

A Study of the Effects of the New Environmental Paradigm and Corporate Social Responsibility on Green Consumption

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ABSTRACT: *The main objective of this study was to explore the effects of the New Environmental Paradigm (NEP) and corporate social responsibility (CSR) on green consumption. Participants in this study were guests who had stayed in guesthouses in southern Taiwan. A questionnaire survey was conducted through purposive sampling. A descriptive statistical analysis of the data collected was conducted using SPSS18.0, which was followed by a confirmatory factor analysis (CFA) using LISREL8.7 and a test of the relationship between the research concepts. The results in this study indicated that the NEP and CSR positively affected green consumption. These findings may provide a reference for the development of green guesthouses in Taiwan. Moreover, the evaluation framework established in this study may provide a referential basis for future related studies.*

I. INTRODUCTION

1.1. Research Motivation and Background

In addition to the pursuit of economic growth, companies should contribute to the solving of ecological issues via corporate greening in order to strengthen social recognition and support. Following the concept of sustainable development, corporate greening integrates environmental consciousness into the given company's business concepts and commitments. Corporate greening also involves environmental communication within and outside the company, the promotion of work related to environmental protection and the implementation of related strategies, and the integration of environmental protection into the company's daily activities using innovative tools (Gladwin, 1993). The development of the green recreational industry can generate both environmental and economic benefits. Green social responsibility (GSR) and operation efficiency (OE), as implemented in guesthouses located in scenic areas of the country, often play key roles in the supply chain and value creation processes in the green recreational industry (Lin, Huang, Wu, & Hsieh, 2013).

In the last two to three decades, the natural environment has been subject to damage due to the rapid pace of economic development. Environmental pollution incidents have given rise to serious environmental issues, which threaten people's safety and quality of life. As a result, people have reflected on the true relationship between humanity and nature and redefined the meaning of science-technology values and economic development. This new approach to human-nature interactions is referred to as the New Environmental Paradigm (NEP). Throughout the evolution of civilization, humans have learned about economic theories and pursued economic value through the lenses of dominant social paradigms. However, despite the development of scientific knowledge, they cannot transcend nature and continue to harm their own living environment. This has spurred contemplation regarding a new relationship between humans and nature, and resulted in the birth of the NEP (Hsu, 2012).

With the development of the tourism and recreational environment in Taiwan in the last ten years, leisure travel has become part of modern life due to the implementation of the five-day workweek policy by the government that aimed to increase leisure interest among Taiwanese. The decline of traditional farming pushed many to turn to tourism. Against this backdrop, the demand for guesthouse services is an important link in leisure travel (Chen & Chuang, 2009). As Taiwan's tourism and recreational industry develops, guesthouses play a key role with respect to the people's choice of accommodation. Although their rapid development had generated an economic output value, it had also caused a negative impact by affecting climate change and drawing greater attention toward environmental protection issues in Taiwan. As a result, the NEP was initiated in the guesthouse industry (Chou, 2012).

The main motivation of this study was to explore the effect of the NEP and green consumption on corporate social responsibility (CSR) from the perspective of guesthouse

operators in southern Taiwan and their guests. In order to gain a better understanding about influential relations between NEP, CSR, and green consumption, this study reviewed the related literature as follows.

1.2. NEP significantly affects green consumption

Chang et al. (2011) conducted a study on the relationship between NEP attitudes and responsible environmental behavior and found that NEP attitudes (natural balance, human-nature relationship, growth boundaries, and environmental knowledge) affected consumer behavior (purchase of services and products with an environmental label). Ou and Chen (2013) conducted a research on environmental knowledge, NEP attitudes, and environmental behavior among tourism consumers and suggested that NEP attitudes significantly and positively affect the environmental behavior hot spring consumers. Lin (2012) conducted a study among sixth-graders in an elementary school in Kaohsiung to examine the correlation between NEP and cognition and attitudes regarding green energy; the study found that NEP was significantly and positively correlated with green energy cognition and consumption.

1.3. CSR significantly affects green consumption

Cheng's (2016) study on the relationship between CSR cognition, green consumption attitudes, and behavioral intentions indicated that with the changing trends, consumers' attention toward CSR had increased. CSR has become a factor influencing consumers' buying behavior. Du and Kao (2011) investigated the relationship between green consumption attitudes, behavior, and CSR cognition and suggested that CSR cognition influences green consumption behavior. In their study "Green Purchase Behavior of Undergraduate Students in Hong Kong," Lai and Cheng (2016) reported that CSR affects green consumption.

Drawing upon the above literature, this study established Hypothesis 2: CSR significantly affects green consumption.

II. RESEARCH OBJECTIVES

Main objectives of this study were: 1. to explore factors influencing NEP; 2. to explore factors influencing CSR; 3. to explore factors influencing green consumption; and 4. examine the relationship between NEP, CSR, and green consumption.

III. RESEARCH HYPOTHESES

Based on the objectives and theoretical derivations, this study proposed the following research framework (Figure 1) and hypotheses:

- 1.1 NEP significantly affects green consumption.
- 1.2 CSR significantly affects green consumption.

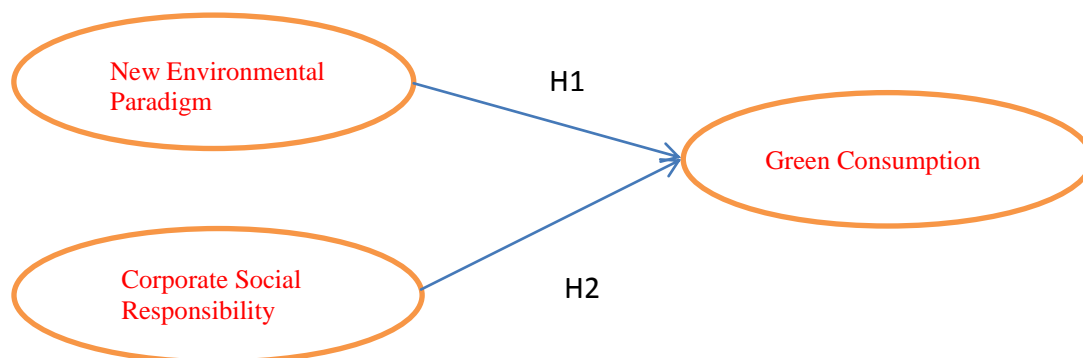


Figure 1. Research framework

2. Explanation of Terms

2.1 New Environmental Paradigm (NEP)

In the last two to three decades, the natural environment has been subject to damage due to rapid economic development. Environmental pollution incidents gave rise to serious environmental issues, which threaten the people's safety and quality of life. As a result, people have reflected on the true relationship between human and nature and redefined the meaning of science-technology values and economic development for humankind. This new approach to human-nature interaction is referred to as NEP (Hsu, 2012). According to Milbrath (1989), NEP

beliefs include: (1) evaluation of nature (high importance attached to the natural environment), (2) compassion subjects (universal compassion), (3) risk assessment (careful planning to avoid risks), (4) growth boundaries (believing that growth is limited), (5) social operation (establishment of new society), and (6) political operation (establishment of new political operation methods). In recent years, the focus of people's attitude toward the natural environment has shifted from humans' control over natural resources (dominant social paradigm) to sustainable development of natural resources (NEP). In view of the increasing harm caused to global environment, the importance of responsible environmental behavior has been also emphasized (Chang, Lin, Deng, & Liu, 2011). Tien, Huang, and Wu (2007) examined environmental attitudes among students by dividing the NEP into three factors, namely, "natural balance," "non-anthropocentrism," and "growth boundaries." With reference to the literature described above, this study defined NEP as beliefs related to natural balance, universal compassion, growth boundaries, and social operation and focusing on sustainable development of natural resources, peaceful coexistence, and limited supply.

2.2 Green Consumption

Peattie (2001) defined green consumption as consumers' choice of products that have a minimal impact on the environment in order to achieve the objective of consumption, while reducing the damage to the environment. Green consumption involves sustainable and more responsible consumption. The 21st century is a time of green competitiveness and sustainable development. The popularity of green consumption naturally follows from the current trend of environmental protection. Green consumption and green production are optimal ways to achieve the goal of "Complementary Coexistence of Environmental Protection and Economic Development" (Hung, 2009). In view of the current green tendency and growing environmental consciousness, green consumption has become an important issue in the 21st century and a novel consumption concept. With the rise of the green consumption concept, environmental requirements have been included in the manufacturing and packaging processes (Wu, 2013). Tsai (2013) investigated the relationship between innovation features, green consumption attitudes, personal traits, and willingness to use e-books and divided green consumption influence into the following aspects: (1) values, (2) knowledge, (3) environmental concern, (4) perceived barriers, (5) attitudes, and (6) intention. Chen (2004) distinguished seven major types of factors influencing green consumption, namely, demographic statistics, environmental concern, personal values, cultural values, personal attitudes, personal traits, and dissemination of environmental information. With reference to the literature reviewed above, this study defined green consumption as environmentally beneficial consumption models for guesthouse guests that involves environmental consciousness, environmental concern, personal values, and sociocultural values.

2.3 Corporate social responsibility (CSR)

CSR refers to the consideration of stakeholders' interests, while providing shareholders with maximal profits. CSR is normally considered to involve three aspects, which are the economy, society, and environment (Ye, 2009). Supported by social expectations and international trends, CSR has been the principal axis in the planning of business strategies and long-term development goals in multiple companies. CSR has transformed the idea of "giving back to society what was taken from society" into concrete tasks and plans, as it has become an obligatory development path for companies (Shen, 2009). Du and Kao (2011) suggested that SCR cognition may be divided into three main factors, namely, educational propaganda, green identification, and product development. Huang, Lien, and Chang (2012) maintained that CSR involves such factors as value of resources, pollution prevention, corporate image, and organizational performance. In Cheng's (2016) study on CSR cognition, factors influencing CSR included environmental protection, social participation, corporate commitment, and corporate governance. Lee (2015) examined five aspects of CSR, which were customer aspect (corporate commitment), employee aspect (corporate commitment), environmental protection aspect, economic aspect (corporate governance), and social aspect (social participation). With reference to the literature described above, this study defined CSR as guesthouse operators' economic, social, and environmental strategies related to value of resources, company's commitment to customers, environmental protection, corporate governance, social participation, and corporate image.

IV. METHODS

2.4 Participants

Participants in this study were guesthouse operators in southern Taiwan and their customers. The convenience sampling method was employed to conduct a questionnaire survey. In total, 500 questionnaires were administered in this study. The official test period was from June 1 to July 31, 2017. In total, 316 questionnaires were collected. After eliminating ineffective questionnaires, the final sample included 302 responses, yielding an effective response rate of 60%.

2.5 Research Tools

- (1) The NEP scale in this study was developed with reference to Milbrath (1989), Tien, Huang, and Wu (2007), Chang, Lin, Deng, and Liu (2011), Lin (2012), Hsu (2012), and Ou and Chen (2013). The NEP scale included 12 items in four constructs, namely, “natural balance,” “universal compassion,” “growth boundaries,” and “social operation.” The 5-point Likert scale was used for evaluation.
- (2) The green consumption scale in this study was developed with reference to Peattie (2001), Chen (2004), Hung (2009), Wu (2013), Tsai (2013), Cheng (2016), and Lai and Cheng (2016). The green consumption scale included 12 items in four constructs, namely, “environmental consciousness,” “environmental concern,” “personal values,” and “sociocultural values.” The 5-point Likert scale was used for evaluation.
- (3) The CSR scale in this study was developed with reference to Shen (2009), Ye (2009), Du and Kao (2011), Lee (2015), and Cheng (2016). The CSR scale included 15 items in six constructs, namely, “value of resources,” “loyalty to customers,” “environmental protection,” “corporate governance,” “social participation,” and “corporate image.” The 5-point Likert scale was used for evaluation.

2.6 Data Processing

The SPSS 18.0 statistical software was used in this study as a tool for questionnaire data analysis. Basic data analysis of overall questionnaire data was conducted. LISREL 8.7 software was used to analyze and test the research hypotheses.

V. RESULTS

2.7 Participants' Basic Data

As shown in Table 1, 153 participants (50.7%) were female and 149 (49.3%) were male. Most participants were 26-45 years old (176; 58.3%); 253 participants (83.3%) had senior high school (vocational) to college education; 96 participants (31.8%) were students; 102 participants (33.8%) had income below NT\$20,000.

Table 1. Questionnaire participants' basic data analysis

		N	%			N	%
Gender	Male	149	54.0	Profession	Farming	26	8.6
	Female	153	46.0		Artisan	50	16.6
Age	≤25	60	19.9	Income	Industry & Commerce	49	16.2
	26~35	80	26.5		State Employment	53	17.5
	36~45	76	25.2		Student	96	31.8
	46~55	52	17.2		Housekeeper	25	8.3
	≥56	34	11.3		Other	3	1.0
Educational Level	Junior high school or lower	12	4.0	≤20000	102	33.8	
	General and vocational high school	72	23.8	20001~30000	72	23.8	
	Specialized education	86	28.5	30001~40000	37	12.3	
	College	95	31.5	40001~50000	60	19.9	
	Graduate institute	49	16.2	≥50001	31	10.3	

Table 2. Reliability and validity of variables

Construct	Standardized coefficient	R ²	Construct reliability	AVE
New Environmental Paradigm			0.88	0.65
Growth boundaries (NE1)	0.85	0.73		
Natural balance (NE2)	0.94	0.88		
Social operation (NE3)	0.73	0.53		
Universal compassion (NE4)	0.66	0.44		
Green consumption			0.89	0.67
Environmental consciousness (GC1)	0.68	0.46		
Environmental concern (GC2)	0.90	0.82		
Personal values (GC3)	0.92	0.85		
Sociocultural values (GC4)	0.74	0.55		
Corporate social responsibility			0.93	0.68
Loyalty to customers (BS1)	0.86	0.74		
Social participation (BS2)	0.84	0.71		
Corporate governance (BS3)	0.87	0.75		
Value of resources (BS4)	0.82	0.67		
Corporate image (BS5)	0.80	0.64		
Environmental protection (BS6)	0.74	0.56		

2.8 Reliability and Validity Analysis

Bentler and Wu (1993) suggested that the reliability value R^2 of individual observed variables must be greater than 0.20. In this study, R^2 of 14 observed variables ranged between 0.44 and 0.88, thus, meeting the requirement. Hair et al. (1998) suggested that the construct reliability value must be greater than 0.5. In this study, construct reliability values of three latent variable were equal to 0.88, 0.89, and 0.93 (Table 2), thus, meeting the requirement. Convergent validity can be determined based on the average variance extracted (AVE) of latent variables and loadings (λ) of the observed variables on latent variables. As shown in Table 2, the AVE values were equal to 0.65, 0.67, and 0.68 and, thus, greater than 0.5, which indicated that the contribution of the observed variables to the three latent variables was greater than that of the measurement error. The loadings (λ) of observed variables on latent variables in this study ranged between 0.66 and 0.94 (Table 3), which was higher than the 0.45 threshold proposed by Bentler and Wu (1993). Hence, all observed variables were sufficient to respond to the constructed latent variables.

Table 3. Model parameter estimates

Parameter	Non-standardized parameter value	Standard error	t-value	Standardized parameter value
λ_1	1.00	-----	-----	0.85
λ_2	0.71	0.05	14.55	0.94
λ_3	0.65	0.06	10.25	0.73
λ_4	0.65	0.07	9.07	0.66
λ_5	1.00	-----	-----	0.68
λ_6	1.28	0.13	9.84	0.90
λ_7	1.35	0.14	9.97	0.92
λ_8	1.07	0.13	8.33	0.74
λ_9	1.00	-----	-----	0.86
λ_{10}	0.88	0.07	13.28	0.84
λ_{11}	0.89	0.06	13.94	0.87
λ_{12}	1.06	0.08	12.63	0.82
λ_{13}	0.81	0.07	12.18	0.80
λ_{14}	0.93	0.09	10.68	0.74
γ_1	0.12	0.04	2.91	0.23
γ_2	0.19	0.08	6.44	0.64

Note: $t > 1.96$ (* $p < 0.05$); $t > 2.58$ (** $p < 0.010$)

2.9 Overall Model Evaluation

The goodness of fit of the overall model was evaluated using at least three types of indicators (Huang, 2006). With regard to absolute fit measure indexes, the GFI value in this study was equal to 0.99 and greater than the acceptable value of 0.90, indicating that the hypothesis model could be accepted. The RMR value was equal to 0.013 and smaller than the acceptable value of 0.05, indicating that the model could be accepted. The RMSEA value was equal to 0.078, ranging between 0.05 and 0.10 and, thus, indicating that the model could be accepted. With regard to relative fit measure indexes, the NNFI value was equal to 0.97 and greater than the acceptable value of 0.90, indicating that the model could be accepted. The CFI value was equal to 0.99 and greater than the acceptable value of 0.90, indicating that the model could be accepted. With regard to parsimonious fit measure indexes, the PGFI (0.49 < 0.50) and PNFI (0.46 < 0.50) values approaching the fit level implied a non-ideal simplicity level of the model in this study. It is suggested that increased parameter estimations may increase “complexity” of a model (Wu, 2007). The PGFI value equal to the acceptable level of 0.5 indicated that the model was satisfactory. The chi-square/degree of freedom ratio was equal to 2.49 and lower than the acceptable value of 3, indicating that the model could be accepted (Table 4).

Table 4. Overall model goodness-of-fit evaluation

Evaluation Index	Goodness-of-fit Standard	Result
Absolute fit measure indexes		
Goodness-of-fit index (GFI)	>0.9	0.94
Root mean square residual (RMR)	<0.05	0.013
Root mean square error of approximation (RMSEA)	<0.05	0.078
Relative fit measure indexes		
Non-normed fit index (NNFI)	>0.9	0.97
Comparative fit index (CFI)	>0.9	0.99
Parsimonious fit measure indexes		
Parsimonious normed fit index (PNFI)	>0.5	0.49
Parsimonious goodness-of-fit index (PGFI)	>0.5	0.46
Normed chi-square	1 < NC < 3	1.91

Figure 2 presents empirical results of this study. Parameter estimations indicated the following: (1) Analysis of NEP impact on green consumption revealed that the completely standardized parameter was equal to 0.23 ($t = 2.91$; $p < .05$), reaching the significance level. Thus, Hypothesis 1 was confirmed. (2) The analysis of CSR impact on green consumption revealed that the completely standardized parameter was equal to 0.64 ($t = 6.44$; $p < .05$), reaching the significance level. Thus, Hypothesis 2 was confirmed. Both hypotheses established in this study were supported, meaning that empirical results corresponded to the expected results.

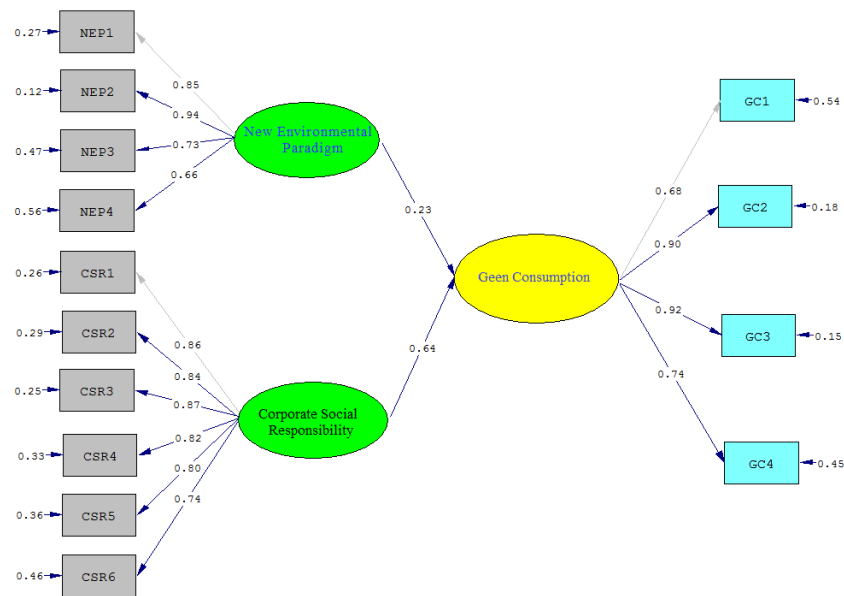


Figure 2. Normalization path of this study

VI. CONCLUSION AND SUGGESTIONS

2.10 Conclusion

This study aimed to explore the impacts of NEP and CSR of guesthouse operators and their customers on green consumption and determine presence of statistical differences in sample variables. Conclusions of this study may provide a reference for related institutions.

This study found that NEP had a positive influence on green consumption, which corresponded to findings reported by Chang et al. (2011), Lin (2012), and Ou and Chen (2013). NEP in this study was constructed from four indexes, which were growth boundaries, natural balance, social operation, and universal compassion; their regression coefficients were equal to 0.85, 0.94, 0.73, and 0.66, respectively. Higher regression coefficients indicate a higher importance of the variable in prediction of a dependent variable. As such, the order of variable importance in this study was as follows: natural balance > growth boundaries > social operation > universal compassion. Among the observed variables corresponding to NEP latent variables, natural balance was the most important from the perspective of participants. Hence, participants suggested that principles of stable and sustainable development of the overall ecosystem included human-nature balance, humans' adaptation to the natural environment and use of global resources, and coordinated development of humankind and other ecosystems.

This study also found that CSR had a positive influence on green consumption, which corresponded to findings reported by Du and Kao (2011), Cheng (2016), and Lai and Cheng (2016). In this study, the CSR factor was constructed from six indexes, which were value of resources, loyalty to customers, environmental protection, corporate governance, social participation, and corporate image; their regression coefficients were equal to 0.86, 0.84, 0.87, 0.82, 0.80, and 0.74, respectively. The order of variable importance in this study was as follows: corporate governance > loyalty to customers > social participation > value of resources > corporate image > environmental protection. Among the observed variables corresponding to CSR latent variables, the most important variables were corporate governance and loyalty to customers. Participants suggested that only companies that can improve their own management to receive profit are able to exercise their loyalty to customers and perform social participation and environmental protection tasks.

The green consumption factor in this study was constructed from four indexes, which were environmental consciousness, environmental concern, personal values, and sociocultural values; their regression coefficients were equal to 0.68, 0.90, 0.92, and 0.74, respectively. The order of variable importance in this study

was as follows: personal values > environmental concern > environmental consciousness > sociocultural values. A person who can distinguish between good and bad and determine whether something accords with her or his individual values, will use green consumption behavior when searching for an environmentally friendly consumption model.

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