



# Environmental Management Practice and Environmental Performance: The Indirect Effect of Managers Attributes

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## ABSTRACT

Activities related to environmental management practices (EMP) have been recently discussed in the hospitality industry. With the growth of the Tourism industry around the world, the new trends of tourism direct to Responsible Tourism and Meaningful Tourism which need “everything Green,” the practice of environmental management has been introduced. However, among the environmental issues discussed in the hospitality industry, the role of managers’ attributes on environmental issues is rarely investigated. Therefore, this paper studies the role of manager attributes (MA) on the relationship between EMP and EP. A survey was administered to 350 managers from 4 and 5 star hotels, which were derived from Hotel Accommodation Booklet produced by Tourism Malaysia. The response rate was 11.7%. Partial least square was used to conduct the analysis. The study indicates that EMP has no contribution to the environmental performance, but the relationship turns significant when MA are considered as a moderator.

**Keywords:** Environmental Management Practices, Environmental Performance, Manager Attributes

**JEL Classifications:** M40, M41, M49

## 1. INTRODUCTION

Environmental management practices (hereafter called EMP) have been important issues recently debated in the hospitality industry. The hotel industry is a key sector in the hospitality industry that could fully benefit from environmental activities because their participation will enhance the reputation and image of the hotel. Environmental friendly use of resources and increased energy efficiency in the hospitality industry also impact both the environmental and financial performance of a hotel. Among the environmental issues discussed in the hospitality industry, the role of managers’ attributes on environmental issues has rarely been investigated. However, understanding the attributes of hotel managers that ensure environmentally friendly related activities are carried out properly is vital. Generally speaking, activities related to environmental best practices are understood as impacting environmental performance (EP) (hereafter called EP) and financial performance (hereafter called FP); however, the attributes of a hotel manager will affect how they act and perform

such related activities. Therefore, this paper studies the extent of EMP in the hotel industry and the role of manager attributes (MA) with respect to the relationship between EMP and EP in the hotel sector in Malaysia.

## 2. LITERATURE REVIEW

### 2.1. EMP and EP

EMP has been an issue that has recently become important in the hospitality industry. Currently, some hotel companies with a proactive environmental commitment are implementing green practices in various operational areas, such as housekeeping, laundry, food and beverage service, guest rooms, and conference and meeting facilities. Carmona-Moreno et al. (2004) stated that environmental management involves a variety of EMP that differ depending on the industry, and, in order to improve performance, each firm should practice appropriate environmental activities and strategies. ASEAN Green Hotel Standard (2016) highlighted the practice that should be implemented in the

hotel sector. There are eleven major elements that required to be implemented; environmental policy and actions for hotel operation, use of green products, collaboration with the community and local organizations, human resource development, solid waste management, energy efficiency, water efficiency and water quality, air quality management (indoor and outdoor), noise pollution control, waste water treatment and management and toxic and chemical substance disposal management. In this current study, the measurement scale of EMP was based on a literature review and included items that were used to implement EMP drawn from ASEAN Green Hotel Standard (2016).

EP is the interaction between business and the environment. The benefits of or damage to the natural surroundings brought about by the activities of firms are considered in relationship to EP. According to Burgos-Jimenez and Lorente (2001), the objective of EP should be understood as reducing the negative effects on the natural environment that the activities of the hotels initiate. Similarly, Carmona-Moreno et al. (2004) defined EP as the activities and processes that are designed to minimize the negative impacts on the natural environment that the productive activities of a company cause and how people in hotels perceive the associated impacts. Carmona-Moreno et al. (2004), in their study on the environmental strategies adopted by 268 Spanish hotels, suggest that EMP based on environmental protection activities improve EP, such as lowering risks and liabilities, reducing waste and discharge and improving the green image. Based on the above argument, therefore hypothesis 1 of the study proposed that EMP is positively related to EP. This study categorizes EP into two views: (1) Environmental impact (EIH), and (2) environmental change (ECH).

### 2.2. Managers Attributes (MA) and EP

Managers attributes refer to how managers see the importance of EMP at a firm. As Banerjee et al. (2003) highlighted that the recognition by a manager of the importance of environmental issues faced by a firm will increase the motivation of the firm to go green and also establish a level of commitment to environmental practices to improve EP. Therefore, hypothesis 2 proposed that MA is positively related to EP. Managers attributes towards EMP is based on the studies of Bohdanowicz (2006), Kasim (2009), and Sloan et al. (2004).

## 3. METHODOLOGY

This paper utilized a survey research technique to gather data. Questionnaires were administered to 4 and 5-star hotel managers. The sample of this study consists of 350 (4 and 5 stars and above) was drawn from the hotel accommodation booklet produced by the Ministry of Tourism Malaysia. Of these, only 41 were returned. In this paper, partial least square was used to examine the hypothesized relationships.

## 4. ANALYSIS AND RESULT

### 4.1. Descriptive Analysis

Table 1 exhibits the extent of EMP in the hotel sector. It shows that among major criteria that highlighted in the ASEAN Green

Hotel Standard, such as Solid waste management activities which install sensors and implement a linen towel reuse program had the highest mean value (4.15). The result also revealed that the use of green products activities such as purchase local products, use environmentally friendly detergent and also air quality management such as smoke-free policies were the most practiced in the hotel sector in order to prevent, detect and remedy environmental degradation.

Table 2 also denotes that the majority of respondents had positive opinions, indicating that the respondent’s average response agreed with the effects of MA on the relationship between EMP and EP. This result implies that the majority of the respondents’ perceptions agreed that EP significantly improved.

To examine the extent of the relationship between manager attitudes and EMP, a Pearson Correlation test was performed. Correlation of 0.499 (significant <0.01) existed, indicating a positive relationship between the two variables. Therefore, hotels whose top managers have more positive environmental attitudes implemented more environmental friendly management practices.

### 4.2. Measurement Model

The goodness of the measures for a construct is basically proven through the measurement model that is interpreted through reliability and validity. The results presented in the subsequent table for the goodness of measures reveal the relationships that exist between the indicators that measure each construct and other constructs in that model. Convergent validity was also examined, and this study achieved convergent validity because the AVE ranged from 0.506 to 0.767, which was above the minimum threshold of 0.50. Composite reliability was also attained with a range of 0.844-0.957, which exceeded the 0.70 threshold (Hair

**Table 1: The extent EMP in the Malaysian hotel sector**

Construct	Mean±SD
Solid waste management:	
Implement a linen/towel reuse	4.15±0.792
Install sensors/key card control	4.15±1.014
Recycling program	3.84±0.946
Uses reusable items	3.54±0.925
Use of green product	
Purchase local product	3.88±0.748
Environmentally friendly detergent	3.73±0.775
Energy efficiency	
High energy efficient lighting	3.71±0.873
Collaboration with the community	
Environmental policy to educate guests	3.68±0.907
Water efficiency and water quality	
Install water efficient device	3.63±1.113
Air quality management (indoor and outdoor)	
Implement smoke-free policy	3.61±1.093

EMP: Environmental management practices, SD: Standard deviation

**Table 2: Construct normality and descriptive statistics**

Construct	Mean±SD	Skewness	Kurtosis
EMP	3.372±0.569	0.531	0.741
Managers attributes	3.575±0.475	0.291	0.859
Environmental impact	3.189±0.860	-0.425	0.745
Environmental change	3.207±0.576	0.978	1.570

EMP: Environmental management practices, SD: Standard deviation

et al., 2012). EP was measured as a second order hierarchical construct based on ECH and environmental impact (EIM) and achieved the minimum requirement for validity and reliability. Next, discriminant validity was evaluated in two ways. First, using Fornell and Larcker criterion, the square roots of construct AVE were presented diagonally while the off-diagonal figures indicated the squared inter-construct correlations. These clearly revealed that all the AVEs exceeded the squared inter-construct correlations, signifying the achievement of the requirement for discriminant validity. Discriminant validity was further confirmed through ensuring that all indicators' loadings have actually more than their respective cross loadings in the model. After these examined, the results demonstrated that the reliability and validity of our constructs were satisfactorily achieved (Hair et al., 2014). The R-square of the model is statistically confirmed as being at the moderate level when the direct relationship ( $R^2 = 0.2$ ) and substantial when the model involved moderator ( $R^2 = 0.317$ ).

### 4.3. Structural Model

Following the assessment of the measurement model, the hypothesized relationship in the structural model was tested. The structural model reveals the significance of the hypothesized relationships path coefficients, and the model  $R^2$  value was assessed (Hair et al, 2014). The result of the hypothesis testing was presented in Table 3.

Table 3 shows that the hypothesis that predicted the direct relationship between EMP and EP was statistically not significant and not supported. This means that without the interaction of any moderator, EMP could not have any significant effect on EP. However, MA have a positive significant relationship to EP.

In the Model 1 below and the result in Table 4 shows that the hypothesis that predicted the moderating effect of MA in the relationship between EMP and EP was statistically proven significant and strongly supported. This means that with MA served as a moderator, EMP could have a strong significant effect on EP (EPF). Additionally, EMP and EP relationship was supported, which was however was not-supported in the Model 1 direct relationship. Model 1 displays the t-value of the paths (Figure 1).

## 5. CONCLUSION AND RECOMMENDATION

The findings of this study contribute to the study of the benefits of green practices in the hotel sector. The result of the study found that most hotels participating in the study were implementing some types of EMP. The overall mean score shows that the sampled hotels studied were involved in EMP to a fairly large extent. In terms of the relationship between manager attitudes and their perceived advantages of environmental management, as expected, top managers who had pro-environmental attitudes perceived that more advantage was derived from environmental management.

Consistent with contingency theory, this study supports that conclusion that EP will be improved by integrating the attributes of managers into the relationship. Managers attributes will

**Table 3: Hypothesis testing (Model 1 without moderator)**

Construct	Beta value	S.E	t value	P value	Decision
EMP ->EP	0.095	0.199	0.474	0.638	Not supported
MA ->EP	0.390	0.146	2.670	0.011	Supported

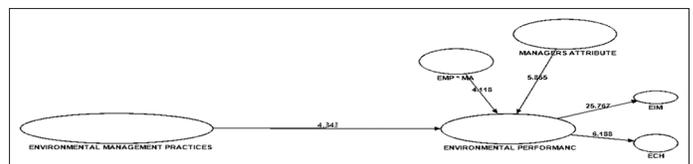
EMP: Environmental management practices, EP: Environmental performance, MA: Managers attributes, SE: Standard error

**Table 4: Hypothesis testing (Model 2 with Moderator)**

Construct	Beta value	S.E	t value	P value	Decision
EMP ->EP	1.204	0.277	4.343	0.000	Supported
MA ->EP	1.365	0.233	5.855	0.000	Supported
EMP*MA ->EP	-1.852	0.449	4.118	0.000	Supported

EMP: Environmental management practices, EP: Environmental performance, MA: Managers attributes, SE: Standard error

**Figure 1: Model 1 - with moderator**



moderate the relationship between EMP and EP, particularly when considering the environmental impacts and ECH. This study is consistent with the studies of Park et al. (2012), Banerjee et al. (2003), Bohdanowicz (2006) and Kasim (2009). Some EMP such as recycling programs and sensor installing are a fundamental part of hotel environmental management. The support of local governments in cooperation with hotels and local recycling firms can play a significant role in promoting recycling and waste management because existing system and infrastructure, such as recycling centers, organic waste collection service, and composting facilities, are integral of and prerequisite to encouraging hotel companies to participate in such practices.

Further, in order to improve hotel performance, hotel companies need to incorporate environmental management education and training systems into their organizations. Hence, this study recommends that the hotel sector in Malaysia becomes more sensitive to the natural environment and consider ongoing environmental education to keep hotel managers alert to environmental issues. This study suggested that hotels appoint a manager or a team to be responsible for environmental management initiatives and incorporate environmental management into their corporate strategic agendas. Attitudes of the managers also were also correlated with EMP. Considering that hotel top managers are the ones who have authority in decision making, hotel management must understand mechanisms that can help in responding to environmental issues.

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