 0.879 / 0.593	0.680–0.756 / 0.842 / 0.844 / 0.520
Social (Y3)	0.651–0.718 / 0.835 / 0.812 / 0.464	0.610–0.658 / 0.827 / 0.775 / 0.407	0.688–0.745 / 0.826 / 0.841 / 0.514

Source: Authors' analysis, 2026. All loadings significant at $p < 0.001$.

Table 4. Model Fit by Locality

Fit index	Recommended criterion	Gresik	Malang City	Bojonegoro	Interpretation
χ^2/df	≤ 2.00	1.126	1.231	1.065	Good
CFI	≥ 0.95	0.990	0.979	0.995	Good
TLI	≥ 0.95	0.989	0.977	0.994	Good
RMSEA	≤ 0.06	0.018	0.026	0.013	Good
SRMR	≤ 0.08	0.034	0.038	0.034	Good

Source: Authors' analysis (2026). CFI, TLI, RMSEA, and SRMR criteria follow Hu and Bentler (1999); χ^2/df is reported as a supplementary descriptive fit ratio.

Each reported fit index meets the stated criterion in all three localities. Considered jointly, the indices indicate satisfactory overall fit; no conclusion is based on a single fit statistic.

Structural models by cluster

Table 5 presents the parameter estimates for the three localities. Because one marker indicator is fixed at 1.000 to establish each latent scale, dimensional comparisons are based on the standardised estimates.

For Gresik, standardised CSR loadings are 0.886 for the environmental dimension, 0.844 for the economic dimension, and 0.815 for the social dimension. The corresponding sustainable-development loadings are 0.733, 0.608, and 0.512. These coefficients indicate how strongly dimensions represent their latent constructs; they are not measures of programme quality or evidence that a particular programme requires intervention. The estimated CSR-sustainable-development association is positive and statistically significant ($\beta = 0.803$; $R^2 = 0.645$).

Table 5. Parameter Estimates by Industrial Cluster

Construct	Dimension / path	Gresik: est. (SE)	Gresik: std.	Malang: est. (SE)	Malang: std.	Bojonegoro: est. (SE)	Bojonegoro: std.
CSR (X)	Environmental (X1) ^a	1.000	0.886	1.000	0.854	1.000	0.870
	Economic (X2)	0.988 (0.086)	0.844	0.797 (0.088)	0.835	1.019 (0.097)	0.789
	Social (X3)	0.821 (0.076)	0.815	0.891 (0.091)	0.798	0.788 (0.085)	0.739
Sustainable development (Y)	Environmental (Y1) ^a	1.000	0.733	1.000	0.730	1.000	0.893
	Economic (Y2)	0.786 (0.107)	0.608	1.395 (0.156)	0.915	0.882 (0.089)	0.767
	Social (Y3)	0.624 (0.095)	0.512	1.051 (0.130)	0.826	0.890 (0.088)	0.782
Structural path	$Y \leftarrow X$	0.667 (0.074)	0.803	0.650 (0.080)	0.845	0.887 (0.090)	0.869
	R^2 (Y)		0.645		0.714		0.755

Source: Authors' analysis, 2026. ^a Marker indicator fixed at 1.000. All estimated coefficients significant at $p < 0.001$.

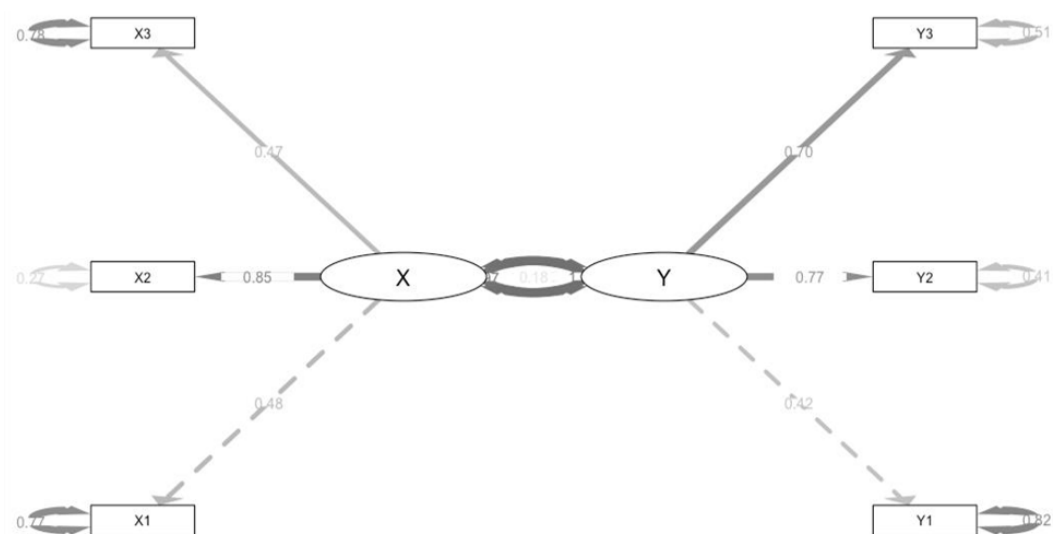


Figure 3. Structural Model in the High-Industry Cluster (Gresik)

Source: Authors' analysis, 2026

In Malang City, the standardised CSR loadings are 0.854, 0.835, and 0.798 for the environmental, economic, and social dimensions, respectively. For perceived sustainable development, the economic dimension has the largest loading (0.915), followed by the social (0.826) and environmental (0.730) dimensions. The CSR-sustainable-development association is positive and significant ($\beta = 0.845$; $R^2 = 0.714$). These estimates describe statistical association and construct representation, not the magnitude of change expected from a policy intervention.

In Bojonegoro, standardised CSR loadings are 0.870 for environmental, 0.789 for economic, and 0.739 for social dimensions. For perceived sustainable development, the environmental dimension has the largest loading (0.893), followed by social (0.782) and economic (0.767). The association between the two latent constructs is positive and significant ($\beta = 0.869$; $R^2 = 0.755$). Here, as elsewhere, R^2 denotes explained variance within the model and is not interpreted as policy leverage.

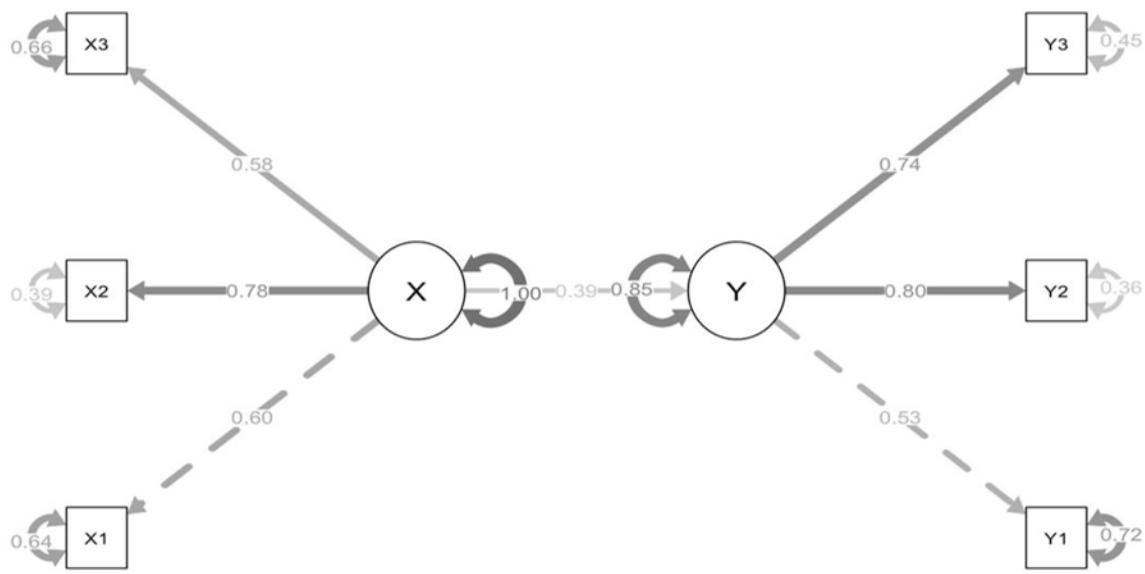


Figure 4. Structural Model in the Medium-Industry Cluster (Malang City)
Source: Authors' analysis, 2026

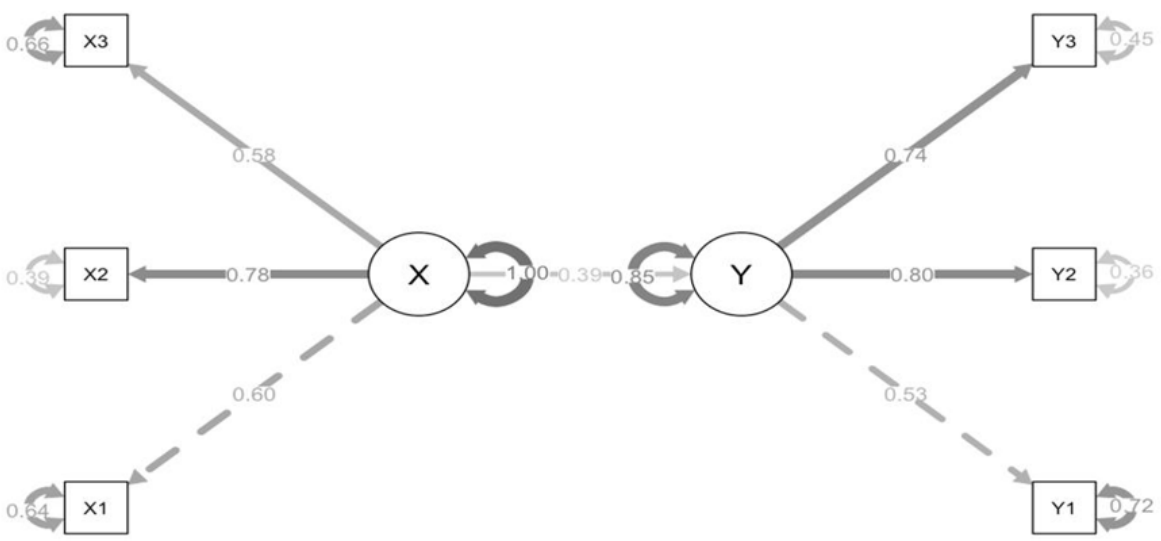


Figure 5. Structural Model in the Low-Industry Cluster (Bojonegoro)
Source: Authors' analysis, 2026

Invariance, between-cluster comparison, and hypothesis testing

The invariance tests supported configural, metric, and scalar comparability using $\Delta\text{CFI} \leq 0.01$ as the primary decision rule. The configural model yielded $\text{CFI} = 0.988$ and $\text{RMSEA} = 0.020$. Imposing metric constraints changed CFI by -0.002 , and scalar constraints produced a further change of -0.009 . These results support comparison of the structural association across localities, while substantive differences in respondent composition and place characteristics remain relevant to interpretation.

Constraining the CSR-sustainable-development path to equality produced a significant overall between-group difference, $\Delta\chi^2(2) = 24.18$, $p < 0.001$. Pairwise tests indicated differences between Gresik and Malang City ($\Delta\chi^2(1) = 14.16$, $p < 0.001$) and between Gresik and Bojonegoro ($\Delta\chi^2(1) = 19.64$, $p < 0.001$). Malang City and Bojonegoro did not differ significantly ($\Delta\chi^2(1) = 0.55$, $p = 0.457$). Thus, the robust comparative pattern is Gresik versus the other two localities, not a statistically demonstrated stepwise gradient across low, medium, and high industrial intensity.

H4 is interpreted only at the descriptive or pattern level. Economic loadings are numerically higher than social loadings in the relevant comparisons, but the within-model differences were not subjected to formal parameter-difference tests. In addition, the environmental dimension has the highest loading on the CSR construct in all three localities. The appropriate conclusion is therefore limited to the observed relative pattern, particularly the generally lower position of the social dimension; no claim is made that one dimension statistically dominates another.

Discussion

Confirmation and extension

In all three localities, respondents who evaluated CSR more favourably also tended to report more favourable perceptions of sustainable development, which supports H1. This pattern is consistent with stakeholder theory and shared-value arguments, under which perceived corporate

responsiveness accompanies more positive evaluations of local sustainability (Freeman, 1984; Porter & Kramer, 2011). The cross-sectional and perception-based design, however, does not establish that CSR caused the reported sustainability outcomes.

The pattern is also compatible with research on CSR decoupling, although the evidence used here is different. Decoupling studies typically compare corporate claims with firm-level performance, whereas this analysis relies on resident perceptions and therefore cannot directly identify a claim-practice gap. The relatively large structural coefficients may partly reflect the fact that both constructs were measured perceptually from the same respondents. For that reason, the more informative result is the contrast among territorial contexts rather than the absolute size of the coefficients.

Two logics of dimensional weight

A consistent descriptive pattern appears in the CSR construct: the social dimension has the lowest loading in each locality, while the economic dimension is higher. Several interpretations are plausible. In developing-economy settings, immediate economic responsibilities may be especially salient because employment and income effects are tangible and experienced over relatively short periods (Visser, 2008). Economic benefits such as wages, contracts, and local hiring are also easier to attribute to a firm than collective education or health benefits. Programme portfolios may additionally concentrate on activities close to the firm's value chain (Barney, 1991; Hart, 1995; Kuswati et al., 2022). These explanations are interpretive and do not imply that lower social loadings indicate weaker social programmes.

The same reasoning does not fully account for the environmental dimension, which has the highest CSR loading in every locality. One plausible interpretation is that environmental conditions provide a highly visible signal of corporate conduct that residents can observe without access to company budgets or reports. Economic benefits may be concentrated among people connected to the value chain, while social benefits can be diffuse and harder to attribute. On the sustainable-development construct, however, the ordering of dimensions differs by locality, suggesting that local

socioeconomic conditions also shape how residents evaluate development outcomes.

Why the high-industry locality differs

The most important comparative result is the weaker structural association found in Gresik relative to Malang City and Bojonegoro. Legitimacy theory offers a plausible interpretation: where industrial burdens are more visible, residents may apply a more demanding standard when judging corporate programmes. This interpretation is consistent with (Suchman, 1995) distinction between pragmatic and moral legitimacy. Because the legitimacy-gap mechanism was neither measured nor estimated as a mediator, the finding is best described as compatible with a legitimacy-based explanation rather than as empirical confirmation of that mechanism.

Other explanations cannot be excluded. Measurement invariance reduces the likelihood that the observed path difference is merely a measurement artefact, and the common-method diagnostics do not indicate a dominant single factor. At the same time, the three localities differ in respondent composition and broader socioeconomic characteristics, and each industrial-intensity category is represented by only one locality. Industrial intensity is therefore inseparable from education, occupation, local economic structure, governance, and other place-specific factors in this design. The evidence supports a Gresik-versus-other-localities contrast, not an isolated causal effect of industrial intensity.

The Indonesian institutional setting

Several institutional features may help contextualise the findings, although they were not directly tested in the model. Mandatory CSR can ensure that programmes exist without guaranteeing their quality, continuity, or fit with local priorities. Decentralised environmental governance may also produce variation in coordination capacity across regencies and cities. Different industrial structures create different combinations of externalities and local needs, while community participation can influence whether programme design reflects resident priorities. These considerations provide context for interpreting the observed territorial differences but should not be

treated as empirically established mechanisms in this study.

Theoretical implications

The findings permit three theoretical observations, all of which require cautious interpretation. First, assessments from resident's familiar with CSR programmes provide a useful complement to evidence based on corporate reporting. Second, the weaker association observed in Gresik is compatible with the possibility that legitimacy thresholds differ across territorial settings, although this mechanism was not measured directly. Third, differences in dimensional loadings indicate that CSR and sustainable-development constructs may be represented differently across local contexts. These observations qualify stakeholder and legitimacy perspectives without treating industrial intensity or the proposed mechanisms as experimentally identified causes.

Differentiated practical implications

Practical implications are derived from the comparative evidence and its contextual interpretation, not from treating factor loadings or R^2 as direct indicators of programme performance. Loadings indicate how dimensions represent a latent construct, whereas R^2 reports explained variance. Neither statistic directly measures programme weakness, community need, programme coverage, or the change that an intervention would produce. The findings instead favour context-sensitive CSR governance, stronger community participation, outcome-oriented monitoring, and closer alignment between corporate programmes and documented local needs. Local priorities should be established using direct evidence such as programme coverage, resident mean scores, satisfaction, needs assessments, environmental indicators, and observed outcomes.

In Gresik, the comparatively weaker association warrants closer assessment of whether CSR programmes correspond to environmental and social concerns experienced locally. In Malang City and Bojonegoro, the findings justify continued attention to local economic and environmental conditions, respectively, but they do not identify which programmes should receive additional resources. Across the three

localities, governments and firms could improve CSR databases, consultation processes, transparent outcome indicators, and inter-organisational coordination. These are directions for subsequent needs-based assessment rather than conclusions derived mechanically from factor loadings.

R² is likewise not used to rank policy leverage or determine intervention order. It reports the share of variance in perceived sustainable development statistically associated with perceived CSR within each locality. Because the design is cross-sectional, these values cannot indicate how much sustainable development would change after a CSR intervention. Policy sequencing therefore requires separate evidence on needs, programme reach, environmental and social outcomes, and implementation capacity.

Conclusions

Using responses from 1,154 resident's familiar with local CSR programmes, this study assessed the association between perceived CSR and perceived sustainable development in Gresik, Malang City, and Bojonegoro. A positive association was found in every locality. The main comparative result is the significantly weaker association in Gresik relative to Malang City and Bojonegoro, while the latter two localities do not differ significantly. The evidence therefore does not establish a linear low-to-medium-to-high industrial-intensity gradient. The findings are compatible with stakeholder and legitimacy perspectives, but the proposed legitimacy-gap, institutional-uniformity, resource-provision, and observability mechanisms were not tested directly. H4 receives descriptive support only because the differences between dimensional loadings were not examined using formal parameter-difference tests.

The study has several limitations. Its cross-sectional design supports associational rather than causal interpretation. Both focal constructs were measured from the same respondents in the same instrument, so common method bias remains possible despite procedural safeguards and statistical diagnostics. Some dimensions have AVE below 0.50, several loadings are modest, and the Fornell-Larcker criterion is not met for every construct pair;

measurement quality is therefore acceptable with qualifications. Because only one locality represents each industrial-intensity category, locality and category are confounded. Final-stage recruitment was not fully probabilistic, exposure to CSR was not differentiated into direct, indirect, and familiarity-only categories, and education and occupation vary across sites. These features limit population-level and causal generalisation.

Future research should include multiple localities within each industrial-intensity category, use longitudinal or repeated designs where feasible, and combine perception measures with objective environmental, economic, and social indicators. Multilevel models could then distinguish locality-level from cluster-level variation. Future instruments should also record the form and intensity of CSR exposure and directly measure candidate mechanisms such as participation, trust, transparency, and legitimacy perceptions rather than inferring them from structural patterns.

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