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The effect path of greenwashing brand trust in Chinese microbiological industry from decoupling view

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ABSTRACT

In China, for many companies, green brand strategy is becoming an important approach to enhance their competitive advantage in the microbiological industry. However, greenwashing behaviors result in a trust crisis of green brands. Extant research on green brands is always from green marketing while silent on an institutional perspective. Thus, this study, from decoupling view from institutional theories, provides a comprehensive framework to explore the effect path of green brand trust in the microbiological industry. Then, based on SEM and regression analysis, the interesting findings are concluded that brand legitimacy takes the mediating role in the effect path, and brand loyalty can alleviate the negative effect of greenwashing brands.

KEYWORDS

Greenwashing brands; Decoupling; Legitimacy; Green brand trust; Microbiological industry.



INTRODUCTION

Recently, many energy companies pay more and more attention to the environment issues due to incremental environmental pollutions. Then, increasing energy customers' demand for environment-friendly microbiological products shows their positive attitude to green brands. Green brands are those brands that consumers associate with environmental protections and sustainable business practices. Thus, many companies, such as Hayao and 3M, etc., are hurrying to build up their own green brands: 3M gained customers' trust and higher outcomes for obtaining good communication and awareness with environment-friendly organizations. However, Hayao (the biggest Chinese Pharmaceutical Manufacturers) may lose customers' trust for the failures to obtain green certifications, and resulted in potential brand equity risk.

Those reactions above show that the institutional environments can give rise to a trust crisis of green brands. From the view of legitimacy, green brand trust strategy is to obtain and extend legitimacy, maintain the existing legitimacy, and make up the lost legitimacy. Brand legitimacy is, besides enhancing green brand trust from the micro-local environment, to get the social support and fit from the government, the public, the media, the customers, and other constituents. Therefore, there is an urgent problem about how to solve mitigate the trust crisis caused by the greenwashing from a legitimacy perspective. First of all, academics and practitioners should find out and understand the effect path of the greenwashing behaviors on brand trust.

However, while extant research is limited to green marketing and silent on decoupling and legitimacy in rebuilding brand trust of greenwashing brands, some scholars suggest that it is necessary and important to shed light on brand trust rebuilding from decoupling view.

Theoretical framework and hypothesis development

At first, based on the definition of greenwashing^[1] and the “decoupled” behavior with the process model^[2], as the definition of “decoupling”, the decoupling behavior of greenwashing brands is to maintain legitimacy with important external constituents by buffering internal routines from external uncertainties to enhance flexibility. Thus, the greenwashing of green brands are essentially decoupling behaviors that are symbolic environmental protection behaviors with no environmental protection behavior or failure to fulfill environmental protection commitments, to alleviate the external public pressures and uncertainties and to avoid the conflict with external constituents. When some green brands can't reach the goals of “green” product, industry environment standards, and government environmental protection requirements, etc, the decoupling behaviors can reduce cognitive legitimacy (take-for-grantedness of constituents), moral legitimacy (positive green evaluation), and pragmatic legitimacy (benefiting constituents). Therefore, H1 is proposed as follows:

H1: The decoupling of a greenwashing brands has a negative effect on brand legitimacy in the microbiological industry.

Secondly, brand legitimacy is to gain social support and fit by improving pragmatic legitimacy, moral legitimacy, and cognitive legitimacy⁴. And the social support and fit can improve brand trust. Therefore, if a greenwashing brands can gain the supports from social constituents, for example, getting the media rapport and institutional certification, it will improve brand trust in the trust crisis derived from greenwashing. Then, H2 is proposed as follows:

H2: The legitimacy of a greenwashing brands has a positive effect on brand trust in the microbiological industry.

Moreover, the “decoupling” behaviors of greenwashing brands can't keep their words which will inevitably cause the direct loss of consumer trust. Meanwhile, based on the reasoning of H1 & H2, the “decoupling” of greenwashing brands can improve brand trust through achieving social fit and support. Thus, H3 is proposed as follows:

H3: Brand legitimacy plays a mediator role in the relationship between the “decoupling” of a greenwashing brands and brand trust in the microbiological industry.

Furthermore, brand loyalty is defined as that in spite of the change of purchase scenario or attraction of other brands, customers still continue consuming the product or service in the future. And brand loyalty has a positive effect on consumer buying behavior. Loyal customers, like many Hayao fans, even if Hayao has some greenwashing behaviors, they still like and trust Hayao, even actively help rebuild Hayao's brand trust. Therefore, greenwashing decoupling behaviors have a less negative effect on loyal consumers than on non-loyal consumers. This is consistent with brand equity theory. Therefore, H4 is proposed as follows:

H4: Brand loyalty plays a moderating role in the relationship between the "decoupling" of a greenwashing brands and brand trust in the microbiological industry.

MEASUREMENT AND HYPOTHESIS TEST

This study, firstly, from the "Chinese greenwashing list" of INFZM in 2010, 2011 and 2012, we found that most of greenwashing brands in China are in pharmaceutical and electronics industries. Thus, this study chooses Hayao for the target brand, because Hayao has been shown twice in the "Chinese greenwashing list" of INFZM in 2010 and 2011. Additionally, Hayao is widely recognized by Chinese consumers and has lots of loyalty consumers in China. Then, the questionnaires were randomly emailed to the consumers who had the purchase experience of Hayao. Questionnaire design referred to the decoupling, brand legitimacy, green brand trust, and brand loyalty. Five experts and academics gave some suggestions of the first pre-test questionnaire. Then, we emailed the second pre-test questionnaires to 15 respondents in randomly, and asked whether the expression of the questionnaire statement was without ambiguity. After two round pre-tests, the questionnaire has a good content validity. In the formal survey, this study randomly selected samples from students who had purchased Hayao products, and emailed the questionnaires to them, who were required to submit the questionnaires in one week. Finally, 232 valid questionnaires were received in 450 questionnaires emailed and the valid response rate was 51.6%. Additionally, based on the compare between the response and non-response data, this study has no non-response bias. Moreover, with the analysis of Harman single factor, the explained variance of first factor is 33% of total variance, which means that CMV (Common Method Variance) is not a problem.

Definition and measurement

The measurements of questionnaires used Likert scales, from "strongly disagree" to "strongly agree". All respondents were asked about what the first brand of IT products was. If the answer was Hayao, they were required to fill the questionnaires. Based on the related research, the four important constructs in this study were defined and measured as follows.

"Decoupling" of a greenwashing brands is an inconsistency of a greenwashing brands with its green promises and actual behaviors for meeting constituents' demands and mitigating institutional pressure from constituent. This construct was measured by three items. The second construct, green brand legitimacy, is a general concept or assumption that the environment performance of a green brand is desirable, proper or appropriate in some socially constructed systems of norms, values, beliefs and definitions. In addition, green brand legitimacy includes pragmatic legitimacy, moral legitimacy and cognitive legitimacy. This construct was measured by six items. Moreover, green brand trust is a dependency of beliefs or expectations based on reliable, benevolence, and capacity of the environment performance. This construct was measured by six items. The final construct, brand loyalty, is a customer commitment of re-purchasing or preference of consuming one product or service again in the future, although the purchase scenario changed or other brand uses marketing methods to attract customer buying behavior to change. The construct has the four-item measurement.

Hypothesis test

This study used structural equation modeling (SEM) and regression model to empirically test the hypothesis with AMOS 17.0 and SPSS 17.0. The SEM with AMOS 17.0 analyzes the measurement and structural models to test the main effect and the mediating effect, while the regression model with SPSS 17.0 tests the moderating effect.

Measurement model: This study shows the mean, standard deviation and correlation matrix of each construct in TABLE 1.

TABLE 1: Means, standard deviations and correlations

Constructs	Mean	Standard deviation	A	B	C
A. DGB	4.163	0.482			
B. GBL	3.686	0.538	-0.313*		
C. GBT	4.017	0.611	-0.407*	0.392**	
D. BL	4.226	0.397	-0.391*	0.411**	0.463**

Note: * $p < 0.05$, ** $p < 0.01$.

Additionally, this study measures the reliability of each construct. First of all, it examined each λ (item loading) of four constructs, and then measured each construct's Cronbach's α in TABLE 2. Because Cronbach's α of each construct is greater than 0.7, the reliability of four constructs are acceptable. Moreover, the average variance extracted (AVE) is calculated to assess the discriminant validity. According to extant research, if the square root value of AVE is greater than the correlation coefficient of each construct, the discriminate validity is good. As shown in TABLE 1 and TABLE 2, the square root of AVE of each construct is greater than 0.8 and correlation coefficient between them. Thus, the measurement has a good discriminate validity. Also, because each construct's AVE value is greater than 0.5, the convergent validity is acceptable. In a word, the measurement has a good reliability and validity.

TABLE 2 : λ and Cronbach's α and AVE

constructs	items	λ	Cronbach's α	AVE	CR	\sqrt{AVE}
DGB	DGB1	0.821	0.768	0.664	0.857	0.815
	DGB2	0.785**				
	DGB3	0.842**				
GBL	GBL1	0.828	0.783	0.722	0.940	0.850
	GBL2	0.901**				
	GBL3	0.837**				
	GBL4	0.816**				
	GBL5	0.886**				
	GBL6	0.827**				
GBT	GBT1	0.909	0.801	0.732	0.943	0.856
	GBT2	0.847**				
	GBT3	0.818**				
	GBT4	0.873**				
	GBT5	0.836**				
	GBT6	0.849**				
BL	BL1	0.857	0.842	0.789	0.918	0.888
	BL2	0.911**				
	BL3	0.896**				

SEM results

The SEM results are shown with a good overall fit index (GFI=0.873, RMSEA=0.041, NFI=0.901, CFI=0.905). Besides the effect of brand loyalty (H4 will be tested in the following regression model), the results of SEM analysis about the main path coefficients are significant. In other words, the

decoupling of greenwashing brands has a negative effect on green brand legitimacy, and a direct negative effect on green brand trust. Additionally, green brand legitimacy has a positive effect to green brand trust and also a mediator effect between the relationship between decoupling of greenwashing brands and green brand trust. Therefore, H1, H2 and H3 are supported.

Regression model

This study uses regression models to test the moderating effect of brand loyalty on the relationship between the decoupling of greenwashing brands and green brand trust. First, after the centralization of DGB and BL, R_1^2 can be measured through the regression from GBT to DGB, BL, and their interactive terms DGB*BL. Then R_2^2 is measured through the regression from GBT to DGB and BL.

Obviously, R_1^2 (0.46) is significantly higher than R_2^2 (0.34), and the regression coefficient of interaction term DGB*BL is significant (-0.103**), suggesting that the moderating effect is significant. Therefore, H4 is supported.

CONCLUSIONS AND DISCUSSION

While China is facing the increasingly serious environmental pollutions, customers prefer to environment-friendly green brands. Then, energy companies have introduced a variety of green brands to not only get higher profit but also benefit customers and environment. However, because of the huge costs of green brand building, actual environment performances of many companies are far from what they promise. The behavior is a greenwashing, resulting in trust crisis of energy companies in Chinese microbiological industry.

Meanwhile, extant brand and environment pollution research focuses on green marketing from the consumer perspective and is still silent on the social and institutional view to explore the effect path of brand trust rebuilding. To fill this gap, this study, based on legitimacy and decoupling from institution theories, sheds lights on the effect path of decoupling of greenwashing brands on brand trust. The interesting findings are concluded that decoupling of greenwashing brands not only has the direct effect on brand trust, but also takes effect through legitimacy (the satisfaction of public green interests, positive evaluations about environment protection, and taken-for-grantedness). Also, brand loyalty can mitigate the negative effect of greenwashing behaviors. Thus, brand loyalty is vital for brand trust rebuilding, especially in the trust crisis of microbiological industry.

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