

Mediating Role of Social Responsibility on the Relationship between Consumer Awareness of Green Marketing and Purchase Intentions

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Abstract—This research aims to examine the influence of mediating effect of corporate social responsibility on the relationship between consumer awareness of green marketing and purchase intentions in the retail setting. Data from 200 valid questionnaires was analyzed using the partial least squares (PLS) approach for the analysis of structural equation models with SmartPLS computer program version 2.0 as research data does not necessarily have a multivariate normal distribution and is less sensitive to sample size than other covariance approaches. PLS results revealed that corporate social responsibility partially mediated the link between consumer awareness of green marketing and purchase intentions of the product in the retail setting. Marketing managers should allocate a sufficient portion of their budget to appropriate corporate social responsibility activities by engaging in voluntary programs for positive return on investment leading to increased business profitability and long run business sustainability. The outcomes of the mediating effects of corporate social responsibility add a new impetus to the growing literature and preceding discoveries on consumer green marketing awareness, which is inadequately researched in the Malaysian setting. Direction for future research is also presented.

Keywords—Green marketing awareness, corporate social responsibility, partial least squares, purchase intention.

I. INTRODUCTION

GREEN marketing is defined as “the effort by a company to design, promote, price and distribute products in a manner which promotes environmental protection” [1]. Green marketing is part of the key movements in modern business sustainability [2]. Companies focusing on the natural ecological balance in their entire operation are more environmentally friendly while maximizing profits, they reduce environmental pollution, conserve natural resources and protect the environment. They gain a unique competitive advantage and develop new markets as they improve their corporate image their reputation and their product image from the consumer perspective [3].

Few researchers have investigated the involvement of constructs such as corporate social responsibility as mediating effects in the relationship between consumer awareness of green marketing and purchase intentions in the Asian

countries [4]. Hence, this research aims to examine the influence of mediating effect of corporate social responsibility on the relationship between consumer awareness of green marketing and purchase intentions in the retail setting. Research output on the existence of mediating effects would add a new impetus to the emergent literature and preceding studies on consumer green marketing awareness, which has been so far inadequately researched in the Malaysian setting.

II. LITERATURE REVIEW

Green marketing awareness is related to companies' understanding of their accountability for the quality of the environment while meeting customer needs, demands and satisfaction [5], [6]. Green purchase intention is related to an individual's inclination to buy and use products with eco-friendly features when purchase considerations are based on the product features and source country of the product [7]. Producers position the environmental benefits of green products in consumers' minds to evoke their purchasing decision [8]. Consumer awareness of green marketing is materialized when customers have confidence in eco-label and eco-brand which influences their green product purchase behaviour [5], [9]-[11].

Corporate social responsibility (CSR) is in a “pre-paradigmatic phase where there is scant agreement on definitions and terms and no consensus has been reached about what it includes and does not include in its boundaries” [12]. Companies which participate in ecologically sound activities provide social value to customers and stakeholders and project an image that they are responsive to the environment while operating business transactions [13], [14]. CSR positively impacts consumer purchase intention [15].

Based on the above reasoning, the following hypotheses are posited:

- H1. Consumer awareness of green marketing is positively influenced purchase intentions.
- H2. Consumer awareness of green marketing is positively influenced corporate social responsibility.
- H3. Corporate social responsibility is positively influenced purchase intentions.
- H4. Corporate social responsibility significantly mediates the influence of consumer awareness of green marketing on purchase intentions.

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Fig. 1 models the relationships between corporate social responsibility, consumer awareness of green marketing, and purchase intentions.

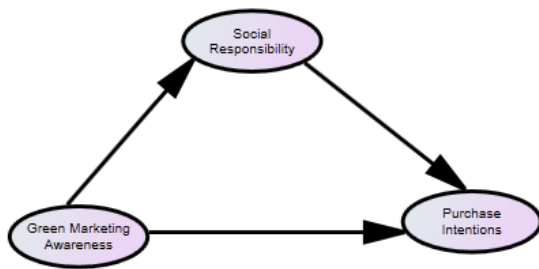


Fig. 1 Mediation model of corporate social responsibility between consumer awareness of green marketing and purchase intentions

III. METHODOLOGY

Respondents were pre-screened and recruited from members of the public in the Federal Territory of Labuan, Malaysia who practiced a green lifestyle with green products purchasing experience such as buying organic vegetables at least once a week. After data screening of the responses, 200 were found to be usable and valid for the data analysis, which is about 83% response rate. This is a reasonable size as asserted by Roscoe [16] and meets the criteria set by Hair et al. [17] who noted that the adequate sample size is a ten-to-one ratio of the number of predictor constructs.

The questionnaires were designed into three sections. Section A contained general demographic questions. Section B of the questionnaire covered questions on the consumers' experience of green marketing. Section C presented questions on consumers' perception of green marketing. Five items emphasized consumers' awareness of green marketing and were adapted from Kim [18], four items of corporate social responsibility, and three items of purchase intention for eco-friendly products at the department store were jointly borrowed from Ko et al. [15] and Winter [19]. These items were measured on a five-point Likert scale, stretching from 1 (strongly disagree) to 5 (strongly agree).

Data was analyzed using the partial least squares (PLS) method, which is a variance-based technique for the analysis of structural equation models via SmartPLS computer program version 2.0 as research data does not necessarily have a multivariate normal distribution and is less sensitive to sample size than other covariance approaches like LISREL or AMOS [20]. Preceding research noted that PLS is suitable when the sample size is below 250 and involves formative factors [21]. Bootstrapping analysis of 500 sub-samples was used for estimation.

IV. DATA ANALYSIS

A total of 200 respondents were included in the sample. Respondents comprised 53 percent females and 47 percent males, making an almost equal response (Table I). More than three-quarters of the respondents were 21 years old and above.

Almost 85 percent of the respondents consumed green items less than 10 times per month, 10 percent 10-15 times a month and 5 percent 15 times and above. Among the characteristics of green products they valued most in purchase decision making, the highest was product quality (32.5 percent), then product price (26.5 percent), eco label of the product (22 percent), and product packaging (19 percent). Respondents mainly obtained information about green marketing from sources like online articles, campaigns, family, newspapers, and magazines.

TABLE I
DEMOGRAPHIC PROFILE OF RESPONDENTS

| Variable | Frequency | Percentage |
|---|-----------|------------|
| <i>Gender</i> | | |
| Male | 94 | 47.0 |
| Female | 106 | 53.0 |
| <i>Age (years old)</i> | | |
| 16-20 | 23 | 11.5 |
| 21-25 | 93 | 46.5 |
| 26-30 | 50 | 25.0 |
| 31-35 | 19 | 9.5 |
| > 36 | 15 | 7.5 |
| <i>Experiences in green consumption per month</i> | | |
| 1-5 times | 84 | 42.0 |
| 5-10 times | 85 | 42.5 |
| 10-15 times | 20 | 10.0 |
| 15-20 times | 10 | 5.0 |
| > 20 times | 1 | .5 |
| <i>Source of information about the green marketing function</i> | | |
| Newspapers and magazines | 37 | 18.5 |
| Television and radio | 26 | 13.0 |
| Online articles | 54 | 27.0 |
| Friends / relatives | 37 | 18.5 |
| Campaigns | 46 | 23.0 |
| <i>Characteristics of green products that concern mostly when make a purchase</i> | | |
| The packaging of the product | 38 | 19.0 |
| The eco label of the product | 44 | 22.0 |
| The product price | 53 | 26.5 |
| The product quality | 65 | 32.5 |

A. Reliability and Validity

Reliability of the measurement items was inspected using Cronbach's alpha and composite reliability. Table II presents the results of Cronbach's alpha and the composite reliability for all constructs where results exceeded the threshold value of 0.70, indicating strong reliability among the measures. Bootstrapping analysis of 500 sub-samples shown that all the standardized loadings exceeded 0.50 with no cross loadings and were highly significant ($p < .001$), thus showing that measurement items were well loaded on their own constructs.

Besides, the AVE values surpassed the endorsed level of 0.50, deducing that more than one-half of the item variances were accounted for by their hypothesized constructs.

Table III shows that all shared variances between factors were below the square root of the individual factors AVE, endorsing adequate discriminant validity. The variance

inflation factor (VIF) results showed that there were no multicollinearity problems as the values were below 10 as recommended by Hair et al. [17].

TABLE II
RELIABILITY AND VALIDITY

| Factors | Items | Standardized Loadings | Cronbach's alpha | Composite Reliability | Average Variance Extracted |
|------------------------------|-------|-----------------------|------------------|-----------------------|----------------------------|
| Awareness of Green Marketing | AWA1 | 0.797 | 0.843 | 0.889 | 0.614 |
| | AWA2 | 0.765 | | | |
| | AWA3 | 0.783 | | | |
| | AWA4 | 0.776 | | | |
| | AWA5 | 0.799 | | | |
| Social Responsibility | RES1 | 0.785 | 0.788 | 0.862 | 0.610 |
| | RES2 | 0.759 | | | |
| | RES3 | 0.807 | | | |
| | RES4 | 0.773 | | | |
| Purchase Intentions | INT1 | 0.772 | 0.782 | 0.873 | 0.698 |
| | INT2 | 0.883 | | | |
| | INT3 | 0.847 | | | |

TABLE III
INTER-CONSTRUCT CORRELATIONS

| Constructs | 1 | 2 | 3 | Mean | SD |
|-------------------------------|--------------|--------------|--------------|-------|-------|
| (1) Green Marketing Awareness | 0.784 | | | 3.653 | 0.605 |
| (2) Social Responsibility | 0.573* | 0.781 | | 3.781 | 0.575 |
| (3) Purchase Intention | 0.231* | 0.287* | 0.835 | 3.625 | 0.579 |
| Skewness | 0.038 | 0.11 | -0.263 | | |
| Kurtosis | 0.458 | -0.145 | 0.292 | | |
| Variance Inflation Factor | 1.613 | 1.683 | - | | |

*Correlation is significant at the 0.05 level (2-tailed); Diagonal elements (in bold) show the square root of the average variance extracted; off-diagonal elements in bold show the shared variances.

TABLE IV
STATISTICAL RESULTS OF THE STRUCTURAL MODEL

| Hypothesized Paths | Path Coefficients | t-value | R ² |
|--|-------------------|---------|----------------|
| <i>Direct Effects</i> | | | |
| Green Marketing Awareness → Purchase Intention | 0.203 | 2.991* | 0.328 |
| Green Marketing Awareness → Corporate Social Responsibility | 0.573 | 8.229* | |
| Corporate Social Responsibility → Purchase Intention | 0.153 | 2.414* | |
| <i>Mediation Effects</i> | | | |
| Green Marketing Awareness → Corporate Social Responsibility → Purchase Intention | | 2.328* | |

* Statistically significant at $p < 0.05$ (for t -value > 1.960).

Furthermore, marketing managers should optimize the budget allocation for resources in corporate social responsibility activities, consumerism, and community relations programs and engage in voluntary programs for positive return on investment through increased business profitability and long run business sustainability [22], [23]. The company could receive greater prominence and experience high media publicity from consumer viewpoints with high attention given for being socially responsive. They need to show that their business operations are in line with the rules and regulations of government environmental standards and other related bodies [24]. Although the mediating effect of corporate reputation on the effects of consumer awareness of

B. Partial Least Squares

The explanatory power (R^2) of the predictor construct (i.e. purchase intention) is 33 percent (Table IV). Consumer awareness of green marketing had a significant and positive relationship with purchase intention ($\beta_1=0.203$) and corporate social responsibility ($\beta_2=0.573$). Thus, H1 and H2 were supported. Likewise, corporate social responsibility had a significant and positive association on purchase intention ($\beta_3=0.153$), meaning that H3 was also retained.

Next, corporate social responsibility partially mediates the relationship between consumer awareness of green marketing and retail purchase intentions of the product, implying that H4 was sustained, as estimated. The variance accounted for (VAF) value was calculated in order to estimate the ratio of the indirect effect to the total effect. In this research model, the VAF value indicates that 50.5% of the total effect (i.e. consumer awareness of green marketing on retail purchase intentions of the product) is explained by the indirect effect (i.e. corporate social responsibility).

V. DISCUSSION AND CONCLUSION

PLS results discovered that corporate social responsibility partially mediated the effect of consumer awareness of green marketing on retail purchase intentions of the product. Marketing managers should develop various strategies to expand company social responsibility embracing green marketing practices in order to increase market awareness and provision of positive recommendations to friends and relatives via communication media like short message service (SMS), emails, and social networking sites such as Facebook and Twitter.

green marketing on retail purchase intentions of the product were not statistically established in this study, marketers must not overlook this dimension, as it is part of the important aspects of green marketing practices.

Opportunities exist to further advance this research by examining the effect of moderating variables, like demographics and culture. People of differing ages would find different green marketing awareness more or less important than those younger. It is suggested that one could expand the number of variables and multiply the sample coverage and investigate at different geographical locations for better and more representative data analysis as the sample was only distributed among 200 respondents, limiting the

generalizability of the research findings. Expansion of the coverage of sample selection is recommended as different nationalities would find differing attributes of green marketing awareness desirable. The results could be used for comparative purposes and to overcome the limits of generalizability in sample coverage.

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