

Analysis of the Implementation of CSR Programs on Environmental Performance (Case Study: Bio-Manufacturing Companies)

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ABSTRACT

Harmonious relations between companies and surrounding communities are the dream of every industry. In reality, however, industries often experience conflicts with surrounding communities. This is due to several factors, namely those related to employment and environmental impacts. A notable social conflict occurred in 2012 when approximately 64 local residents staged a demonstration. To mitigate such conflicts, the company has adopted a community engagement approach through its Corporate Social Responsibility (CSR) program. This study examines the alignment and implementation of CSR programs in relation to their impact on environmental performance at a bio-manufacturing company located in East Java, Indonesia. To date, the company's CSR programs have incorporated suggestions from the local community. Based on company data, the percentage of social CSR programs is highly dominant at 83.5%, consisting of charity, religious, and natural disaster relief initiatives. This study employs an explanatory quantitative approach to test existing theories or hypotheses, aiming to strengthen or add to previous research findings. While other studies only use the CSR disclosure variable, this study includes the type of CSR variable that influences CSR disclosure and several external influences on environmental performance. The sample size for this study is 300 respondents from the community surrounding the company. Data was collected through the distribution of questionnaires and analyzed using SEM-PLS software. The results of the study indicate that CSR disclosure, pro-environmental community actions, and environmental NGOs have a positive and significant effect on environmental performance. The suitability of CSR programs for the community is the main factor influencing the value of CSR disclosure satisfaction. This study shows that the appropriate CSR programs for companies are social CSR, health CSR, and environmental CSR.

Keywords: *Corporate Social Responsibility, Structural Equation Modeling, Environmental NGO, Environmental Performance*

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INTRODUCTION

A harmonious relationship between companies and local communities is the aspiration of all industries conducting business operations. However, in reality, industries often experience conflicts with surrounding communities. These conflicts are generally triggered by labor-related issues and environmental impacts (Rehman et al., 2022). To mitigate such conflicts, companies can engage with local communities through Corporate Social Responsibility (CSR) programs. CSR is defined as a business commitment to operate ethically and contribute positively to society (Carrol, 2021). According to various studies, the key benefits of CSR include reducing costs and risks, maximizing profits and achieving competitive advantages, maintaining reputation and legitimacy, and creating synergistic value (Barauskaite & Streimikiene, 2020).

CSR is often perceived as a voluntary initiative rather than a legal obligation. However, in recent years, many countries have introduced legislation mandating companies to implement CSR (Lin, 2021). In Indonesia, CSR obligations are regulated under *Law No. 40*

of 2007 on Limited Liability Companies, specifically Article 74(1), which states that companies operating in or related to natural resources are required to conduct social and environmental responsibilities. The objective of this regulation is to ensure that companies maintain balanced and harmonious relationships with the environment, local values, norms, and culture (Khalik, Okprianti, & Kifli, 2023). Failure to implement CSR can result in administrative sanctions, as outlined in *Law No. 25 of 2007 on Investment*, Article 34, which includes written warnings, business restrictions, suspension or revocation of business activities and/or investment facilities (Sari & Ranawijaya, 2023).

In Indonesia, based on data collected from 404 companies over the past three years (2020–2023), only 61 companies reported their CSR activities, which were also ranked by CSRHub (Narullia et al., 2022). In its business operations, the company prioritizes compliance with regulations, including CSR. Geographically, the company is located adjacent to three villages, and it seeks to ensure that CSR implementation positively impacts environmental performance and maintains a conducive relationship with local communities. Every company strives to uphold its reputation by fostering good relationships with its surrounding communities and employees (Afifah, Astuti, & Irawan, 2021). One notable environmental impact is air pollution. However, laboratory tests conducted periodically by relevant authorities confirm that air emissions are within government standards.

The bio-manufacturing company categorizes its CSR initiatives into seven areas, following the guidance of the *East Java Regional Development Planning Agency (Bappeda)*. As shown in Figure 1.3, CSR in the social sector is currently the company's priority. This approach aligns with the community's perception that CSR should primarily take the form of charity programs. Charity initiatives aim to alleviate the burdens of those in need and establish short-term goodwill with the community (Barnett, Henriques, & Husted, 2020). Failure to align with such expectations can result in community unrest and protests. The last major protest, which involved 64 local residents, took place in 2012, raising concerns about the company's air emissions.

Environmental NGOs and pro-environment communities play an active role in such demonstrations. According to Liu et al. (2023), Environmental NGOs advocate for the interests of communities affected by environmental degradation, monitor and critique the performance of government and businesses in environmental management, raise public awareness, encourage community participation in environmental conservation, and develop innovative solutions to address environmental issues.

A study conducted by Liopa et al. (2022), titled "Corporate Social Responsibility in the Health Technology Industry Prior and during the Covid-19 Pandemic, in Greece," examined CSR practices among pharmaceutical and biomedical industries in Greece. The study classified CSR activities into five categories: social, environmental, economic, human resource development, and health. It found that 84.8% of the companies conducted CSR initiatives related to COVID-19. Figure 1.4 highlights the percentage of CSR activities undertaken by these industries and the challenges hindering their implementation.

Another study by Acabado et al. (2020), titled "Do Distinct CSR Categories Have Distinct Determinants? The Roles of Market Structure and Firm Size," analyzed CSR practices across countries in America, Europe, and Asia. The researchers classified CSR into four categories: environmental, human resource development, social, and governance

(accountability, transparency, and ethical behavior). They concluded that factors such as market structure, company size, policy implications, and managerial insights significantly influence CSR categories.

Similarly, research by Fallah Shayan et al. (2022), titled “Sustainable Development Goals (SDGs) as a Framework for Corporate Social Responsibility (CSR),” divided CSR into three categories: environmental, social, and economic. This study emphasizes the importance of collaboration between private and public sectors to achieve sustainable development goals, encouraging companies to adopt more proactive and sustainable CSR practices.

The company-appointed team regularly monitors community responses to CSR initiatives. Through continuous observation and evaluation, the company aims to learn, adapt, and enhance its CSR performance, thereby contributing positively to both society and the environment (Sanjaya & Radyati, 2022). Several studies reveal that the success of CSR programs is positively correlated with environmental performance. By proactively managing environmental impacts through CSR, companies can reduce regulatory risks, legal disputes, and reputational damage (Kraus, Rehman, & Garcia, 2020). Building on this, Mehta (2022) explored the impact of CSR practices in cement companies on sustainable development using a two-stage *PLS-SEM* approach, finding that tailored CSR initiatives significantly improve sustainable development outcomes. Likewise, Purwaatmojo and Ratmono (2024) analyzed how green accounting, mediated by CSR disclosure, positively influences corporate environmental performance.

This research introduces novelty by focusing on the implementation of CSR in a bio-manufacturing company located near three villages, with a priority on social-sector initiatives and their impact on environmental performance as well as harmonious relationships with local communities. Unlike previous studies (Liopa et al., 2022; Acabado et al., 2020), which mainly emphasize CSR classifications and determinants at a macro level, this study integrates Indonesian CSR regulations (*Law No. 40 of 2007*) with local community expectations, while evaluating the correlation between CSR, corporate reputation, and the prevention of social conflicts. This approach offers a new perspective by combining legal compliance, local wisdom, and community responses as parameters of CSR effectiveness.

The objectives of this research are to analyze the CSR implementation in the bio-manufacturing company, evaluate the effectiveness of CSR programs in building harmonious relationships with local communities, and assess their contribution to environmental performance and corporate reputation. The benefits of this research include providing strategic recommendations for companies to design CSR programs that are more adaptive to community needs, contributing to academic literature on the role of CSR in the bio-manufacturing sector, and serving as a practical reference for policymakers and other companies to optimize CSR roles in achieving sustainability and reducing community conflicts.

METHOD

The research design serves as a blueprint or plan for collecting, measuring, and analyzing data in order to answer research questions. Based on the objectives of this study, the research design is explanatory research, which aims to test a theory or hypothesis to either strengthen or reject previous research findings. This study examines causal relationships among variables,

focusing on both direct and indirect effects of independent (*exogenous*) variables on dependent (*endogenous*) variables, as well as the role of mediating variables. The variables in this study include Social CSR (X1), Health CSR (X2), Environmental CSR (X3), CSR Disclosure (Z1), Pro-environment Community Actions (Z2), Environmental NGOs (Z3), and Environmental Performance (Y).

To address the research questions and achieve the objectives, this study adopts a quantitative research method. Quantitative data are collected directly from respondents using a questionnaire related to the variables under investigation. Quantitative research emphasizes the use of numerical data to analyze phenomena. The data collected in this study are measured on nominal and interval scales, with qualitative responses converted into quantitative form for analysis. The data are then analyzed using multivariate techniques, specifically the *Structural Equation Model (SEM)*, to test the proposed hypotheses and evaluate the relationships among variables.

According to Sugiyono (2013), the operational definition of research variables is an attribute, characteristic, or value of an object or activity that varies and has been determined by the researcher to be studied and concluded. Operational definitions must be clearly formulated to avoid errors in data collection. Therefore, each variable in this study is defined and measured based on specific indicators to ensure clarity and accuracy in the research process.

In this study, variables are classified into three categories: *endogenous* variables, which are influenced by other variables and are usually denoted as Y; *exogenous* variables, which influence other variables and are usually denoted as X; and mediating (*intervening*) variables, which serve as intermediaries between *exogenous* and *endogenous* variables, denoted as Z. This classification helps clarify the direction and type of relationships being tested in the research framework.

The *exogenous* variables (X) used in this study are Social CSR (X1), Health CSR (X2), and Environmental CSR (X3). These variables represent the different dimensions of CSR initiatives implemented by the company. The mediating variables (Z) consist of CSR Disclosure (Z1), Pro-environment Community Actions (Z2), and Environmental NGOs (Z3). These variables are included to examine whether the effectiveness of CSR activities is mediated by community engagement and transparency in CSR reporting.

The *endogenous* variable (Y) in this study is Environmental Performance, which reflects the company's overall outcomes in managing and mitigating its environmental impact. The research model aims to test how CSR initiatives, either directly or through mediators, influence environmental performance. By incorporating *SEM* analysis, this study seeks to provide a comprehensive understanding of the causal pathways between CSR practices and sustainable environmental outcomes.

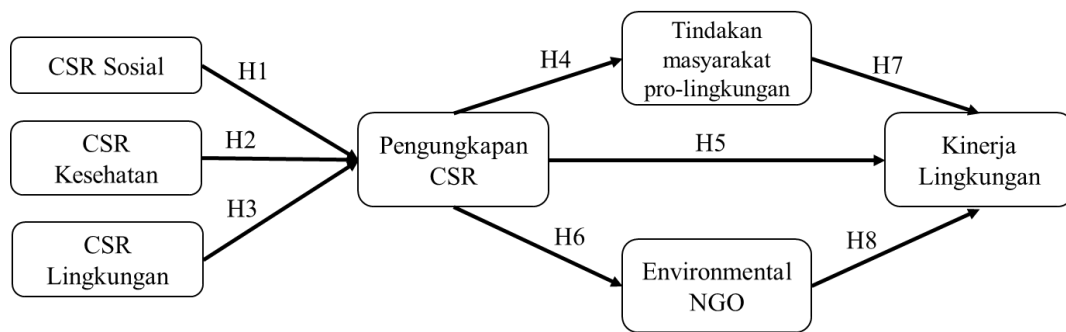


Figure 1. Research Model

Source : author

According to Sugiyono (2013), *sampling technique* is a method used to select a sample for research purposes, and an appropriate methodology is required so that the entire population can be generalized accurately. To obtain a representative sample size that truly reflects the data source, attention must be given to the characteristics and distribution of the population (Susanto et al., 2024). The population in this study consists of all community members receiving the company's CSR programs, totaling 1,416 individuals across three different villages. Due to the large population size and limitations of resources such as time and manpower, the researcher selected a sample from this population (Sugiyono, 2013). A sample is a subset of the population with certain characteristics that are relevant for the study, and it is often used when it is impractical to examine the entire population due to constraints of cost, time, and labor. The sample size for this study was determined using the formula proposed by Hair et al. (2010) in Sudiantini and Saputra (2022), which states that the required number of observations (n) is calculated as the total number of indicators (N) multiplied by five. With 27 indicators from 7 variables, the minimum required sample size is 135 respondents; however, the researcher opted to use a larger sample of 300 respondents to better capture actual conditions.

RESULTS AND DISCUSSION

The data collection process was conducted from April 19, 2025, to April 28, 2025, involving 300 community members around the company who were willing to participate and complete the questionnaire. Among the respondents, 142 individuals (47.33%) were male, and 158 individuals (52.67%) were female. In terms of age distribution, 57 respondents (19.00%) were aged 18–27 years, 64 respondents (21.33%) were aged 28–37 years, 47 respondents (15.67%) were aged 38–47 years, 63 respondents (21.00%) were aged 48–57 years, and 69 respondents (23.00%) were above 57 years. Regarding the level of education, 74 respondents (24.67%) had completed elementary school, 69 respondents (23.00%) had completed junior high school, 144 respondents (48.00%) had completed senior high school, and 13 respondents (4.33%) held a bachelor's degree (S1/D4).

Hypothesis testing

Hypothesis testing (bootstrap resampling) is used to show the level of parameter significance of indicator variables in the measurement model (outer model) as well as in the structural model (inner model). To test the research hypothesis, the researcher used the bootstrapping function in PLS. The following is Figure 4.5 of the structural model diagram (Bootstrapping PLS).

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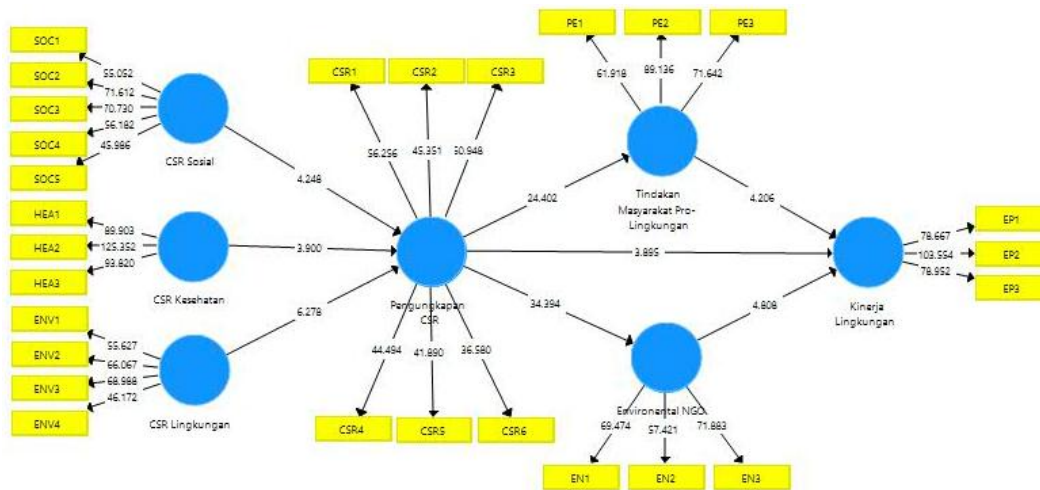


Figure 2. Structural Model Diagram (PLS Bootstrapping)

Tabel 1. Path Coefficient (Bootstrapping PLS)

	Original Sample	Sample Mean	Hours of deviation	T-Statistics	P-Values
Social CSR → Disclosure	0,291	0,294	0,069	4,249	0,001
CSR Health → Disclosure CSR	0,236	0,236	0,061	3,900	0,001
CSR Environment → Disclosure CSR	0,432	0,430	0,069	6,279	0,001
Disclosure of CSR → of Pro-Environmental Community Actions	0,808	0,808	0,034	24,403	0,001
Environmental Performance → Disclosure	0,286	0,288	0,074	3,895	0,001
Environmental Performance → Disclosure NGO	0,335	0,337	0,070	4,808	0,001
Pro-Environmental Community Actions → Environmental Performance	0,318	0,315	0,076	4,207	0,001

The path coefficient value is shown through a t-statistic > 1.64 for a one-way hypothesis test with an alpha of 5% (Al-Mekhlafi et al. 2023). Table 4.11 shows the results of testing the research hypothesis for H1, H2, H3, H4, H5, H6, H7, and H8. H1 states that Social CSR has a positive effect on CSR disclosure. The results showed that the coefficient (β) of the influence of Social CSR on CSR disclosure was 0.291; The T-statistic is 4,249; and the p-value is 0.001. The t-statistical value was $4.249 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Social CSR has a positive and significant effect on CSR disclosure.

H2 states that Health CSR has a positive effect on CSR disclosure. The results showed that the coefficient (β) of the influence of Health CSR on CSR disclosure was 0.236; The t-statistic

is 3,900; and the p-value is 0.001. The t-statistical value was $3,900 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Health CSR has a positive and significant effect on CSR disclosure.

H3 states that Environmental CSR has a positive effect on CSR disclosure. The results showed that the coefficient (β) of the influence of Environmental CSR on CSR disclosure was 0.432; The t-statistic is 6,279; and the p-value is 0.001. The t-statistical value was $6.279 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Environmental CSR has a positive and significant effect on CSR disclosure.

H4 states that CSR Disclosure has a positive effect on Pro-Environmental Community Actions. The results showed that the coefficient (β) of the effect of CSR Disclosure on Pro-Environmental Community Actions was 0.808; The t-statistic is 24,403; and the p-value is 0.001. The t-statistical value was $24.403 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that CSR Disclosure has a positive and significant effect on Pro-Environmental Community Actions.

H5 states that CSR Disclosure has a positive effect on Environmental Performance. The results showed that the coefficient (β) of the effect of CSR Disclosure on Environmental Performance was 0.286; The T-statistic is 3,895; and the p-value is 0.001. The t-statistical value was $3.895 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that CSR Disclosure has a positive and significant effect on Environmental Performance.

H6 states that CSR disclosure has a positive effect on Environmental NGOs. The results showed that the coefficient (β) of the effect of CSR Disclosure on Environmental NGOs was 0.797; The t-statistic is 34,395; and the p-value is 0.001. The t-statistical value was $34.395 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that CSR disclosure has a positive and significant effect on Environmental NGOs.

H7 states that Pro-Environmental Community Actions have a positive effect on Environmental Performance. The results showed that the coefficient (β) of the influence of Pro-Environmental Community Actions on Environmental Performance was 0.318; The t-statistic is 4,207; and the p-value is 0.001. The t-statistical value was $4.207 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Pro-Environmental Community Actions have a positive and significant effect on Environmental Performance.

H8 states that Environmental NGOs have a positive effect on Environmental Performance. The results showed that the coefficient (β) of the influence of Environmental NGOs on Environmental Performance was 0.335; The T-statistic is 4,808; and the p-value is 0.001. The t-statistical value was $4.808 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Environmental NGOs have a positive and significant effect on Environmental Performance.

In the mediation effect test, the output of the significance test parameters is seen in the total effect table not in the path coefficient table because in the mediation effect, not only the direct effect of independent variables and dependent variables is tested, but also the indirect relationship between independent and dependent variables (indirect effect) through mediation variables.

Tabel 2. Total Effect (Bootstrapping PLS)

	Original Sample	Sample Mean	Hours of deviation	T-Statistics	P-Values
Health CSR -> Environmental NGO	0,188	0,188	0,049	3,843	0,001
Health CSR - Environmental Performance >	0,191	0,191	0,049	3,88	0,001
Health CSR -> CSR Disclosure	0,236	0,236	0,061	3,9	0,001
Health CSR -> Pro-Environmental Community Actions	0,19	0,191	0,05	3,835	0,001
Environmental CSR -> Environmental NGO	0,344	0,342	0,056	6,217	0,001
Environmental CSR -Environmental Performance >	0,349	0,348	0,056	6,261	0,001
Environmental CSR -> CSR Disclosure	0,432	0,43	0,069	6,279	0,001
Environmental CSR -> Pro-Environmental Community Action	0,349	0,347	0,056	6,332	0,001
CSR Sosial -> Environmental NGO	0,232	0,235	0,056	4,199	0,001
Social CSR - Environmental Performance >	0,235	0,238	0,057	4,145	0,001
Social CSR -> CSR Disclosure	0,291	0,294	0,069	4,249	0,001
Social CSR -> Pro-Environmental Community Actions	0,235	0,238	0,058	4,097	0,001
Environmental NGO -> Environmental Performance	0,335	0,337	0,07	4,808	0,001
CSR Disclosure -> Environmental NGO	0,797	0,797	0,024	34,395	0,001
CSR Disclosure -> Environmental Performance	0,809	0,809	0,024	34,312	0,001
CSR Disclosure -> Pro-Environmental Community Action	0,808	0,808	0,034	24,403	0,001
Pro-Environmental Community Actions -> Environmental Performance	0,318	0,315	0,076	4,207	0,001

Table 2 shows the results of the research hypothesis testing for H9 and H10. H9 states that CSR disclosure has a positive effect on Environmental Performance through Pro-Environmental Community Actions. The results showed that the coefficient (β) of the effect of CSR Disclosure on Pro-Environmental Community Actions was 0.808; The t-statistic is 24,403; and the p-value is 0.001. The t-statistical value was $24.403 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that CSR Disclosure has a significant effect on Pro-Environmental Community Actions. Furthermore, the value of the coefficient (β) of the effect of Pro-Environmental Community Actions on Environmental Performance is 0.318; The t-statistic is 4,207; and the p-value is 0.001. The statistical value is $4.207 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Pro-Environmental Community Actions have a positive and significant effect on Environmental Performance. Finally, the value of the coefficient (β) of CSR disclosure on Environmental performance is 0.809; The T-statistic is 34,312; and the p-value is 0.001. The t-statistical value was $34.312 > 1.64$; and the p-value is $0.001 > 0.05$. These results show that CSR Disclosure has a significant effect on Environmental Performance. Based on these three tests, it can be seen that Pro-Environmental Community Actions can mediate the influence of CSR Disclosure on Environmental Performance.

H10 states that CSR Disclosure has a positive effect on Environmental Performance through Environmental NGOs. The results showed that the coefficient (β) of the effect of CSR Disclosure on Environmental NGOs was 0.797; The t-statistic is 34,395; and the p-value is 0.001. The t-statistical value was $34.395 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that CSR disclosure has a positive and significant effect on Environmental NGOs. Furthermore, the value of the environmental NGO coefficient (β) on Environmental Performance is 0.335; The T-statistic is 4,808; and the p-value is 0.001. The t-statistical value was $4.808 > 1.64$; and the p-value is $0.001 < 0.05$. These results show that Environmental NGOs have a positive and significant effect on Environmental Performance. Finally, the value of the coefficient (β) of CSR disclosure on Environmental performance is 0.809; The T-statistic is 34,312; and the p-value is 0.001. The t-statistical value was $34.312 > 1.64$; and the p-value is $0.001 > 0.05$. These results show that CSR Disclosure has a positive and significant effect on Environmental Performance. Based on these three tests, it can be seen that Environmental NGOs can mediate the influence of CSR Disclosure on Environmental Performance.

Implementation of the Corporate Environmental Performance CSR Program

The Influence of Social CSR on CSR Disclosure

The results of this study show that Social CSR has a positive and significant effect on CSR Disclosure. According to Mehta (2022), CSR disclosure is a strategic communication process used by companies to build legitimacy, improve reputation, and manage relationships with stakeholders. So that companies can build trust, manage risks, and contribute to sustainable development. Social CSR activities are one of the most popular activities because people's thinking in general is that CSR activities are in the form of donations to an activity. Social CSR is CSR that maintains social harmony, builds community character based on values of social piety, ethics and integrity.

The success of Social CSR has a positive and significant effect on CSR Disclosure because companies consider the cultural norms of the local community to ensure that the social CSR programs implemented are effective and acceptable to the community (Logsdon et al., 2022).

Cultural norms have a great influence on public assessment, so companies must take this into account in deciding on CSR policies at all times.

The Influence of Health CSR on CSR Disclosure

The results of this study show that Health CSR has a positive and significant effect on CSR Disclosure. Liopa et al. (2022) explained that 84.8% of CSR activities in the pharmaceutical and biomedical industries in Greece are related to health CSR in the form of handling COVID-19 and health infrastructure, this has received a positive response from the surrounding community. Health CSR enhances a company's reputation and strengthens the brand image in the eyes of the public. With this activity, the public or stakeholders consider that the company has a positive impact on the surrounding community.

The health CSR activities that have been carried out in the form of socializing the importance of healthy living through activities for the toddlers/elderly and helping health equipment to the surrounding health service places make the community feel the positive impact of the company's presence. Thus the company's good image encourages positive CSR disclosure from the public and increases investor attraction (Khan, Lockhart, and Bathurst, 2020).

The Influence of Environmental CSR on CSR Disclosure

The results of this study show that Environmental CSR has a positive and significant effect on CSR Disclosure. The definition of Environmental CSR according to research conducted by Avotra et al. (2021) is a company's effort to minimize negative impacts and contribute to environmental protection and quality improvement. The company integrates environmentally friendly activities in the company's operational activities to support sustainable development. To ensure that the sustainability development program runs, the company is responsible for reducing the negative impact of its operational activities on the environment.

Environmental CSR activities are not just a momentary philanthropic project, but are integrated into the company's core business strategy (Widyastuti and Dewi, 2020). The various environmental CSR activities that the company has carried out are planting trees in mountain areas, planting mangroves on the coast, normalizing rivers that have experienced siltation, and establishing waste banks. The benefits of CSR actions on the environment are felt by the community directly and periodically. Environmental CSR activities positively affect CSR disclosure because these activities have more value in improving the company's image in society, government, and investors (Khan, Lockhart, and Bathurst, 2020). Companies are considered to care about environmental conservation, which affects the level of satisfaction with CSR disclosure.

The Effect of CSR Disclosure on Environmental Performance

The results of this study show that CSR Disclosure has a positive and significant effect on Environmental Performance. According to Wozniak and Jurczyk (2020), CSR disclosure provides benefits in the form of improving a company's reputation and accountability. The company's environmental performance refers to the efforts and results achieved by the company in minimizing negative impacts on the environment and maximizing its positive contribution so that the conduciveness of the surroundings is maintained.

Corporate CSR disclosure can be described as the availability of financial and non-financial information which includes social benefits and social costs related to the organization's interaction with its physical environment and social environment (Purwaatmojo and Ratmono, 2024). The company provides media and freedom to the public so that they can propose the type of CSR activities that are appropriate while still considering the company's management. Thus, satisfactory CSR disclosure results are obtained and have a positive impact on Environmental Performance because the community feels the positive impact directly in terms of economic, environmental, health, and social aspects. Conditions like this encourage the formation of a conducive situation around the company.

The Effect of CSR Disclosure on Environmental Performance Mediated by Environmental NGOs and Pro-Environmental Community Actions

The Effect of CSR Disclosure on Environmental Performance through Environmental NGOs

This research shows that Environmental NGOs can mediate the influence of CSR Disclosure on Environmental Performance. Environmental NGOs have a role in building public awareness and participation in environmental conservation efforts (Liu et al., 2023), so that the public is educated about the environment that is suitable for sustainable survival. The success of the implementation of CSR programs is not only measured by the amount of funds spent or the number of activities carried out, but rather by the positive impact produced on the community and how the program contributes to sustainable development.

Successful implementation will create a harmonious relationship between the company, society, and the environment. This encourages the positive role of Environmental NGOs as advocacy related to environmental issues that are needed to realize sustainable development (Karwowski and Raulinajtys - Grzybek, 2021). For example, companies can collaborate with environmental NGOs in creating training for the community on the importance and what a healthy environment looks like. Thus, the environmental performance of the company will be achieved, namely a conducive atmosphere and external news to get a positive image.

The Effect of CSR Disclosure on Environmental Performance through Pro-Environmental Community Actions

This study shows that Pro-Environmental Community Actions can mediate the influence of CSR Disclosure on Environmental Performance. Definition of Pro-Environmental Community Action is behavior that is carried out by individuals or community groups voluntarily to minimize negative impacts on the natural environment or provide benefits to the environment (Batool et al., 2024). The accuracy of the selection of CSR programs that the company has provided affects the Pro-Environmental Community Action because the direct involvement of the pro-environment community in the CSR program makes them feel the positive impact directly and provide sustainable ideas related to the program.

The positive response from Pro-Environmental Community Action for companies is to increase and form a positive image in the public about the company's role for the surrounding community (Luo and Qu, 2023). This positive image is the basis for the company to attract or retain investors and customers. Investors will not hesitate to invest in a company whose

productivity is stable or always develops positively, besides that the good image that must be maintained is that there are no social problems with the surrounding environment (Wang and Bian, 2022). Thus, the company's environmental performance will be affected positively also because of the news of good things about the company. This activity must be maintained to ensure that the system runs continuously.

The Right CSR Program According to the Needs of the Community

Based on the results of research that has been conducted through the interview method, the right CSR program to achieve the expected environmental performance is social, health, and environmental CSR. The interview method is a systematic and structured approach to information retrieval, either in the context of research or survey (Mehta, 2022). Regarding the percentage of the number of activities according to the policy of the guarantee and the characteristics of the community.

Social CSR has a positive value for achieving environmental performance because the community feels that the presence of the company has a positive impact in terms of socio-cultural and religious, this is because the company's management considers local cultural norms in deciding on CSR activities (Chopra et al., 2024). In addition, social CSR activities encourage companies to get a positive reputation because the public assesses the company's concern for the welfare of the community. With this expression, the community is encouraged to play an active role in maintaining the conduciveness of the environment around the company.

Health CSR is CSR that supports quality health and provides assistance in handling the Covid-19 pandemic to health institutions, medical personnel, the community, and sectors affected by the pandemic (Liopa et al., 2022). This activity has a positive impact on the company's environmental performance through health programs. This is because the program changes the negative mindset of the public about air pollution to the presence of companies to improve their quality of life with periodic or periodic health checks.

Environmental CSR activities in the form of planting trees in mountain areas, planting mangroves on the coast, normalizing rivers that are experiencing siltation, and the establishment of waste banks have a positive impact on the company's environmental performance because the community feels the positive impact of the company's presence directly. Through such activities, people think that companies not only have a negative impact on life but there are positive things. There are several ways to achieve good environmental performance, starting from the use of natural resources, waste management, greenhouse gas emissions, CSR activities, to biodiversity conservation (Kraus, Rehman, and Garcia, 2020). Thus, environmental CSR helps achieve environmental performance.

The results of this study show that CSR disclosure has a positive and significant effect on environmental performance. In addition, the actions of pro-environmental communities and environmental NGOs also have a positive and significant effect on environmental performance. Finally, the actions of pro-environmental communities and environmental NGOs can mediate the influence of CSR disclosure on environmental performance. Therefore, the implications of this study are as follows.

- 1) The theoretical implication related to the results of this research is to maintain the environmental conditions around the company are always conducive and the achievement

of environmental performance, so in carrying out CSR activities must be in accordance with the needs of the community by involving the community in its planning. During the implementation of the CSR program, collaborate with environmental NGOs that will help the company in terms of increasing public awareness about the importance of sustainable development.

- 2) The implication of this research methodology is that the use of questionnaire instruments that are still rarely used by other researchers related to the eight variables of this research is able to provide the accuracy of measuring research variables, both in terms of validity and reliability. The researcher adjusts to the actual conditions in the environment around the company regarding the determination of research variables. In addition, the use of smartPLS analysis tools is still limited in testing this research model, so it makes an important contribution to this research.
- 3) The managerial implication of this research is that decision-making of the company's CSR program that involves suggestions from the community is more targeted because the community's suggestions are a reflection of the CSR program needed. In addition, the selection of CSR programs also considers the social and cultural conditions of the environment. The accuracy of CSR programs by involving pro-environmental communities and environmental NGOs during planning and implementation has a positive and significant influence on environmental performance.

CONCLUSION

This research aims to evaluate and analyze the suitability and implementation of CSR programs and their influence on environmental performance, as well as to plan the appropriate CSR program according to the needs of the community, thereby ensuring harmonious community conditions. The results of this study yield several conclusions as follows: (1) The analysis and evaluation demonstrate that the variables of the CSR program implemented by the company—*social*, *health*, and *environmental*—have a positive effect on the company's Environmental Performance, with this effect being mediated by the variable of CSR Disclosure. (2) The variables of Environmental NGOs and Pro-Environmental Community Actions are able to mediate the relationship between CSR Disclosure and Environmental Performance. (3) *Social* CSR programs, *Health* CSR, and *Environmental* CSR each have a positive effect on Environmental Performance, thereby aligning with the needs of the communities surrounding bio-manufacturing companies.

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