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When Corporate Social Responsibility Pays Off: The Power of Effective Communication for Customer Satisfaction

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Abstract. The petroleum industry produces both toxic and non-toxic wastes at almost all stages of production. While petroleum companies satisfy market demand, they also want to meet consumers' moral and ethical demands. Hence, CSR has become vital for the development of the companies as a whole. While CSR initiatives have the potential to bring many benefits to any business, their impact on customer satisfaction has remained a mystery. This study sets out to explore how petroleum companies can harness the full potential of CSR to communicate, integrate, and organize their projects effectively through CSR implementation to uncover how it can significantly boost customer satisfaction in Malaysian petroleum companies. Drawing on the latest insights from the Theory of CSR, Stakeholder Theory, and Social Influence Theory, this study takes a quantitative approach to fill crucial gaps in the CSR literature and provide valuable insights into the links between CSR activities and consumer behavior. 6 hypotheses were established for the activities and CSR Mechanisms on customer satisfaction. The research model was tested using Structural equation modeling of partial least square with the SmartPLS 3.0 software. The findings of this research can directly contribute to good management practices as the study can help managers appreciate how consumers understand the company's CSR initiatives and the effect it has on customer satisfaction. Hence, this research can help build responsible managers.

Keywords: Customer satisfaction; Corporate social responsibility; Social media; Word of mouth

1. Introduction

The rapid growth of the global human population, coupled with consumerism, has elevated the oil and gas industry to a pivotal role in the world economy (Chuah *et al.,*2022). This industry drills, processes, and transports vast quantities of oil between facilities, but it grapples with pollution issues (Wren, 2022). The emission of greenhouse gases from these operations contributes to global temperature rise, ocean pollution, and rising sea levels (Brisbois *et al.,* 2021). Thus, petroleum companies are subject to many environmental and economic regulations (Nagale *et al.,* 2022). Meanwhile, the disposal of oil residues and sludge generated from the storage, processing, and transportation of these products has become increasingly difficult in some countries (Ahmad *et al.*, 2023), thanks to national and regional legislation.

In Malaysia, where the petroleum companies are very competitive, this problem could see some producers being side-lined for others who are perceived as being more responsible towards the environment and society (Atasoy, Altiner, and Ozkan-Altiner,

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2022). One of the most important sectors in the world is the oil and gas business in Malaysia. The Malaysian government is gradually allowing international investors access to the market. This has prompted numerous foreign businesses to invest in this nation. These include, among others, BHPetrol, Caltex, Petron, and Shell. Malaysia has 3,530 petrol stations nationally, which is the majority. There are a few mini-gas stations distributed throughout rural areas; there are about 267 stations that meet the basic needs of the locals for petrol. Particularly with the recent surge in global oil prices, lower energy costs in the global market have increased competitiveness within the industry (Yahya and Safian, 2022). Consequently, Petronas, a company considered a cornerstone of Malaysia's oil sector, faces stiff competition from major global oil corporations. The World Petroleum Council estimates that Petronas has a market share of about 31%, followed by Shell and Petron, which have market shares of 29% and 17%, respectively. Caltex and BHP together account for 13% and 10% of the company's total revenue. To attract new customers, retain existing customers, and build customer loyalty (Cheng and Ding, 2021), companies launch various initiatives in order to remain connected with their consumers and all their expectations and maintain lasting relationships (Tsai *et al.,* 2022). These measures themselves reflect the importance of implementing a corporate social responsibility (CSR) program. CSR has grown into a business strategy addressing marketing issues (Farmaki *et al.,* 2022). In the long run, this produces a sustained consumption pattern (Hayat and Afshari, 2022), as a well-run CSR initiative generates a positive profile of the firm and its goods and services. With increasing expectations placed on businesses, scholars need to figure out whether CSR can reach these larger expectations (Alhouti *et al.,* 2021). Hence, this study contributes to this body of knowledge by delving deep into the relationship between CSR, CSR Mechanisms, and customer satisfaction, giving back to society and generating new business opportunities that benefit Malaysia's petroleum companies. The research model was tested using Structural equation modeling of partial least square with the SmartPLS 3.0 software.

2. Methods

Corporate Social Responsibility (CSR)

Social responsibility is a crucial component of business strategy for large companies worldwide, as highlighted by Rahman *et al.* (2023). In the field of marketing, it represents the commitment to maintaining a balance between profits, social well-being, and consumer satisfaction when evaluating a firm's performance (Marczak *et al.,* 2023). In the past few decades, CSR has become an important method to solve the social and environmental impact of company activities (Islam, Nazir, and Rahman, 2023). Nowadays, more and more companies expect to go beyond this point to meet people's expectations of helping solve the world's more pressing problems (Jin *et al.*, 2022), such as climate change and poverty. With the increasing expectations of the business (Mnwana and Bowman, 2022), this research asks whether CSR can solve and improve these major problems based on evidence from the Petroleum Companies.

Customer satisfaction is good feelings demonstrating a consumer's expectations for a product or service (Ramírez-Orellana *et al.*, 2023). It literally spells success and lasting growth for the business (Minh and Quang, 2022). Customer satisfaction is the key to a business's success (Uddin, Rashid, and Rahman, 2022) in today's information-developed era. A happy customer will market the company's offerings to other potential consumers (Liu, 2023). Now, if a CSR initiative makes a promising impact on customers, this could mean customer satisfaction has been achieved (Javeed *et al.,* 2022). Hence, based on the

four dimensions of CSR as proposed by Carroll (2016), the following hypotheses will be investigated as shown below:

H1: Economic Responsibility has a significant effect on Customer Satisfaction.
H2: Legal Responsibility has a significant effect on Customer Satisfaction.
H3: Ethical Responsibility has a significant effect on Customer Satisfaction.
H4: Philanthropic Responsibility has a significant effect on Customer Satisfaction.

CSR Mechanisms

It is an effective way for companies to use the influence of some mechanisms to spread positive information (Khurshid and Snell, 2021) to obtain or maintain customer satisfaction, such as social media and word of mouth – both widely used today to disseminate information (Castro-González, Bande, and Fernández-Ferrín, 2021). Consumers, too, can tap into the power of these digital mechanisms and share their satisfaction or lack of satisfaction (Pang *et al.,* 2022).

Media instruments play an important role in conveying a firm's CSR message and its socially responsible profile (Suki *et al.,* 2022). Compared to the company's more corporate information, such as product superiority and innovations, its CSR information sheds light on its corporate culture or DNA, which is captured in its mission, vision, and values (Ogbe, 2022). Companies must consider engaging their stakeholders when crafting an effective CSR communications plan. Stakeholder involvement in CSR programs allows firms to establish a solid brand image (Sani *et al.,* 2023). It also strengthens stakeholder-company relationships and improves stakeholders' advocacy behavior (Oliveira *et al.,* 2023). Hence, it is imperative that the CSR plans of a company are shared well with its stakeholders (Jagaba *et al.,* 2022). This brings two-fold benefits – it increases the company's level of credibility and develops stakeholders who are loyal to the business (Othman *et al.,* 2022), especially on social media. Based on the argument, the following hypothesis explains this:

H5: Social media has a significant effect on Customer Satisfaction.

Positive word-of-mouth marketing comes from a happy customer recommending and displaying his or her satisfaction with the products and services via an informal network and personal communications (Hu, Frank, and Lu, 2022). This is usually without bias, as the customer has nothing to gain. Ghanbarpour and Gustafsson (2022) asserts that a CSR activity is a success when customers talk well about companies and their socially responsible activities. Hence, it is very important to test the succeeding hypotheses as follows:

H6: WOM has a significant effect on Customer Satisfaction.

The Theory of Corporate Social Responsibility

In 1953, American economist Howard R. Bowen introduced the theory of Corporate Social Responsibility (CSR) (Yiming, 2013). This theory states that businesses are obliged to advance policies and make decisions that are good for society (Lady and Umyati, 2023). By adopting CSR in their business, corporations stand to benefit in many ways. These are contributing factors that made the theory popular from day one, gathering interest from academics, the media, and investors alike (Yang, Sun, and Taylor, 2022). The most widely accepted understanding of CSR comes from Carroll's four-tiered pyramid model (Carroll, 2016) released in 1979 called the Pyramid of Social Responsibility. It comprises four responsibilities, namely Philanthropic, Ethical, Legal, and Economic (Cui *et al.,* 2022). Businesses are also platforms that engage in human interest activities and take part in social programs (Carroll, 2016). CSR can positively influence consumers as stakeholders, and stakeholders can also impact the corporation's CSR (Muhirwa *et al.,* 2023). For instance, consumers who buy a company's products can pressure the corporation to pay attention to

social issues (Lim *et al.,* 2022). Thus, the Stakeholder Theory is logically connected with CSR (Friedman, 1970).

The social influence theory makes use of insights from other fields, has an impact on how individuals use social media and what products they buy (Salim *et al.,* 2023). Consumers gain information from a variety of social sources, such as recommendations, referrals, ratings, and reviews (Zaytsev *et al.,* 2023). An Empirical Study of How Social Influence Impacts Customer Satisfaction with Social Commerce Sites was introduced by Hasan Beyari and Ahmad Abareshi, based on the social influence theory, offers a look at the relationship between word-of-mouth marketing and customer satisfaction. Based on Carroll's four-pyramid model, the Stakeholder Theory, and the Social Influence Theory, the hypothesized relationships investigated are shown in Figure 1.

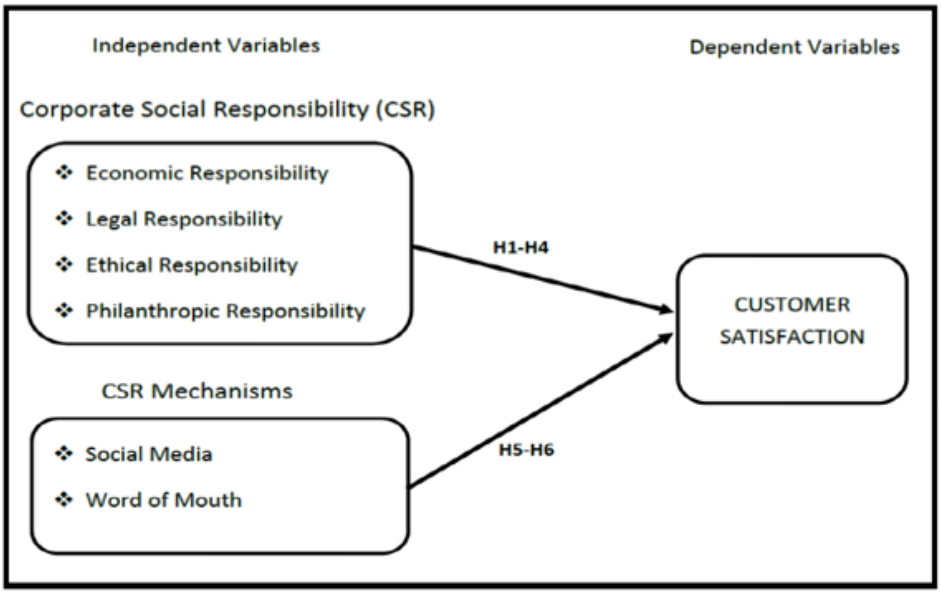

Figure 1 The proposed model

This research analyses consumers' responses to CSR projects organized by petroleum companies using a survey questionnaire collecting data. The questionnaire was designed based on customer satisfaction within the petroleum companies in West Malaysia and adopts the positivist paradigm in the quantitative research method (Vespestad and Clancy, 2021). To ensure the accuracy of data analysis, this research collects primary data through an online questionnaire survey, which is self-administered (Gracia *et al.,* 2021). For more reliable results, only respondents aged 18 years old and above with purchasing power and familiarity with petroleum products and services are invited to participate. In this examination, there were 472 usable data collected. This study uses the SPSS software for running a descriptive analysis (Lavaquiol *et al.,* 2021). It uses the SmartPLS software to examine the 6 hypotheses (Hypotheses 1 to 6) in this research.

2.1. Descriptive analysis

In this study, there were 243 male and 229 female respondents, with the majority falling within the 31 to 40-year age group. Of the total respondents, 182 identified as Malay, 137 as Chinese, 115 as Indian, and 38 as belonging to other nationalities. The majority of Malaysians are Malay, which is aligned with the sampled data. For the educational background, most of the respondents are from Bachelor's Degrees, which holds 44.7%. 134 respondents' monthly wage is between RM2001 to RM4000 with 39.2%, which is the highest percentage. 109 respondents prefer Petronas, 120 respondents prefer Shell, 111 respondents prefer Petron, and 111 respondents prefer BHPetrol, 21 respondents prefer

other Petroleum Companies. The most significant part of respondents is Employees in view of the information. The years between 1 to less than 5, and there are 160 respondents, were incorporated into this gathering with a most astounding rate of 33.9%.

2.2. Structural equation model

For Structural Equation Modeling (SEM), there are two popular methods that are widely used, which are Covariance-based Structural Equation Modeling (CB-SEM) and Partial Least Squares-based Structural Equation Modeling (PLS-SEM). CB-SEM is based on covariance, and PLS-SEM is based on variance (partial least squares) (Dash and Paul, 2021). Compared with PLS-SEM, CB-SEM removed many indicators to reach acceptable results. Furthermore, PLS-SEM has higher composite reliability, convergent validity, and comparable discriminant validity and beta coefficients (Hair *et al.,* 2021). The underlying theories are crucial for choosing a method. Composite-based models should opt for PLS. Hence, this research model was tested using the SmartPLS 3.0 software, a partial least square (PLS) structural equation modeling tool (Harma, 2021). In Table 1, Alpha is a variable scale that went from least of the Legal Responsibility, running from 0.8630, to the Ethical Responsibility 0.9212, utilized more than the favored scores of 0.70. So, the outcomes demonstrated these variables' scores for the unwavering quality in this examination, and their estimation scales indicate that the variable is steady and predictable in the estimation of all factors.

Table 1 Structural model specification: Cronbach's alpha, Composite reliability and AVE and loadings of latent constructs for both formative and reflective measurements

Measures	*Constructs*	*Cronbach's alpha*	*Composite reliability*	*AVE*	*Loadings*
Formative	Economic Responsibility	0.8831	0.8660	0.5655	0.7508
	Legal Responsibility	0.8630	0.8841	0.6545	0.8093
	Ethical Responsibility	0.9212	0.8100	0.5868	0.7653
	Philanthropic Responsibility	0.9091	0.8572	0.6659	0.8160
	Social Media	0.9101	0.8732	0.6341	0.7943
	Word of mouth	0.9042	0.8981	0.6381	0.7982
	Customer Satisfaction	0.9021	0.8731	0.6320	0.7930
Reflective	Economic Responsibility	0.8831	0.8596	0.5722	0.7502
	Legal Responsibility	0.8630	0.8832	0.6511	0.8085
	Ethical Responsibility	0.9212	0.8102	0.5868	0.7649
	Philanthropic Responsibility	0.9091	0.8522	0.6599	0.8153
	Social Media	0.9101	0.8728	0.6335	0.7940
	Word of mouth	0.9042	0.8976	0.6379	0.7978
	Customer Satisfaction	0.9021	0.8669	0.6328	0.7922

Table 2 data indicated that the measures are robust regarding their internal consistency reliability as indexed by the composite reliability. The composite reliabilities of the different measures range from 0.76 to 0.95, which exceeds the recommended threshold value of 0.70.

On the other hand, this study uses PLS-SEM software to do the convergent validity test (Fong, Ismail, and Kian, 2023). The reliability results are given in Table 3. All factor loadings are significant and greater than 0.70, consistent with the guidelines of Fornell and Larcker. The average variance extracted (AVE) for each measure exceeded 0.50, so convergent validity is confirmed.

Table 2 Item-to-construct correlation vs. correlations with other constructs

Construct	Item	Economic Responsibility	Legal Responsibility	Ethical Responsibility	Philanthropic Responsibility	Social Media	WOM	Customer Satisfaction	Composite reliability
Economic Responsibility	Economic1	0.7070	0.3158	0.3689	0.4787	0.1854	0.4765	0.4862	**0.8660**
	Economic2	0.7510	0.3485	0.3457	0.3459	0.3654	0.4785	0.4520	
	Economic3	0.7810	0.3584	0.4785	0.4620	0.24758	0.6984	0.4124	
	Economic4	0.8130	0.3986	0.4490	0.4236	0.4652	0.9514	0.3698	
	Economic5	0.7020	0.3458	0.3849	0.4532	0.9841	0.4562	0.3248	
Legal Responsibility	Legal1	0.5154	0.7820	0.3687	0.3289	0.4562	0.6956	0.3490	**0.8841**
	Legal2	0.4545	0.8100	0.3290	0.4820	0.9565	0.4526	0.3699	
	Legal3	0.4515	0.8290	0.4895	0.4126	0.9841	0.1256	0.3985	
	Legal4	0.4581	0.8160	0.3845	0.3259	0.4261	0.7856	0.4856	
Ethical Responsibility	Ethical1	0.4125	0.3585	0.8100	0.3685	0.3256	0.9541	0.4614	**0.8100**
	Ethical2	0.4892	0.3647	0.7640	0.3145	0.9841	0.4536	0.3968	
	Ethical6	0.4655	0.3578	0.7220	0.3479	0.4563	0.7531	0.4562	
Philanthropic Responsibility	Philanthropic4	0.4951	0.3815	0.4692	0.8210	0.1254	0.4565	0.3485	**0.8572**
	Philanthropic5	0.4168	0.3978	0.3840	0.8090	0.6524	0.6523	0.4562	
	Philanthropic6	0.4559	0.3685	0.3890	0.8180	0.6543	0.6952	0.3985	
Social Media	SocialMedia2	0.2241	0.4702	0.1932	0.3892	0.724	0.9584	0.9584	**0.8732**
	SocialMedia3	0.0663	0.0897	0.111	0.4425	0.783	0.9651	0.9855	
	SocialMedia4	0.2832	0.3382	0.2435	0.5174	0.853	0.4758	0.9854	
	SocialMedia5	0.1321	0.1283	0.0676	0.1598	0.817	0.9586	0.9845	
WOM	WOM2	0.1761	0.1412	0.0528	0.1568	0.4752	0.769	0.9856	**0.8981**
	WOM3	0.3169	0.2963	0.2116	0.4758	0.9654	0.786	0.4586	
	WOM4	0.1152	0.1715	0.1179	0.0469	0.1452	0.823	0.4562	
	WOM5	0.1867	0.1286	0.2874	0.1886	0.6985	0.771	0.1256	
	WOM6	0.1366	0.0499	0.1893	0.0652	0.1456	0.842	0.9811	
Customer Satisfaction	CustomerSatisfaction1	0.4696	0.3259	0.3985	0.4786	0.9874	0.9842	0.8410	**0.8731**
	CustomerSatisfaction2	0.4646	0.3987	0.4786	0.4126	0.4585	0.1452	0.8480	
	CustomerSatisfaction3	0.4929	0.3259	0.3850	0.4562	0.4856	0.5966	0.7800	
	CustomerSatisfaction4	0.4813	0.3657	0.3248	0.4230	0.4562	0.9542	0.7030	

Table 3 Discriminant Validity Using Fornell-Larcker Criterion (1981)

Construct	1	2	3	4	5	6	7
1. CustomerSatisfaction	**0.795**						
2. Economic	0.294	**0.752**					
3. Ethical	0.289	0.167	**0.766**				
4. Legal	0.224	0.47	0.193	**0.809**			
5. Philanthropic	0.283	0.338	0.243	0.285	**0.816**		
6. SocialMedia	0.316	0.296	0.211	0.186	0.287	**0.796**	
7. WOM	0.198	0.149	0.055	0.13	0.189	0.273	**0.799**

Based on Figure 2, the R^2 of 0.279 from regression analysis indicated that Economic Responsibility, Legal Responsibility, Ethical Responsibility, Philanthropic Responsibility, Social Media and WOM collectively account for 27.9 percent of the overall variance in Customer Satisfaction. Falk and Miller suggest that R^2 values should be at least 0.10 to be considered sufficient for explaining the variance in a specific endogenous construct (Falk and Miller, 1992). In this case, the R^2 value for Customer Satisfaction (27.9%) is comfortably above this threshold, indicating a moderate level of explanatory power.

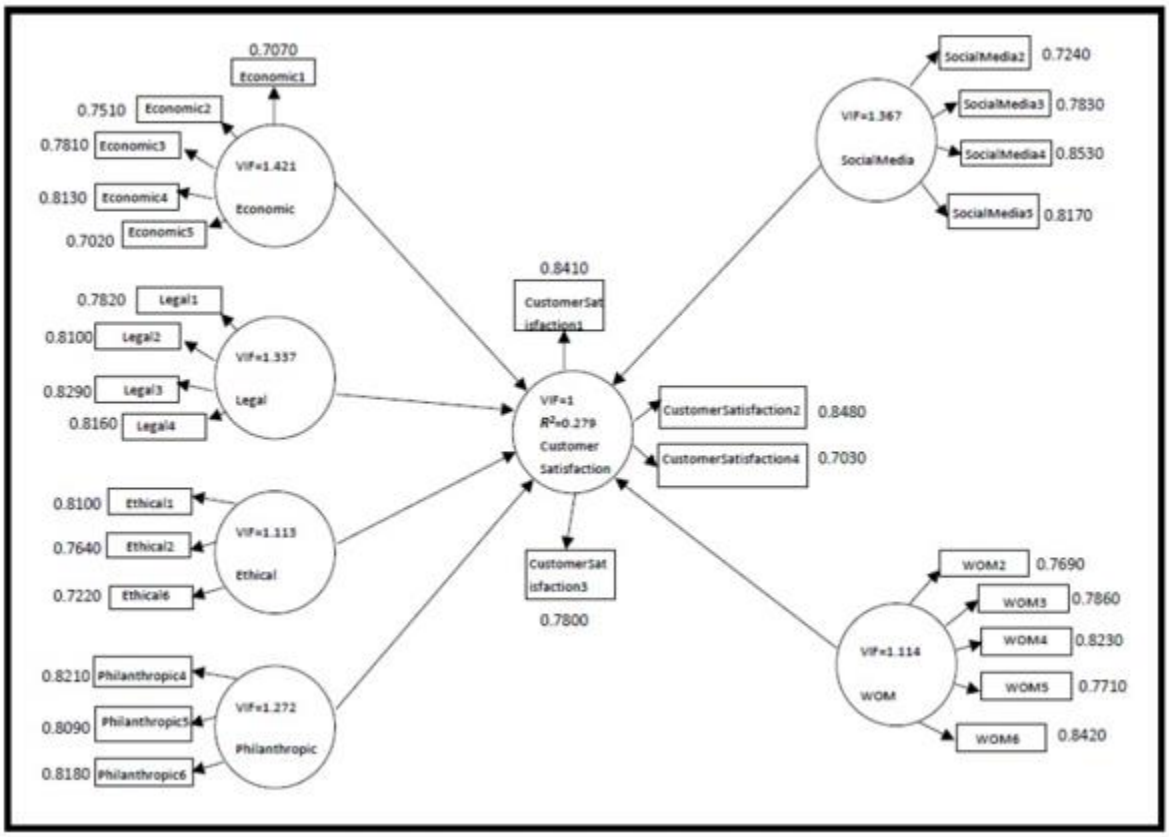

Figure 2 Results of PLS structural model analysis

Only the Tolerance and VIF values shown in the "Collinearity Statistics" column are needed for this collinearity analysis. As shown in Table 4, all of the indicators' VIF values are lower than 5, and their Tolerance values are higher than 0.2, so there is no collinearity problem.

Table 4 Structural Model

Hypothesis	Relationship	Standardised Beta	Standard Error	T-value	P Values	Decision	R2	Q2	f2	VIF
H1	Economic Responsibility -> Customer Satisfaction	0.13	0.054	2.432	0.008*	Supported	0.279	0.166	0.017	1.421
H2	Legal Responsibility -> Customer Satisfaction	0.057	0.049	1.159	0.123***	Not Supported			0.003	1.337
H3	Ethical Responsibility -> Customer Satisfaction	0.199	0.048	4.14	0*	Supported			0.049	1.113
H4	Philanthropic Responsibility -> Customer Satisfaction	0.147	0.051	2.893	0.002*	Supported			0.024	1.272
H5	Social Media -> Customer Satisfaction	0.075	0.055	1.375	0.085****	Not Supported			0.006	1.367
H6	WOM -> Customer Satisfaction	0.106	0.051	2.073	0.019**	Supported			0.014	1.114

Note:
*Significant at P-value < 0.01
Since the all t-value are greater than critical value of 2.3263 at significance level of 1%, all the hypothesis are supported.
**Significant at 0.01 < P-value < 0.05
Since the all t-value are greater than critical value of 1.6449 at significance level of 5%, all the hypothesis are supported.
***Significant at P-value > 0.1
Since the all t-value are less than critical value of 1.2816 at significance level of 10%, all fail to reject the null hypothesis.
****Significant at P-value > 0.5
A p-value is not a negotiation: if p > 0.05, the results are not significant.

3. Results and Discussion

This paper looks at CSR in petroleum companies in Malaysia and aims to learn about consumers' sense of fulfillment with CSR activities and what could be the reaction based on the customer's expectations, incorporates a particular investigation on individual independent variables, demonstrates the connection between the independent variables and the dependent variable. The testing of theory was actualized in this research. After the hypotheses are examined statistically by utilizing SPSS software and PLS-SEM software, H1, H3, H4, and H6 are found to be significant as path coefficients. These hypotheses are supported. H2 and H5 are found not to be significant as path coefficients, and hence, these hypotheses are not supported. The exploration established that three CSR dimensions, i.e., Economic Responsibility, Ethical Responsibility, and Philanthropic Responsibility, significantly affect Customer Satisfaction. Only Legal Responsibility did not show a significant effect on Customer Satisfaction. Two social media as one of the mechanisms of CSR did not show a significant effect on customer satisfaction, while the WOM has established a significant effect towards customer satisfaction.

These discoveries uncovered an unwavering quality trial of the connection between Corporate Social Responsibility, CSR Mechanisms, and Customer Satisfaction. Although the results are not completely consistent with the assumptions they reflect the results obtained through data collection and analysis. These findings indicate that enterprises that take Economic Responsibility, Ethical Responsibility, and Philanthropic Responsibility well and

promote them effectively will have a positive impact on customer satisfaction. With the prevalence of CSR and companies' willingness to increase their investments in this initiative, enterprises need to know how consumers will respond to their CSR initiatives (Gyane *et al.,* 2021). Companies will be able to defer to these findings when deciding on their business strategies (Choi and Yoo, 2022). The lack of CSR initiatives has had harmful effects on communities (Dau and Moore, 2020). Corporate culture has emphasized economic development and production competency at the expense of justice and fair treatment within society (Cao, Yao, and Zhang, 2023). This study demonstrates the role of CSR in influencing consumer behavior and offers valuable strategies for business executives and regulators in implementing CSR, particularly within Malaysian petroleum companies, which have been observed to align closely with environmental issues. It will also contribute to managing the affiliation between corporations and society (Capasso, Gianfrate, and Spinelli, 2020).

4. Conclusions

This paper looks at CSR in petroleum companies and its effect on customer satisfaction and customer satisfaction in Malaysia. This research examines CSR endeavors within the oil and gas sector and their link to consumer satisfaction. It also looks at the established hypotheses between the activities of CS, CSR Mechanisms, and customer satisfaction. This paper aims to learn about consumers' sense of fulfilment with CSR activities and what could be the reaction base on the customer's expectations.

With the popularity of CSR and companies' willingness to increase their investments in this initiative, enterprises need to know how consumers will respond to these initiatives. With this research at hand, enterprises will be able to make informed decisions when developing their company goals.

Besides, the findings of this research can directly contribute to good management practices as the study can help managers appreciate how consumers understand the company's CSR initiatives and the effect it has on customer satisfaction. Hence, this research can help build responsible managers.

Going forward, this could likely be a fundamental segment of business education and even a crucial way to achieve the social angle of business studies. Exposed to these materials – which are tied to important theoretical and practical values – today's college and university students can become game-changers in tomorrow's business world. A better understanding of the topic can help companies take appropriate steps to better their position where CSR initiatives are concerned.

Due to the limited information, as well as the limited personal ability subjectively, this paper still has many shortcomings. Although some social media marketing strategies are put forward, these strategies are roughly simple and without more instances to demonstrate. Future research can further develop such insights in the petroleum companies and assess the possibility and relevance to other industries.

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