



# Article Impact of Producer's Environmental Performance on Consumers and Retailers Simultaneously in the Indonesian Retail Environment

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Abstract: Producers improve environmental performance to reduce the release of post-production waste. The positive environmental performance of producers is expected to influence consumer environmental attitudes positively, specifically toward post-consumption waste. However, research is deficient in exploring the impact of producer environmental performance (PEP) on retailer-consumer relationship quality (RCRQ) and consumer purchasing behavior (CPB) simultaneously to drive consumer environmental attitude (CEA) in the retail environment. Therefore, this study aims to examine the effect of PEP on RCRQ and CPB simultaneously to drive CEA in the retail environment. The survey was conducted at 17 retail outlets for 150 consumers of lubricant producers in the industrial city of Gresik, Indonesia. Partial Least Square analysis indicates that consumers perceive PEP has positive effects on CEA, but negatively affects RCRQ and positively affects CPB. Thereby, CPB has a more significant positive effect than RCRQ on CEA. Although RCRQ in mediating the effect of PEP on RCRQ to enhance the mediating role of RCRQ for more positive consumer environmental attitudes.

**Keywords:** environmental performance; relationship quality; purchasing behavior; environmental attitude; producers; retailers; consumer; Partial Least Square

# 1. Introduction

In recent decades, the rapid growth of automotive demand in developing countries, including Indonesia, has increased the amount of hazardous waste from used lubricating oils that must be disposed of [1]. On the other hand, producers' environmental performance reduces the release of post-production waste at the factory site but cannot affect the release of post-consumption waste outside the factory site [2]. Apart from being the responsibility of producers [3,4], t retailers and consumers are also needed in efforts to reduce the release of post-consumption waste [5,6], including lubricant waste [7,8].

Meanwhile, an Indonesian lubricant producer located in Gresik is participating in a government program on environmental performance and environmental compliance for companies to meet sustainable development goals [9]. This lubricant producer markets lubricating oil for automotive purposes to consumers through retail outlets in Gresik. Consumers of this lubricant producer are assumed to have a higher perception of the green environment, but their behavior shows the opposite [10]. Therefore, the impact of producers' environmental performance on retailers and consumers is meaningful because it can affect the role of retailers and consumers. In the end, it can impact producers' efforts to



**Citation:** Fajar, M.I.; Kusnoputranto, H.; Koestoer, R.H.T.S.; Gozan, M. Impact of Producer's Environmental Performance on Consumers and Retailers Simultaneously in the Indonesian Retail Environment. *Sustainability* **2022**, *14*, 1186. https:// doi.org/10.3390/su14031186

Academic Editors: Pedro Cuesta-Valiño, Pablo Gutierrez-Rodriguez and Antoni Serra Cantallops

Received: 24 December 2021 Accepted: 19 January 2022 Published: 21 January 2022

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**Copyright:** © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). reduce post-consumption waste outside the factory location. Environmental performance affects environmental attitudes [11] and pro-environmental behavior [12]. Thus, producers' environmental performance can drive consumers' environmental attitude [13,14] and consumers' environmental awareness of post-consumption waste as it provides benefits to consumers [15].

In the retail environment, the quality of the retailer-consumer relationship plays an essential role in promoting corporate environmental responsibility to encourage consumers' purchase intention [16]. Therefore, consumer attitudes and behavior can benefit retailers to build relationships with consumers [17]. On the other hand, consumers who consider the benefits of producers' environmental performance in purchasing products [18] demonstrate consumers' sense of responsibility towards the environment [19]. Therefore, producers' environmental performance can also represent green product attributes essential to green decision-making [20]. Although producer's environmental performance can drive consumer environmental attitudes in the retail environment, how does the impact of producer's environmental performance on consumer–retailer relationship quality and consumer purchasing behavior drive consumer environmental attitudes? These are the questions of this research.

The sustainability literature has examined the relationship between environmental awareness and consumer green purchasing behavior [21–24]. However, the research focuses only on consumer perception of producers' environmental performance in the retail environment [25–28]. The relationship quality research focuses only on examining the relationship between environmental performance and interfirm relationships, mainly in the supply chain environment [29–32]. Interfirm collaboration is beneficial to a firm's overall environmental performance [33]; this represents a gap in the literature. In this study, the theory of perceived corporate social responsibility as a part of perceived corporate environmental performance [34] is integrated with the theory of retailer-consumer relationship quality [35,36]. Therefore, this study describes how the impact of producer's environmental performance on retailer-consumer relationship quality and consumer purchasing behavior drives consumer environmental attitudes. In particular, this study examines the effect of producer environmental performance on retailer-consumer relationship quality and consumer purchasing behavior simultaneously, and the mediating effect of retailer-consumer relationship quality and consumer purchasing behavior drives the effect of producers' environmental performance on consumers' environmental attitudes.

## 2. Literature Review

#### 2.1. Producer Environmental Performance

The environmental performance of producers using market-based instruments and a command-and-control approach to control pollution should also take other factors into account [37]. While environmental performance has significant differences in firm size and target market, no statistical significance was found in environmental performance involving geographic regions or industry sectors [38]. Further, environmental performance measurement depends on the research questions and samples. Meanwhile, its operationalization depends on the interests of the stakeholder group examined and the time horizon, company or product characteristics, and external factors relevant to stakeholder expectations [39]. Due to perceived corporate social responsibility being a subset of perceived producer's environmental performance, it is plausible to utilize perceived corporate social responsibility indicators in measuring the perceived producer's environmental performance through indicators such as perceived substantial information [40], perceived quality of corporate responsibility [41], and brand trustworthiness [42].

Producers' environmental performance has a positive relationship with green company image. Therefore, it can affect consumer reactions [43] and green consumption [44]. In addition to influencing consumers' environmental attitudes, producer environmental performance increases consumers' concern for the severity of environmental problems [21]. Hence, the proposed hypothesis is as follows: **Hypothesis 1 (H1).** *Producer environmental performance positively affects consumer environmental attitudes.* 

## 2.2. The Relationship Quality

Research has recognized that collaboration in improving environmental and social performance results in sustainable benefits [45]. The fitness of coordination between producers and retailers simultaneously influence the environmental cost and improve environmental performance [46]. Further, producers' high recognition of environmental uncertainty could achieve high service performance by enhancing external integration [47]. However, collaboration in improving environmental performance does not always result in high-quality relationships [48], especially when its impacts include lower financial performance and high environmental management overhead costs for partners [49]. Dissatisfied retailer partners impact channel value, thereby influencing consumer loyalty [50]. Thus, partnerships and flexibility between producers and retailers in responding to consumers' requirements are essential in strengthening relationships between retailers and consumers [51].

The literature has also revealed that a strong retailer can influence producers and consumers because retailers can communicate directly with them [52]. The exchange of information and communication between retailers and consumers [53] and the flexibility of their relationship [54,55] determine the quality of the relationship between retailers and consumers, while partnerships and flexibility of suppliers in serving customers are essential to strengthening relationships with customers. The long-term orientation of the relationship between retailers and consumers is highly expected in ensuring a mutually beneficial relationship [56]. Retailers' low levels of trust in the producers due to uncertainty in their return on investment [57,58] has consequences on perceived service quality and eventually affect the quality of consumer–retailer relationships [59]. Although the relationship quality can create effective marketing [60,61], it depends on the retailer's efforts to bridge both producers' interests and consumers [62]. Hence, the proposed hypothesis is as follows:

**Hypothesis 2 (H2).** *Perceived producer environmental performance negatively affects the retailerconsumer relationship quality.* 

## 2.3. Purchasing Behavior

Consumer purchasing behavior is the process of consumers purchasing products after going through stages in the decision-making process influenced by various inputs, both from the consumer socio-cultural environment and the marketing efforts by producers [63,64]. Meanwhile, consumers' green purchase behavior is a consumption pattern towards green products, including the products made by green producers [65,66]. Green purchase behavior is influenced by the urgency of the seriousness of environmental problems, the effectiveness of environmental behavior [67], the environmental responsibility and the concern for self-image in environmental protection efforts, the social environment [68], the role of government [69,70] and green product attributes [71].

Environmental performance contributes to a green corporate image [72]. Consumers with green brand knowledge prefer to make deals with green marketing, which ultimately affects their purchase intentions. The higher the consumer's concern for environmental problems, the higher the consumer's purchase intention for environmentally friendly products, and vice versa [20]. Therefore, a green company image representing environmental performance positively affects consumer reactions to green consumption (Yue et al. 2020). Hence, the proposed hypothesis is as follows:

**Hypothesis 3 (H3).** *Perceived producer environmental performance positively affects consumer purchasing behavior.* 

## 2.4. Environmental Attitude

Environmental attitude is an environmental concern formed by beliefs and behavior intention towards the environment [73]. In addition to the crucial construct in environmental psychology, the environmental attitude is also the fundamental concept of environmental and psychological tendencies expressed by evaluating the natural environment [74]. Therefore, the consumer environmental attitude describes the involvement of consumers in caring about environmental activities, including the willingness to pay a premium on green products and green service providers [75,76]. A consumer with a robust pro-environmental attitude is likely to consume sustainable products [6], indicating a positive correlation between environmental attitude and the mind's cognitive, affective, and conative aspects [77].

Direct experience with nature influences environmental attitudes and community environmental behavior [78]. Notwithstanding that, price sensitivity is relative, and consumers are still willing to buy green products when the price is different from other, non-green products [79]. Consumers' environmental knowledge, perceived seriousness of environmental problems, interpersonal, collectivism, and long-term orientation positively relate to consumer environmental attitudes [80]. Additionally, the attitude has a relationship with the perceived environmental responsibility and green purchasing behavior [81].

Environmental performance affects environmental attitudes, although it is not always a prerequisite for behavior change [82]. By serving as a liaison between producers and consumers, retailers can help drive the influence of producers' environmental performance on improving consumers' environmental attitudes [5]. Relational communication affects relational satisfaction when retailers build trust, commitment with producers and consumers [83], especially when retailers incur long-term business relationship commitments to return additional investment [12]. Hence, the proposed hypothesis is as follows:

**Hypothesis 4 (H4).** The retailer-consumer relationship quality has no significant effect on consumers' environmental attitudes.

A consumer's environmental attitude does not always reflect the actual action. Thereby, consumers who have this attitude toward the environment are not always buying environmentally friendly products [84]. However, producer environmental performance reduces environmental impacts due to producer activities [85] to reduce environmental anxiety, ultimately improving pro-environmental behavior intention [86]. In the retail context, green marketing affects green purchase intentions and could benefit from increasing consumer environmental awareness and attitudes [17]. Therefore, the producer's environmental performance affects the purchase intention of green consumers and ultimately increases consumers' environmental awareness and attitudes. Hence, the proposed hypothesis is as follows:

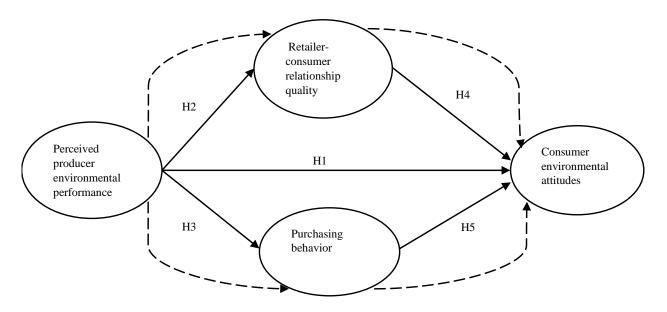
**Hypothesis 5 (H5).** *Consumer purchasing behavior has a significant positive effect on consumers' environmental attitude.* 

## 3. Materials and Methods

The surveys and direct interviews with the respondents were conducted at the research location to collect primary data. The questionnaire as a research instrument was utilized to collect data and then processed to affirm the hypotheses of this research, as shown in the proposed conceptual model (Figure 1).

## 3.1. Instrument Development

The questionnaire addressed 150 consumers who purchased lubricants at 17 authorized retail outlets of Indonesia's national lubricants producer in Gresik City, East Java province. This lubricant producer also operates a factory in Gresik City, which has been awarded a green rating for environmental performance management based on an assessment from the government [9]. Surveys and interviews of respondents were conducted directly at the research location from June to August 2020 (during the pandemic, the survey and interview followed the health protocol). The determination of the number of samples followed the formula of n > 50 + 8M, where n is the number of samples and m is the number of independent variables [87]. This study uses one independent variable. Therefore, the number of samples should be greater than 58. This study utilizes the selected 100 respondents to fill out the questionnaire using the purposive sampling method [88].



**Figure 1.** A proposed conceptual model. Solid lines indicate direct effects and dashed lines indicate indirect effects.

The questionnaire consisted of 4 measurable constructs, where each construct had three indicators according to the empirical theory of previous research. Each construct indicator was described in 3 questionnaire items, so that there were 36 questionnaire items in this study. First, the construct of perceived producer's environmental performance had the indicators of perceived substantial information [89], perceived corporate responsibility quality [90], and brand trustworthiness [91]. Second, the relationship quality variable had the indicators of flexibility, long-term relationship orientation, and communication quality [92]. Third, the construct of purchasing behavior had the indicators of social influence [93], product attribute [20], and the role of government [94]. Fourth, the construct of environmental attitudes had the indicators of cognitive, affective, and conative [95].

#### 3.2. Instrument Selection

The collected data from respondents were screened using statistical analysis to determine the validity and reliability of questionnaire items as this research. Table 1 shows the statistical analysis results of the research instruments, indicating that the majority of questionnaire items met the criteria of validity (r count > r table at 5% significances) and reliability (Cronbach's Alpha > 0.7) [96].

Description	Number of Items with Pearson Correlation Value > r-Table at Significance = 5%	Cronbach's Alpha Values (>0.7)	Remarks
Perceived producer environmental performance	9 of 9 items	0.851	9 of 9 questionnaire items are valid and reliable
Retailer-consumer relationship quality	8 of 9 items	0.811	8 of 9 questionnaire items are valid and reliable
Consumer purchasing behavior	9 of 9 items	0.862	9 of 9 questionnaire items are valid and reliable
Consumer environmental attitude	8 of 9 items	0.749	8 of 9 questionnaire items are valid and reliable

Table 1. Questionnaire validity and reliability.

Note: sample size = 150.

# 4. Results

The analysis of this research utilized Partial Least Square (PLS) modeling. In addition to minimizing standard errors and increasing the measure of goodness of fit due to nonnormal data, the utilization of PLS modeling also achieves higher levels of statistical power for smaller sample sizes to measure the formative construct presence in this multivariate analysis [97]. The PLS modeling was conducted in three stages. First, evaluation of the measurement model measured whether the latent constructs met the criteria of internal consistency reliability, discriminant validity, the convergent validity of the constructs, and indicator reliability. The construct indicators' collinearity was also measured due to the presence of the latent variable with formative indicators. Second, the evaluation of the structural model was to test the hypotheses and interpret the strength and direction on each construct relationship by measuring the path coefficient, T-statistics, *p*-values, and standard deviation, for both direct effects and indirect effects [98]. Third, the PLS also evaluates the model's goodness of fit by measuring the cross-validated redundancy, the predictive accuracy of the model, the effect size, and the goodness of fit [99].

## 4.1. Measure Reliability and Validity

The constructs of relationship quality, consumer purchasing behavior, and consumer environmental attitudes were modeled as reflective indicators, an approach that assumes these constructs are the cause of the manifest variables. Meanwhile, the construct of perceived producer' environmental performance was modeled as a formative indicator whereby the manifest variables are the cause of the construct [98].

Table 2 shows that the reflective constructs, namely the relationship quality, purchasing behavior, and consumer environmental attitude, resulted in Cronbach's Alpha, AVE value, and composite reliability values exceeding the thresholds of 0.70, 0.50, and 0.80, respectively. Thus, all reflective constructs met the criteria of internal consistency reliability. Meanwhile, the loading weight values results were more significant than the threshold value of 0.70. These results strengthened the construct validity. In addition, the HTMT value was measured, with the result exceeding 0.7. Thus, all reflective constructs met the discriminant validity criteria [97].

Table 2. Construct reliability and validity.

Reflective Construct -	Internal Consistency Reliability		Discriminant Validity	Convergent Validity	
Kellective Construct —	Cronbach's Alpha	Composite Reliability	(HTMT)	(AVE)	
Relationship quality	0.859	0.934	0.936	0.876	
Purchasing behavior	0.897	0.851	0.952	0.807	
Environmental attitude	0.921	0.962	0.963	0.827	

The perceived producer's environmental performance construct was the only formative construct in this study. Table 3 shows that the significance of weight values exceeded the thresholds of 0.70. The Variable Inflation Factor (VIF) values did not exceed the threshold of 5.0, which means that all indicators met the indicator reliability criteria, indicating that the absence of collinearity indicators was due to the presence of the formative construct [97]. Finally, the perceived producer's environmental performance met a formative construct's indicator reliability and collinearity criteria.

Table 3. Indicator reliability and collinearity.

Construct	Indicator Reliability (Significance of Weight)				
	Perceived Producer Environmental Performance	Relationship Quality	Purchase Behavior	Consumer Environmental Attitude	Collinearity (VIF)
Perceived producer environmental performance with formative indicators:					
1. Perceived substantial information	0.955				3.306
2. Perceived corporate responsibility quality	0.917				3.306
3. Brand trustworthiness	0.951				3.306
Relationship quality with reflective indicators:					
1. Flexibility		0.928			2.305
2. Long term relationship orientation		0.934			2.305
3. Communication		0.938			2.305
Purchasing behavior with reflective indicators:					
1. Social influence			0.909		2.956
2. Product attribute			0.956		2.956
3. Government role			0.939		2.956
Environmental attitude with reflective indicators					
1. Cognitive				0.941	3.688
2. Affective				0.964	3.688
3. Conative				0.962	3.688

## 4.2. Hypotheses Testing

Table 4 shows that perceived producer' environmental performance has a negative effect but not significant on the relationship quality ( $\beta = -0.191$ ; *p*-value = 0.001; T-Statistics = 3.399) and has a positive significant effect on consumer purchase behavior ( $\beta = 0.173$ ; *p*-value = 0.028; T-statistics = 2.202). Furthermore, relationship quality has negative effect but not significant on consumer environmental attitude ( $\beta = -0.024$ ; *p*-value = 0.428; T-statistics = 0.793). Consumer purchase behavior has a positive significant effect on consumer environmental attitude ( $\beta = 0.887$ ; *p*-value = 0.001; T-statistics = 22.468) [98].

Relationship Path	Path Coefficient (β)	<i>p</i> -Values	T-Statistics	Standard Deviation
Producer environmental performance—consumer environmental attitude	0.149	0.035	2.119	0.070
Producer environmental performance—Relationship quality	-0.191	0.001	3.399	0.056
Producer environmental performance—Purchasing behavior	0.173	0.079	2.202	0.079
Relationship quality—Environmental attitude	-0.024	0.428	0.793	0.030
Purchasing behavior—Environmental attitude	0.887	0.001	22.468	0.039

Table 4. Direct effects.

Note: PLS bootstrapping result at the 5000 sub-sample setting and 5% significance.

The mediating effect of retailer–consumer relationship quality and purchasing behavior on the relationship between producer environmental performance and consumer environmental attitudes was tested to result in total effects by accumulating the direct and indirect effects. Table 5 shows the results of the mediating effects of relationship quality and purchasing behavior in this study. A bootstrap analysis with 5000 resamples indicated that the total effects of retailer-consumer relationship quality ( $\beta = 0.154$ ; *p*-value = 0.037; T-statistics = 2.015) and consumer purchasing behavior ( $\beta = 0.302$ ; *p*-value = 0.031; T-statistics = 2.192) in mediating the relationship between producer environmental performance and consumer environmental attitudes were both positive and significant. However, specific indirect effect of the relationship between producer environmental performance and consumer environmental attitudes via consumer purchasing behavior ( $\beta = 0.153$ ; *p*-value = 0.029; T-statistics = 2.185) was more significant than via retailer-consumer relationship quality ( $\beta = 0.005$ ; *p*-value = 0.418; T-statistics = 0.810) [97].

Effects	Path Coefficient (β)	<i>p</i> -Values	<b>T-Statistics</b>
Direct effect	0.149	0.035	2.119
Indirect effect	0.005	0.418	0.810
Total effect	0.154	0.037	2.015
Direct effect	0.149	0.035	2.119
Indirect effect	0.153	0.029	2.185
Total effect	0.302	0.031	2.192
	Direct effect Indirect effect Total effect Direct effect Indirect effect	Direct effect0.149Indirect effect0.005Total effect0.154Direct effect0.149Indirect effect0.153Total effect0.302	Direct effect         0.149         0.035           Indirect effect         0.005         0.418           Total effect         0.154         0.037           Direct effect         0.149         0.035           Indirect effect         0.149         0.035           Indirect effect         0.153         0.029           Total effect         0.302         0.031

Table 5. Mediating effects.

Note: PEP is producer environmental performance, RCRQ is retailer-consumer relationship quality, CEA is consumer environmental attitudes, and CPB is consumer purchasing behavior.

Table 6 shows the results of the hypotheses testing. Producer environmental performance positively affects consumer environmental attitude (H1). Producer environmental performance positively affects consumer purchasing behavior (H3). However, producer environmental performance negatively affects retailer-consumer relationship quality (H2). Further, retailer-consumer relationship quality does not mediate the effect of producer environmental performance on consumer environmental attitude (H4) as the *p*-values > 0.05 for 5% significance. On the other hand, consumer purchasing behavior positively mediates the effect of producer environmental performance on consumer environmental attitude (H5).

Hypotheses	Path Coefficient (β)	<i>p</i> -Values	<b>T-Statistics</b>	Result
Producer environmental				
performance positively	0.149	0.035	2.119	Hypothesis
affects consumer	0.149	0.055	2.119	accepted
environmental attitude				
Producer environmental				
performance negatively	-0.191	0.001	3.399	Hypothesis
affects relationship	0.171	0.001	0.077	accepted
quality				
Producer environmental				
performance positively	0.173	0.079	2.202	Hypothesis
affects consumer	011/0	0.079		accepted
purchasing behavior				
Relationship quality				
does not mediate the				
effect of producer				Hypothesis
environmental	-0.024	0.428	0.793	accepted
performance on				1
consumer				
environmental attitude				
Consumer purchasing				
behavior positively				
mediates the effect of	a aa <b>-</b>	0.001		Hypothesis
producer environmental	0.887	0.001	22.468	accepted
performance on				1
consumer				
environmental attitude	5000 1 1	1 = 0/ : : : : :		

 Table 6. Hypotheses and results.

Note: PLS bootstrapping result at 5000 sub-sample setting and 5% significance.

## 4.3. Goodness of Fit

Finally, the measuring the cross-validated redundancy to assess the inner model' predictive relevance (0 > Q2 > 1), the predictive accuracy of the model by measuring the coefficient of determination (R2 = 0.25 is weak; R2 = 0.50 is moderate: R2 = 0.75 is substantial), the effect size (f2 = 0.02 is small effect; f2 = 0.15 is a medium effect: f2 = 0.35 is a large effect), and the goodness of fit by measuring the Standardized Root Mean Square Residual (SRMR < 0.08)<sup>99</sup>. The analysis results indicate the model had a high level of predictive relevance (Q2 = 0.717) and substantial predictive accuracy (R2 = 0.789), had a medium effect size (f2 = 0.38), and a high level of goodness of fit (SRMR = 0.053). The analysis results indicate that the model met the goodness of fit modeling criteria [98].

Figure 2 shows the final structural equation model as the results of this research. Producer environmental performance (PEP) with the indicators of perceived substantial information (PSI), perceived corporate responsibility quality (PCSQ) and brand trustworthiness (BTW) meet construct validity and reliability as the formative construct. Further, the construct of retailer-consumer relationship quality (RCRQ) with the reflective indicators of flexibility (FLEX), long-term relationship orientation (LTR) and communication quality (COM), the construct of consumer purchasing behavior (CPB) with reflective indicators of social influence (SOC), product attribute (ATR) and government role (GOV), and the construct of consumer environmental attitude (CEA) with reflective indicators of cognitive (COG), affective (AFFE) and conative (CON) also met the criteria of construct validity and reliability. Finally, the path relationship between constructs answered all the research hypotheses.

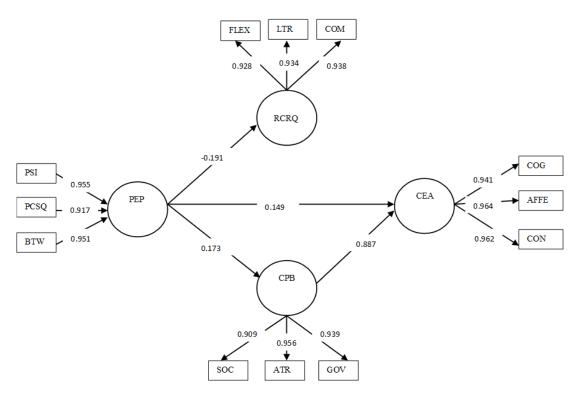


Figure 2. Structural equation model. Solid lines indicate direct effects.

# 5. Discussion

The study findings show how producers' environmental performance harms the quality of the retailer-consumer relationship but improves purchasing behavior. In addition, consumer purchasing behavior significantly mediates the effect of producer environmental performance on consumer environmental attitudes, while the consumer–retailer relationship quality does not. The implications to theory and practice are next explored to illustrate the state of the art of this research.

# 5.1. Implication to Theory

This research contributes to the literature on environmental management. First, this study extends the previous research that examined the effect of perceived environmental performance on various consumer behaviors in retail environments [25] by linking theories of perceived environmental performance with relationship quality, purchasing behavior and environmental attitudes. In the marketing context, the findings of this study support previous research that explored the roles of producers, retailers and consumers in affecting channel performance [100]. However, the findings of this study demonstrate an irrelevant result to previous studies indicating that satisfaction, trust and commitment, as a subset of relationship quality, have a positive mediating effect on the relationship between corporate environmental responsibility and consumer purchase intentions [16]. Therefore satisfaction, trust, and commitment play an essential role in mediating effect of the retailer-consumer relationship quality on the relationship between producer's environmental performances on consumer's environmental attitudes.

Second, this study adds a new stream in consumer studies by integrating theory on the effect of producer environmental performance toward relationship quality with theory on consumer purchasing behavior. However, the findings of this study are irrelevant to previous studies that perceived that environmental uncertainty positively affects inter-firm collaboration when the communication process is involved [29]. Therefore, the communication process plays a crucial role in encouraging a more positive influence on perceived environmental performance in retailer-consumer relationship quality. Third, this research adds new information to the retailing literature on the influence of producer environmental performance on the quality of the relationship between producers and retailers based on consumer perceptions by developing theory on the relationship between perceived quality relationship and consumer satisfaction and loyalty. However, the previous research found that consumer interactions with the environment and service personnel (at retail outlets), as the subset of consumer service, positively impacts relationship quality between retailer and consumer [101]. Although this indicates a contradiction with the findings of this study, it also shows that perceived customer service has a positive effect on relationship quality. Therefore, the level of service provided by retailers has an impact on the mediating role of retailers in encouraging the influence of producer environmental performance on consumer environmental attitudes.

## 5.2. Implication to Practice

The study results can guide producers (manufacturers) in analyzing the impact of environmental performance on retailer-consumer relationship quality and purchasing behavior simultaneously to drive consumer environmental attitude. The results of this study can also be of reference to producers who intend to collaborate with retailers to improve producer environmental performance by leveraging the role of retailers and consumers. However, the implication for the producers and retailers in a collaboration to improve environmental performance is as follows: First, the producer should pay more attention to the retailer's orientation towards long-term relationships as a commitment. Therefore, formal contractual agreements with agreed terms and conditions, especially in terms of a reasonable contract period, reduce retailers' burden as an impact of environmental investment [102].

Second, regular meetings between producers and retailers should be held to enhance consumer satisfaction, especially on perceived producer environmental performance. In addition to discussing cooperative strategies to improve environmental performance, regular meetings also explain to retailers the benefits of building trust, commitment, and responsibility to encourage consumer environmental attitudes [83].

Third, a preliminary study on the impact of producers' environmental performance on retailers and consumers needs to be carried out by producers to identify the objections of retailers and changes in consumer behavior due to the perceived producers' environmental performance. In addition, this preliminary study can also be helpful for producers to evaluate the level of communication and flexibility in their relationships with retailers and consumers so that producers can take further steps to encourage the role of retailers to mitigate the negative impact of their environmental performance on retailer-consumer relationship quality to improve consumer attitudes towards the environment.

# 5.3. Limitations and Research Directions

This study's main contribution is to highlight the effect of perceived producer's environmental performance on retailer–consumer relationship quality, consumer purchase behaviors, and consumer environmental attitudes. However, the location of this research was set one distribution channel of a lubricant brand in an industrial area. Therefore, multi-channels of distribution in a broader area may have different statistical significant results because multi-channels have more complexity and heterogeneous consumers [103]. This limitation creates opportunities for further researchers to examine the impact of environmental performance on the quality of producer-retailer relationships and consumer behavior simultaneously, considering multiple distribution channels of various products in a broader area, even across countries.

The theoretical approach in this study was developed based on measuring consumer perception under conditions in which they were not operationally involved in the activities of producers or retailers, so it may not fully represent the perceived quality of the relationship based on retailer perceptions. Therefore, there is an opportunity for future research to explore the effect of producer environmental performance on the quality of producer–retailer relationships and consumer behavior from retailers' perspectives. This study is limited to exploring consumer perceptions of producers with higher environmental performance ratings based on government assessment. However, producers with low or moderate environmental performance ratings are open to exploration for further research. In addition, further research could also examine consumer perceptions on the various levels of environmental performance of a group of producers.

# 6. Conclusions

The environmental performance of lubricant producers impacts retailers and consumers in the lubricant retail environment. Specifically, the environmental performance of lubricant producers improves consumers' environmental performance and purchasing behavior in the city of Gresik. On the other hand, it negatively impacts the quality of retailer–consumer relationships. In this case, the mediating role of consumer purchasing behavior in driving the effect of the environmental performance of lubricant producers on consumer environmental attitudes is more significant than the quality of the retailerconsumer relationship. Consumers perceived that the negative impact of the environmental performance of lubricant producers on the quality of the retailer-consumer relationship was caused by retailer spending by investments in promoting the environmental performance of the lubricant producer to consumers. Burdened retailers have limited resources and bargaining power to request additional investment in promoting the environmental performance of lubricant producers. However, in a broader retail environment context, producer environmental performance may have a different impact on retailers and consumers. Different types of products and characteristics of consumers, or even different marketing channels, may have different statistical significance results. Therefore, this study opens an opportunity for future research that examines the effect of producer environmental performance on retailers and consumers simultaneously in the retail environment.

Author Contributions: M.I.F.: Conceptualization, methodology, formal analysis, review and editing, writing—original draft, visualization; H.K.: conceptualization, methodology, review, supervision; M.G.: conceptualization, methodology, review, supervision; R.H.T.S.K.: conceptualization, methodology, review, supervision; R.H.T.S.K.: conceptualization, methodology, review, supervision; All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

**Data Availability Statement:** The data presented in this study are available on request from the corresponding author.

**Acknowledgments:** The authors are grateful and thankful to the management of an Indonesian lubricant manufacturer who participated in our study.

**Conflicts of Interest:** The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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