

## A Study on Diffusion of Green Commitment in Hotel Employees : Focused on The Mediator Effects of Environmental Attitude of Line Supervisor and Peer Group

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**ABSTRACT:** The purpose of this study is to investigate how environmental attitudes of top managers of hotel business affect on environmental commitment of hotel employees and identify of the mediator effects of line supervisor and peer group during implementing green management process using Sobel z test. Data analysis is conducted by SPSS 18.0. The findings and implications can be summarized as follows. First, environmental attitudes of top managers has significantly positive effect on environmental attitude of line supervisors and peer group. Second, environmental attitude of line supervisors and peer group, in turns, has significantly positive effect on value or normative commitment on green management of hotel employments. Third, there is positive mediating effect of environmental attitude of line supervisors and peer group between environmental attitudes of top managers and value or normative commitment of hotel employees. Hence we can conclude that implementing of green management intention of top managers to hotel employs in work place needs strong support of line supervisors and peer group.

**Keywords:** environmental attitudes, value commitment, normative attitude, line supervisor, peer group

### INTRODUCTION

Since tourism industry in South Korea has expanded and developed, the hotel industry became more competitive than before. Based on these situation, high quality hotels such as five star hotels make an effort to derive customers and success their business (Kim & Kim 2005; Min, Min & Joo 2008). Customers who are usually prefer the green attributes in hotels have more focused on various factors related to green initiatives (Kang et al 2012). Environmental concerns related to green marketing in hotel have spread around the globe especially pertaining

to the exhaustion of natural resources and energy, global warming and weather change, destruction of ecosystem (ecocide), etc. Green life promotes a good quality of life as it not only saves resources and energy and protect environment in everyday life but also pursue eco-friendly life (Kang et al 2012; Millar et al 2012; Mostafa 2009). Many U.S. corporate have recently developed and applied renewable energy by purchasing RECs as the U.S. government pledged that it will reduce 80 percent of greenhouse gas emissions by 2050. Furthermore, Japan launched "Fukuda Vision" in 2008 and Great Britain passed Climate Change Act 2008 as an effort to decrease

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carbon emissions.

The Korean government announced "A Framework Act on Low Carbon green Growth" as a response to solving many socio-economic and environmental challenges posed by the traditional growth paradigm – heavily dependent on the consumption of energy and natural resources. Green growth is nation's new vision that nurtures new growth boosters, and makes the best use of green technology and clean energy, and creates jobs with harmonious development between the economy and the environment. Thus green technology innovate the economic and industrial structure of the nation as well as its citizens' modes of life into low carbon and pro environmental.

Green growth provides nation a new survival strategy as for green management provides business a new survival strategy. Thus green management is a combination between the social value, prosperity and coexistence of mankind, and innovative strategy that presents a ground-breaking approach. Despite the huge initial spending, green management delivers incentive mechanisms for business in various perspectives simply from energy saving to enhanced reputation, brand and market value, tax benefits, etc (Graci & Dodds 2008; Han, Hus & Sheu 2010).

Although green management is a recent trend leading various industries, it is difficult for hotels to adapt green management. As hotel benefits in return of intangible service provided to customers and it is rather costly in customer's perspective. Thus decision making process for customer often depends on image of the hotel. The green label may harm the illustration of luxuriousness and comfort given to hotel. Also adopting green management into hotel industry costs immense expense requiring a new employment, facility expansion and information gathering. The top management needs to establish a long term vision for the successful green management and become adaptable for pro-environment management.

The hotel industry is aware of this new trend and has set policies in this respect; however, the precise research for these initiatives has rarely been done. There are few studies on green management of the hotel industry, such as Hyun Jaechon and Lee Byunghak's "The Research on Image of Environmen-

tal Hotel," Park Ohsung and Jeongin Eunkyung's "The Correlation between Consumer's Purchase and Green Marketing of Hotel Industry," Nam Jimin's "The Strategy of Environmental Hotels in Adapting Green Policy," and Son Hyeran's "The Correlation of Green Management of the Hotel and its Performance;" however, no specific studies have been conducted in relation to the hotel employees.

This study emphasizes the role of top management in order to enhance reputation and gain positive outcome. Implementing green management intention from top managers to hotel employees needs a strong support of line supervisors and peer group. In other words, environmental attitude of line supervisor and peer group has significant mediator effect between environmental attitude of top management and green commitment of hotel employees. The study has conducted survey on hotel employees from 5 five-star hotels and concluded that environmental attitude of top management effects line supervisor and peer group.

## LITERATURE REVIEW

### *The Green Management of Hotel*

Many companies initiated green marketing with energy saving policy in order to reduce manufacturing cost. Steady growth in Corporate Social Responsibility facilitated business to implement society's environmental awareness, such as recycle and waste reduction. In long run, it will enhance reputation and market value in needs of customer value. Over the decade, the environmental management system has recently been more recognized in hotel industry. Hotels face environmental concerns just as other industry, including energy saving issues, waste consumption and disposables problems because it provides service to customers day and night. Hotel industry has been considered no smoking industry to reduce emission of environmental containment (Kasim 2004). The following is for new recognition that reflects society's strong aspiration for hotel's green management. Consequently Korea Environmental Industry & Technology Institute required eco label on hotel service among other tourism industry Hotels first need to develop a checklist and evaluate environmental management system in accordance with

global standards. More specifically, it may be divided into seven categories such as energy saving—the implementation of energy savings measure and renewable energy sources, maintenance of the facilities, water conservation policy—monitoring water consumption, reusing waste water, and implementation of water savings measure, the reduction of chemical usage and industrial waste—instruction on usage of toxic substance, and control, preservation, and replacement of toxic substance, rooms management—no smoking policy and caring air quality whilst remodeling, green purchase—purchase of durable products, and lastly, green management—the promotion of green management and action plan, constant illustration of pro-environmental information.

Hotel's environmental management system should promote guidelines, such as reuse, recycle, reduce, redesign, re-imagine, and rebuild. For instance, 'The Marriott International,' an award winning hotel in 2005 2006 and 2007 from the US Energy star, successfully reduced greenhouse gas emission 2% per room (70,000 ton overall) and save \$ 6,000,000 per year. It also practices green card policy and water efficient laundry system sets 450,000 fluorescent light, LED lamp, and optical fiber light. Further, 'The Victoria Best Western Premier' promotes following environmental policy including low carbon emission, solar energy (7,000kw/h) to 25% of the room, using wood pellet which helps saving 50,000L of oil and reducing CO<sub>2</sub> emission. As shown in number of the prominent cases, implementation of the environmental management is not only costly but also requiring voluntary awareness of its members, long term cost-saving, earns reputation of the brand. Thus many hotels in Korea started to induce environmental management system.

Prominent case in Korea practices following action plan—greenhouse gas certification, energy reduction, water preservation, waste control, environmental program, green building, green standard, environmental policy, and green product (Kim Geon-Whee 2013). Gran Hyatt releases its action plan and share information through operation of the Hyatt Earth and SeSe@GHSL (Save energy Save earth@Grand Hyatt Seoul). Part of energy reduction practice- For example, it reuses domestic sewage through 'recycling heat of condensed water' and saves 7,500,000

won per year, save 60,000,000 won per year, save 15,000,000 won by replacing facility and trap of water storage, eco-friendly material for reconstruction of the room, providing 'aromatherapy associates' body products, a famous eco-friendly British beauty brand. Further, 'Jeju Sila' is certified with ISO14001 in 1997 – storing and reusing 1500 tons of rainwater as cleaning and gardening purpose.

#### *Environmental Attitude of Top Management*

Top management is a governing body, consists of a group of individuals that are elected to establish corporate management related policies and to make decisions on major company issues. It has the ultimate decision-making authority and is empowered to set the company's policy, objectives, and overall direction, adopt bylaws, hiring and firing of employees, etc. Leading an innovative organizational culture is a key component in ensuring company's prosperity and such directionality is depended upon top management (Jung Heesoo, Jo Yoonhyung 2001). Minzberg(1973) emphasizes decision making as the most important role of Chief Executive Officer (CEO)'s role among other aspects. Thus role of top management is critical in order to promote green management as the long term policy.

As a decision making body, top management shall amend the objective of the management, deliver implementation of the green management, decide enter into the green management business. Industry requires framework for corporate sustainability in order for top management to run sustainable green management (Kim Geon-Whee 2013). In "A Guide to Corporate Sustainable Management," Ministry of Environment suggests that CEO's strategic motive on green management factors into sustainable growth of hotel industry. Green management cannot remain as hotel management in long run without overall recognition about the environment and systematic arrangement.

#### *Environmental Attitude of Line Supervisor and Peer Group*

Social support from the various relations, especially reference group -the peer and friends-, greatly affect individual perception and behavior pattern. Thus many researchers have provided theories and

models explaining how relationships among peer group affect individual behavior. A. H. Maslow (1943)'s hierarchy of needs emphasized love and belongingness needs. He explained social phenomena on how environment and relationship influence individuals.

The support from the supervisor and organization is rather important in reducing employee's physical and psychological stress due to their administrative position. Support from peer group relieves occupational stress via cooperation and psychological support (Lee Sukwang & Choi Woosung 2005). Social support includes all possible resources provided to individuals such as assist, concern, encouragement, etc (Lee Kieun 2008). Findings from the previous cases prove that social support, such as peer and supervisor, influences organizational commitment, intention to leave one's work, occupational stress, and occupational burnout.

Line supervisor shares and supports employees in order to carry out environmental program. They also convey top management's environmental philosophy to the bottom line. As an observer, he or she oversees green management and evaluate performance of the related business circle. As a leader, line supervisor evaluates and guides employee. The recent trend requires diverse approaches on job performance, such as multi source assessment, on green management rather than traditional evaluation.

The social capital strengthens relationship that bond one to peer group who are similar to each other. One can safely assume that the social capital is an important factor predicting organizational growth (James 2000). Compatibility with peer indirectly illustrates job performance of individual, group, and organization. Individual job performance and activities cannot be fulfilled without cooperation and coordination with peer group. Further environmental practice requires individual and organizational cooperation. Thus, environmental attitude and awareness of peer group influences formation and consolidation of employee's green commitment.

#### *Green Commitment of Hotel Employee*

Environmental attitude of hotel employee depends upon their value commitment. Commitment is often associated with job oriented notion in so-

ciology. The sociologists used it in order to analyze organizational behavior. It was a descriptive concept to provide examination of individual and organizational characteristics. Starting from 1960s, organization commitment was employed to analyze correlation between individual and organization (Becker 1960).

Organizational commitment has been studied from two different theoretical perspectives—the exchange relationship and psychological approach. The exchange relationship perceives organizational commitment as interaction between individual contribution and inducement of the organization and its members. The member tends to feel stronger commitment to stay in the organization seeing various rewards as positive factor. In psychological approach, employees identify themselves with the organization and endeavor their service to the organization (Porter et al 1974).

Meyer and Allen(1991) indicated that there are three mind sets, affective commitment, continuance commitment and normative commitment which can characterize an employee's commitment to the organization. Affective commitment is defined as the employee's emotional attachment to the organization. Normative commitment is employee's sense of obligation to stay in Organization. Continuance Commitment is the gains versus losses of working in an organization. Etzioni(1975) developed a typology of involvement based on the factors that motivate people to join—moral involvement (organizational aim and intrinsic motivation, based on positive orientation), alienative involvement (designates a negative orientation with exploitative relations), and calculative involvement (based on notion of the efficient exchange, reward and compensation).

Angle & Perry(1981) categorized commitment into two group—commitment to stay and value commitment. Commitment to stay is related to member's intention to stay in organization, such as consolidation of motive and action. Value commitment Katz and Kahn(1975)'s voluntary and psychological behavior pattern. In overall, it is similar to Etzioni(1975)'s moral involvement.

This study used a term commitment because environmental is rather value oriented concept. The green commitment can be categorized into 5 differ-

Table 1. Eco-friendly mission and organizational commitment

Green commitment	Organizational commitment
Feelings need to protect the earth's environment (Affective) Proud of the hotel's green management	Affective
Pollution is a serious worry for the city, Attachment The friendly atmosphere of a fairy-tale organizations	Emotional
Eco-friendly behavior by moral values	Value
Cause of laws and regulations for low-carbon	Normative
For Green image of cooperation	Continuous
Reusable to reduce costs, Recycle	Continuance



Figure 1. Research model.

ent groups in line with organizational commitment. Affective commitment means sense of 'affection in preserving environment and dignity in hotel's green management'. Emotional commitment can be described as 'an attachment and concern toward polluted city,' value commitment as 'environmental practice derived by one's virtue,' normative commitment as 'pro-environmental image of one's business,' and continuance commitment as 'recycle and reuse for cost reduction' Table 1.

This study indicates green commitment of hotel employee as normative commitment and value commitment as variables of this study. Normative commitment is defined by member's intrinsic obligation to his or her organizational purpose, value and commitment. Value commitment is based upon affection and loyalty and is rather affective and voluntary.

### Objective and Hypothesis

#### Study Model and Establishing Hypothesis

Figure 1 is a sample model provided for purpose of this study.

Andersson and Bateman(2000). Jiang & Bansal

(2003) states that implementation of the system, defication of environmental issues, documentation of procedures, and correction of the default depend upon voluntary participation of employees. Intention of top management cannot be fulfilled without affecting attitude of individual employees and supervisor. Thus top management generally insists pro-environmental behavior of employees to serve its purpose.

In bureaucratic society, it is difficult to convey vision of top management to associate level. Unlike top management, line supervisor has a distinct role in pursuing certain goa, endowed with limited authority. Line supervisor may have difficulties implementing day to day business without understanding strategic intention of top management. Thus having green culture within organization is also an important aspect. Thus, the following relations are hypothesized.

Hypothesis 1: Environmental attitude of top management affects environmental attitude of line supervisor.

Hypothesis 2: Environmental attitude of top

management affects environmental attitude of peer group.

Stinglhamber & Vandenberghe(2003) states that employees have tendency to identify policy and support of supervisor with organization's policy and support. Environmental attitude of line supervisor directly affects attitude and interest of employees. Further, the social exchange is formed between employee and line supervisor. Further, environmental attitude of line supervisor directly affects green commitment of employee because employees have tendency to regard commitment to line supervisor as the commitment to the organization.

Organ & Ryan(1995) states that individual job performance and activity can only be achieved through cooperation of associates. Boiral & Paille(2012) suggest that both individual practices and pro-environmental behavior of peer group determine and strengthen one's Green Commitment. Thus, the following relations are hypothesized.

Hypothesis 3: Environmental attitude of line supervisor and peer group has positive effect on green commitment of hotel employee.

Hypothesis 3-1: Environmental attitude of line supervisor has positive effect on green commitment of hotel employee.

Hypothesis 3-2: Environmental attitude of peer group has positive effect on green commitment of hotel employee.

Hypothesis 4: Environmental attitude of line supervisor and peer group has positive effect on normative commitment of hotel employee.

Hypothesis 4-1: Environmental attitude of line supervisor has positive effect on normative commitment of hotel employee.

Hypothesis 4-2: Environmental attitude of peer group has positive effect on normative commitment of hotel employee.

Pro-environmental behavior of top management may be related to pro-environmental behavior of supervisor and peer group, and vice versa; however, the mediator effects combining these to phenomena

may not be significant. Thus, identifying whether environmental attitude of line supervisor and peer group has significant mediator effect between environmental attitude of top management and value commitment of hotel employee is a critical step. Thus following relations are hypothesized.

Hypothesis 5: Environmental attitude of line supervisor and peer group has mediator effect between environmental attitude of top management and value commitment of hotel employee.

Hypothesis 5-1: Environmental attitude of line supervisor has mediator effect between environmental attitude of top management and value commitment of hotel employee.

Hypothesis 5-2: Environmental attitude of peer group has mediator effect between environmental attitude of top management and value commitment of hotel employee.

Hypothesis 6: Environmental attitude of line supervisor and peer group has mediator effect between environmental attitude of top management and normative commitment of hotel employee.

Hypothesis 6-1: Environmental attitude of line supervisor has mediator effect between environmental attitude of top management and normative commitment of hotel employee.

Hypothesis 6-2: Environmental attitude of peer group has mediator effect between environmental attitude of top management and normative commitment of hotel employee.

## METHOD

### *Sample and Data Collection*

This study approaches previous studies on pro-environmental management and environmental attitude of hotel employees in order to provide theoretical background. Based on figure 1, survey, pilot test was conducted for 30 hotel employers. I revised sample survey based on preliminary result to this re-

search. The sample is restricted to hotel employees from 5 five-star hotels in Seoul because only five-star hotel practices pro environmental policy. The study ran for 45 days, from 1 April 2013 to 15 May 2013, and the survey was self-response questionnaire under supervision of manager at each hotel.

## **SURVEY**

### *Environmental Attitude of Top Management*

This study defined environmental attitude of top management as 'an action with a clear understanding and values on environment, environmental policy as a new opportunity to induce green commitment and support environment.' The survey has total of 8 questionnaires on environmental attitude of top management, mostly based on Branzei et al (2004) and revised to be adequate for this study. 5 point Likert scale is used to determine the level of environmental attitude of top management. Reverse question is reverse coded. 'Not applicable'=1, with nearly no environmental practice found on top management level and 'Strongly agree'=5, with a clear understanding and active environmental practice seen from top management.

### *Environmental Attitude of Line Supervisor*

Hotel employers often associate themselves with organizational policy and provision and thus, environmental attitude of line supervisor directly affects related workers. The survey on environmental attitude of line supervisor was modified from Organ and Ryan (1995) and Boiral and Paillle(2012) with 8 questionnaires. One question was reverse coded for the One question was reverse coded for the reliability(integrity) of the response others with 5 point Likert scale from 1 being 'not applicable' to 5 being 'strongly agree'.

### *Environmental Attitude of Peer Group*

The survey on environmental attitude of peer group was based on Organ & Ryan (1995) and Boiral & Paillle(2012) with 7 questionnaires. . One question was reverse coded for the integrity of the response others with 5 point Likert scale, from 1 as 'not applicable' to 5 as 'strongly agree.'

### *Green Commitment*

With value commitment, members feel value and dignity through environmental practice, accept the organizational aim and whilst endeavoring for organizational growth. Normative commitment is defined by one's obligation to stay in organization. Thus values commitment is closely related to affective and voluntary and normative commitment is more compulsory and functional. Based on definition of Angle & Perry(1983) and Meyer & Allen (1991), 10 questionnaires with Likert scale are coded from 'not applicable'=1 to 'strongly agree'=5 on environmental practice.

### *Data Analysis*

Frequency analysis has been done with Applying SPSS18. Factor consistency analysis has been done for reliability and validity of tool. Regression analysis has been done for the verification of hypothesis. Environmental attitude of top management affects environmental attitude of line supervisor or peer group. Although, environmental attitude of line supervisor or peer group affects environmental attitude of hotel employers, mediation effect between two variables may not be significant. Thus applying Sobel z is essential to verify significant mediation effect between environmental attitude of top management and environmental sense of duty of hotel employers.

## **PROOF ANALYSIS**

### *Demographic Feature of Sample*

360 employees from five-star hotels located in Seoul participated in this survey. In total, 359 valid surveys were returned and 353 surveys were in this study, excluding incomplete. Table 2 shows demography of the sample of this study (98.05% response rate). Unmarked questionnaire is considered missing value and excluded from the relevant analysis, by gender-51 % of male and 48% of female, by age-39.20% of 20s, 34.4% of 30s, 21.6% of 40s, 4.8% of 50s, by education —6% of high school graduate, 39.5 % of community college graduate, 49% of college graduate, 5.4% of above college graduate, and by job title-9.4% of contracted worker, 33.5% of associate level, 31.8% of manager, 25.3% of a section or

Table 2. The general characteristics of the sample

Characteristics	Category	N	%
Gender	Male	181	51.4
	Female	171	48.6
Age	20~29 years	138	39.2
	30~39 years	121	34.4
	40~49 years	76	21.6
	Over 50 years	17	4.8
Classification	Contract employee	33	9.4
	Rank and file	118	33.5
	Supervisor	112	31.8
	Over manager	89	25.3
Education	High school degree	21	6
	Associate degree	139	39.5
	Bachelor's degree	173	49.1
	Over graduate degree	19	5.4

above.

#### *Reliability and Validity Analysis on Instrument*

This study applied exploratory data analysis and Cronbach  $\alpha$  to analyze reliability and validity of the following two variables, environmental attitude of top management and environmental attitude of line supervisor and peer group. The study ran factor analysis on environmental attitude of top management (dependent variable) and environmental attitude of line supervisor and peer group (parameter) as a single scale factor. Inappropriate questionnaire was removed in accordance with factors loadings 0.5/0.4 standard. Table 2 and Table 3 illustrates the result of final factor analysis and Cronbach  $\alpha$ . Factor loadings of the environmental attitude of top management (dependent variable) and environmental attitude of line supervisor and peer group (parameter) exceeds 0.8, Eigen value is 6.338, 6.790, 5.039, exceeding 1.0. The result of variance explained is 79.227% 75.441%, 71.979%, exceeding 50%. Reliability and validity of instrument is applicable Table 3. Also Cronbach  $\alpha$  of this study exceeds 0.9 (0.962, 0.959, 0.934) and thus instrument measurement of internal consistency is

valid.

On the other hand, Table 3 findings show that all factor loadings exceed 0.5 on hotel employee (DV)'s green commitment, Eigen value exceeds 2.034, and normative commitment is 2.159 ( $< 1.0$ ). Cumulative variance is 52.411%, confirming reliability and validity of the instrument Table 3. Instrument on hotel employees' green commitment is internally consistent as normative commitment of Cronbach  $\alpha$  (0.637) and value commitment of Cronbach  $\alpha$  (0.806) all exceed 0.6.

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#### *Evaluation of Hypothesis*

Hypothesis 1. Environmental attitude of top management positively affects section leader/head/manager's environmental attitude.



Table 3. Validity of the reliability of the independent variables and parameters measuring tools

Variable	Questionnaire	Load factor value	Eigenvalues	Explanatory variation	Cronbach value
Environmental attitude of top management affects	Eco-friendly measures new opportunities	0.918	6.338	79.227	0.962
	Recognize and values for thee co-friendly	0.908			
	Eco-friendly behavior positively evaluated	0.898			
	Eco-friendly active commitment	0.893			
	Activelyen courages environmentally friendly actions	0.889			
	Eco-friendly practices interest	0.887			
	Eco-friendly practices strong commitment	0.877			
	Actively compensate eco-friendly behavior	0.849			
Immediate supervisor environmentally friendly attitude	Specific awareness of environmentally friendly(values)	0.898	6.790	75.441	0.959
	More attention to environmentally friendly practices	0.881			
	Aggressively offer environmentally friendly practices	0.878			
	Positively evaluate the environmentally friendly actions	0.874			
	Positively compensate for the environmentally friendly actions	0.866			
	Positively help the environmentally friendly action	0.861			
	Think of environmentally friendly actasunnecessary	0.861			
	Provide knowledge(information) for the environmentally friendly	0.853			
Following the above guidelines for environmentally friendly	0.845				
Peer group environmentally friendly attitude	Specific awareness of environmentally friendly(values)	0.913	5.039	71.979	0.934
	Cooperate with each othere co-friendly measures	0.897			
	Positively practicing environmentally friendly measures	0.894			
	High commitment to environmentally friendly	0.893			
	Positively offer environmentally friendly practices	0.888			
	Needless to Think of environmentally friendly activities	0.854			
	Heigh tadmit my environmentally friendly actions	0.538			

Table 4 findings demonstrated the result of regression analysis on environmental attitude of top

management and line supervisor. This result,  $B=0.927$ ,  $t=70.409$  ( $p<0.001$ ), proves that environmental

Table 4. Reliability and validity of the dependent variable measuring tools

Variable	Questionnaire	Load factor value	Eigenvalues	Cumulative explanatory fluctuations	Cronbach value
Value-commitment	Positive impact on other staff	0.674	2.034	25.422	0.637
	The company proud of eco-friendly activities	0.668			
	The same awareness hotel between me	0.644			
	Top instructions positive thinking	0.627			
	Eco-friendly policy actively accept	0.565			
Normatively commitment	Environmental Initiatives duty	0.881	2.159	52.411	0.806
	Supervisor indication executive influence	0.846			
	Eco accepted by peers influence	0.800			

Table 5. Impact on the attitude of top management department manager eco friendly attitude

Independent variables	Non-standard		Standard regression coefficient b	t-value	p-value
	Regression coefficient B	Standard error			
Constants	0.265	0.052		5.106	0.000
Top management environmentally friendly attitude	0.927	0.013	0.966	70.409	0.000***
Model statistics			Modification	F-value	p-value
	0.966	0.934	0.934	4957.419	0.000***

attitude of line supervisor is significant and positive. In other words, environmental attitude of line supervisor significantly rises as environmental attitude of top management increases. The results provided support for Hypothesis 1. Coefficient of determination ( $R^2$ ), measuring model validation equals 0.934, explains section leader's environmental attitude, verifying significance of the model ( $F=4,597.419$  ( $p < .001$ )). Thus the model is significant.

Hypothesis 2. Environmental attitude of top management positively affects environmental attitude of peer group.

As Table 5 illustrated  $B=0.886$ ,  $t=57.363$  ( $p < .001$ ),

environmental attitude of top management has significant effect on environmental attitude of peer group. Thus environmental attitude of peer group significantly increases when environmental attitude of top management increases. The results provided support for Hypothesis 2. The statistical model illustrates coefficient of determination ( $R^2$ ) as 0.904, environmental attitude of peer group explains 90.4% of the entire fluctuation. The model is significant resulted in  $F=3290.471$  ( $p < .001$ ).

Hypothesis 3. Environmental attitude of line supervisor and peer group positively influences hotel employer's value green commitment.

Hypothesis 3.1 Environmental attitude of line su-

Table 6. Top management influence on eco-friendly attitude, the attitude of colleagues

Independent variables	Non-standard		Standard regression coefficient b	t-value	p-value
	Regression coefficient B	Standard error			
Constants	0.445	0.061		7.306	0.000
Top management environmentally friendly attitude	0.886	0.015	0.951	57.363	0.000***
Model statistics			Modification	F-value	p-value
	0.951	0.904	0.904	3,290.471	0.000***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 7. Factors affecting the value of environmentally friendly attitude

Variable	Environmental attitude of line supervisor		Group of colleagues environmentally friendly attitude	
	B	t-value	B	t-value
Constants	3.598	40.533	3.599	39.918
Independent variables	0.143	6.323***	0.143	6.259***
Model statistics	F-value		F-value	
	0.103	39.983***	0.101	39.177***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

pervisor positively influences hotel employer's value green commitment.

Hypothesis 3.2 Environmental attitude of peer group positively influences hotel employer's environmental value green commitment.

Table 6 shows the result of regression analysis on what factors into line supervisor's value commitment about environment. In correlation coefficient, line supervisor's environmental attitude and peer group's environmental attitude are highly correlated. The study analyzed VIF (variance inflation factor) first to avoid multi-collinearity. As a result, multi-collinearity occurs as VIF exceeds 19.0 and confirms impossibility to run multiple regression. Independent variables have been put in regression model to support for hypothesis 3.

As a result, environmental attitude of line supervisor  $B=0.143$ ,  $t=6.323$  ( $p < .001$ ), environmental atti-

tude of peer group which significantly positive influence on hotel employer's value attitude. Value commitment significantly rises as environmental attitude of line supervisor and peer group rises. Thus the results provided support for hypothesis 3.1 and 3.2. Coefficient of determination for environmental attitude of line supervisor is 0.103,  $F=39.983$  ( $p < .001$ ) and environmental attitude of peer group is 0.101,  $F=39.177$  ( $p < .001$ ).

Hypothesis 4. Environmental attitude of line supervisor and peer group positively influences hotel employee's normative green commitment.

Hypothesis 4.1 Environmental attitude of line supervisor positively influences hotel employer's normative green commitment.

Hypothesis 4.2 Environmental attitude of peer group positively influences hotel employer's

Table 8. Factors affecting the eco-friendly attitude norms

Variable	Environmental attitude of line supervisor		Group of colleagues environmentally friendly attitude	
	B	t-value	B	t-value
Constants	1.686	10.116	1.573	9.125
Independent variables	0.113	2.644**	0.141	3.217***
Model statistics	F-value		F-value	
	0.020	6.990**	0.029	10.351***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

environmental normative green commitment.

Hotel Employee’s normative commitment on environment is analyzed with a regression analysis as Independent variable Table 8. This result suggested that environmental attitude of line supervisor [B=0.113,  $t=2.644(p < .01)$ ] and peer group [B=0.141,  $t=3.217(p < .001)$ ] has significant and positive effects on hotel employee’s normative commitment. Thus if environmental attitude of line supervisor or peer group rises hotel employee’s normative commitment rises significantly. Thus the results provided support for hypothesis 4.1 and 4.2. The statistical model showed that coefficient of definition on lines upervisor as 0.020,  $F=6.990(p < .01)$  and on peer group as 0.029,  $F=10.351(p < .001)$

Hypothesis 5. Environmental attitude of line supervisor and peer group has mediator effect between environmental attitude of top management and value commitment of hotel employee.

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Hypothesis 5.1 Environmental attitude of line supervisor has mediator effect between environmental attitude of top management and value commitment of hotel employee.

Hypothesis 5.2 Environmental attitude of line supervisor has mediator effect between environmental attitude of top management and value commitment of hotel employee.

Table 10 showed the result of Sobel z, supporting hypothesis 5. Sobel’s approximated Z statistics is defined as following.

Further, Z follows standardized normal distribution/Gaussian distribution  $N(0,1)$ . As a result, significant mediation effect exists between environmental attitude of top management [ $Z=6.194 (p < .001)$ ] and hotel employee’s value commitment [ $Z=6.183(p < .001)$ ]

Table 9. Direct superior eco-friendly attitude toward the value of a sense of duty, the mediating effect of peer environment-friendly attitude

Parameter	Top management environmentally friendly attitude → Parameter a		Parameter → Value attitude b		a*b	Sobel z value p value
	B	s.e.	B	s.e.		
Immediate supervisor environmentally friendly attitude	0.927	0.013	0.113	0.043	0.105	2.626***
Fellow eco-friendly attitude	0.886	0.015	0.143	0.023	0.127	6.183***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Table 10. Direct superior eco-friendly attitude toward the norms mission, mediating effect of peer environment-friendly attitude

Parameter	Top management environmentally friendly attitude → Parameter a		Parameter → Value attitude b		a*b	Sobel z value p value
	B	s.e.	B	s.e.		
Immediate supervisor environmentally friendly attitude	0.927	0.013	0.143	0.023	0.133	6.194***
Fellow eco-friendly attitude	0.886	0.015	0.143	0.023	0.127	6.183***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

.001)). Thus the results provided support for hypothesis 5.1 and 5.2.

Hypothesis 6. Environmental attitude of line supervisor and peer group has mediator effect between environmental attitude of top management and normative commitment of hotel employee.

Hypothesis 6.1 Environmental attitude of line supervisor has mediator effect between environmental attitude of top management and normative commitment of hotel employee.

Hypothesis 6.2 Environmental attitude of peer group has mediator effect between environmental attitude of top management and normative commitment of hotel employee.

Table 9 illustrated mediation effect between environmental attitude of top management and hotel employee's normative environmental attitude. This finding suggests that both environmental attitude of line supervisor [ $z=2.626(p<.001)$ ] and peer group [ $z=3.200(p<.001)$ ] has significant mediator effect between environmental attitude of top management and normative commitment of hotel employee. Thus the results provided support for hypothesis 6.1 and 6.2.

## RESULT

Current study performed to identify how environmental attitudes of luxury hotels business influence

on environmental commitments as perceived by 360 hotel employees from 5 five-star hotels. In addition, this study has conducted to find mediator effects of line supervisor and peer group during implementing green management process. All hypothesizes have developed to find the relationships among the effect of top manager's environmental attitude on line supervisor, peer group, effect of line supervisor, and peer group's environmental attitude on employee's normative as well as value commitment. Detailed results and implications are followed.

First, if environmental attitude of top manager is active, it has more positive effect on normative and value commitment of hotel employee. Although green management is the recent trend leading various industries, green management may seem to harm profit-based policy. Thus it is nearly impossible for supervisor and associates to apply green management without a strong determination of top manager.

Second, environmental attitude of line supervisors and peer group has positive effect on value or normative commitment hotel employees. It is not plausible for supervisor and associates to apply green management without support from peer group and supervisor. It could even get worse if employee is not aware of environmental practices because 'environmental' is value oriented notion rather than profit based term. Thus hotel needs regular evaluation on attitude and awareness of supervisor and employee in order to practice green management in day to day business. A mediator effect of line supervisor and

peer group becomes very significant whilst analyzing the influence of environmental attitude of top management on normative and value commitment hotel employee.

The results imply that luxury hotels such as five star hotels in South Korea should significantly consider environmental attitudes along with green process to satisfy hotel employees. To improve the attitudes of employees, typical education program of green commitment has to provide. Well-educated the supervisor or peer group of hotels will positive influence on normative commitment and green commitment, and these positive effect can effect on their customers as well.

Hotels gain benefit from providing intangible service to customers. Although green management is the recent trend leading various industries and represents important social value, green label may harm image of the hotel. Top management needs to establish a long term vision to successfully adopt green management into hotel industry. Furthermore, implementing green management intention from top managers to hotel employees needs a strong support of line supervisors and peer group. Hotel first requires a regular evaluation on employees' environmental attitude in order to enhance a new label into hotel. It also needs to investigate a way to promote a clear image as green hotel to customers.

#### *Limitation and Further Research*

The study has conducted survey on hotel employees from 5 five-star hotels and concluded that environmental attitude of top management effects line supervisor and peer group. Thus the conclusion of this study cannot provide generalization on other hotel management. The study may cause over-estimation because respondent may provide more positive answers than their usual environmental attitude because the term 'environmental' is a rather value oriented notion.

For further research, expanding a range of sample collection is necessary in order to obtain more applicable and generalized results. It may sort by location, level of green management, and by size to investigate whether differences exist depending on such factors. Research on whether image of the brand af-

fects revisits of customers and problems whilst publicly promotion in order to initiate green management of hotels.

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## 호텔 종사자의 친환경 사명감에 영향을 미치는 요인 - 직속상사와 동료의 친환경태도의 매개효과를 중심으로 -

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### 국문초록

본 연구의 목적은 호텔의 최고경영자의 친환경적인 태도가 호텔 직원들과 직속상사와 동료그룹들에게 Sobel z 테스트를 사용하여 녹색경영 프로세스를 구현하는 동안 어떻게 영향을 미치는지에 대한 조사이다.

첫째, 최고경영자의 환경적인 태도는 직속상사와 동료그룹의 환경적인 태도에 상당히 긍정적인 효과가 있다. 둘째, 직속상사와 동료그룹의 환경적인 태도, 호텔고용의 녹색 경영은 가치적 사명감 또는 규범적 사명감에 상당한 긍정적인 효과를 가지고 있다. 셋째, 직속상사와 동료그룹의 환경적인 태도와 최고경영자의 친환경적인 태도 그리고 호텔 직원의 가치적 사명감과 규범적 사명감 사이에는 긍정적인 매개 효과가 있다. 따라서 호텔의 최고 경영자의 녹색 경영의지의 구현에서 직속상사와 동료그룹의 강력한 지원이 업무현장에서의 호텔 고용을 위하여 필요하다는 결론을 내릴 수 있다.

주제어: 친환경태도, 가치적 사명, 규범적 사명감, 직속상사, 동료그룹