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ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) IN HOTEL INDUSTRY: GOVERNMENT INCENTIVES & CUSTOMER DEMAND

Noor Rohin Awalludin[1]*, Norhani Aripin[2]
[1]Faculty of Business, Accounting & Social Sciences, Universiti Poly-Tech Malaysia
[2]Tunku Puteri Intan Safinaz School of Accountancy, Universiti Utara Malaysia
Corresponding author: n_rohin@kuptm.edu.my

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ABSTRACT

The tourism industry in Malaysia has been a significant contributor to pollution, necessitating the implementation of environmental management systems (EMS) to mitigate the impacts of environmental degradation. The aim of this study was to explore the influence of government incentives and customer demand on the adoption of EMS in Malaysian hotels. The research was based on questionnaires collected from 4- and 5-star hotels in the Central Region of Malaysia, and the data were analyzed using Least Squares Partial Structural Equation Modeling. Contrary to expectations, the study found that neither government incentives nor customer demand affected EMS adoption. However, the size of the hotel was found to be a significant factor affecting the adoption of EMS. This study contributes to the literature on motivational factors and EMS adoption in emerging markets such as Malaysia and highlights the importance of considering hotel size when designing policies to promote EMS adoption.

Keywords: *Environment Management System (EMS), Government Incentives, Customer demand, Motivational Factors, Hotel)*

1. INTRODUCTION

Environmental concerns have recently become a global issue (Pham et al., 2019; Masri & Jaaron, 2017) due to either internal (business) or external (regulatory) reasons (Psomas et al., 2011). Rising industrial activity is also causing major environmental problems, including global warming, waste degradation, greenhouse gas emissions, and depletion of the ozone layer (Shukla et al., 2009).

Several industries contribute to environmental pollution in Malaysia, including agriculture, manufacturing, and tourism. However, pollution from the agricultural sector, particularly natural rubber and palm oil, has decreased in recent years. Domestic wastewater and animal waste are currently the main sources of organic pollution in the water environment (Abdullah, 1995). The pollution caused by the manufacturing industry affects air, land, rivers, and seawater, with waste usually discharged into rivers and the sea. Importantly, the tourism industry is dependent on the environment (Mensah, 2006). The hotel sector is closely linked to the tourism and commercial industries, as it provides temporary accommodation for tourists. However, improving the hotel sector is a major contributor to environmental pollution (Hanafiah et al., 2013). This is because the hotel industry uses vast amounts of water, electricity, and sustainable goods (Robinot & Giannelloni, 2010) and utilizes natural resources as inputs for goods and services (Chan & Hsu, 2016). It has been demonstrated that the use of an EMS will successfully reduce, if not mitigate, environmental risks (Ho et al., 2018).

Previous studies and literature on the relationship of EMS with motivational in Malaysian hotels are widely implemented in hotels located in areas, districts, or states known for their environmental care. These include resorts and hotels in Langkawi, Penang, Sabah, and Sarawak, which are famous for their green, less polluted environments, while developing and emerging regions have received limited research. Therefore, this study attempts to fill the gap in this area by investigating EMS practices in developing and developed areas, namely the central region of Malaysia.

2. LITERATURE REVIEW

EMS is a management strategy for addressing the environmental aspects of a business by regulating the impact of its activities, products, and services on the natural environment (Chan, 2007). Similarly, the British Standards Institute (BSI) defines EMS as an organization's organizational structure, responsibilities, practices, and resources. It is for determining and adopting an environmental policy that can enhance the organizational learning of a hotel organization (Kassim, 2019).. The adoption of EMS by hotel management is to improve waste management, water conservation and energy conservation (Ashraf, 2011). Among the many measures that can improve the environment are reducing tree felling during construction, introducing dual-purpose toilets, posting notices to encourage guests to conserve water, and installing motion sensors in public and community areas (Abdul Khalid et al., 2011). Costanza and Patten (1995) proposed that any system should have a timeframe to achieve its goal, but that the concept of sustainability should be maintained indefinitely because there is no timeframe once it is achieved. According to Solow (1991); Costanza and Patten (1995), sustainability is assumed to be achieved if the system reaches its normal maximum life cycle, implying that resource consumption and waste have been optimized. Mensah (2006) highlighted that tourism is one of the key industries that rely heavily on the environment. This is because the hotel sector is often associated with sources of environmental pollution. Therefore, adopting the international environmental management system standard is considered an effective means of mitigating environmental risks for hotels (Ho et al., 2018).

Nevertheless, various factors affect the adoption of EMS in Malaysian hotels (Abdul Khalid et al., 2010; Samdin et al., 2012; Ho et al., 2018; Deraman et al., 2017), that includes company policy, government legislation and incentives, preparation, formalization, top management support, and the expectation of reduced costs (Samdin et al., 2012). Deraman et al. (2017) identified the effects of costs, customers, and employee support on the adoption of EMS in hotels; consumer support was the most influential factor. The study uses factors such as government incentives and customer demand as variables. However, the study positions a moderator, the size of the difference between the factors and the EMS, to determine the effect on the relationship. Notably, small or medium-sized hotels may face high environmental management costs because small companies typically lack a team and expertise in EMS. They need to hire external experts to provide training and instruction on implementing the EMS, which is expensive. This is also similar for consumers in small and medium hotels.

Yusof and Jamaludin (2014), in their study employing a qualitative approach with in-depth interviews, found that EMS in Malaysia faces only a few barriers to becoming environmentally friendly. This is because they have good support from their parent company and guests, little uncertainty, and adequate environmental resources. According to the quantitative method study conducted by KamarulAriffin et al. (2013), they found that of the five barriers, regulation/government, customer demand, level of competition, greenness at the organizational level, and attitude at the organizational level towards change, only greenness at the organizational level was discovered to have partially supported EMS practices. Samdin et al. (2012) found that incentives and knowledge significantly influence EMS practices among hotels in Malaysia, whereas training, regulation, cost reduction, top management, and formalization do not. In reference to these prior studies, the findings reveal several motivational factors that influence EMS implementation in hotel management.

In another study, Fuentes-Moraleda et al. (2019) investigated consumers' propensity to pay a premium to stay at small hotels with an EMS. Economic concerns and the manager's or owner's ethical standards motivate small hotels to implement an EMS, according to the study. Indeed, visitors' and travelers' environmental consciousness can affect their propensity to pay more for environmentally certified products. Given the cost of certification and limited awareness among hotel owners, the number of hotels with environmental certification remains low. Regarding customer demand, Fuentes-Moraleda et al. (2019) found that 50% of client hotels would be willing to pay more to stay at a hotel with an environmental management system.

This study uses hotel size as a moderator variable that strongly moderates the relationship between the independent and dependent variables. The presence of the moderating variable modifies the original relationship between the independent and the dependent variables (Sekaran & Bougie, 2009). Although previous studies in Malaysia have examined the relationship between motivational factors and an EMS, such research remains limited (Abdul Khalid et al., 2011). Therefore, this study further discusses the moderating effect of hotel size on the relationship between motivational factors and EMS among Malaysian hotels. As suggested by Baron and Kenny (1986), a moderator strengthens the relationship between independent and dependent variables since it is a contingent construct (Sekaran, 2003). Based on previous studies, government incentives and customer demand are considered important motivational factors influencing EMS adoption in hotels. However, findings remain inconsistent across different contexts. In addition, hotel size may influence hotels' ability to respond to these motivational factors, as larger hotels generally have greater financial and managerial capacity. Therefore, this study examines both the direct relationship between motivational factors and EMS adoption and the moderating role of hotel size.

3. METHODOLOGY

This study employed a quantitative research design to examine the effect of motivational factors, specifically government incentives and customer demand, on the adoption of EMS among Malaysian hotels. Hotel size was introduced as a moderating variable to assess its influence on the relationship between motivational factors and EMS adoption. A self-administered questionnaire was developed and distributed via Google Forms to 86 four- and five-star hotels in the Central Region of Malaysia (Kuala Lumpur, Selangor, and Putrajaya). The questionnaire items were adapted from previous studies, including Coban et al. (2017), Yusof and Jamaludin (2014), Kamarul Ariffin et al. (2013), Samdin et al. (2012), Abdul Khalid et al. (2011), and Ustad (2010).

The questionnaire developed for this research was divided into five sections. Section A required a company profile, and it comprised eleven (11) questions. Section B comprised eleven (12) questions. Section C comprised ten (10) questions that required the respondents to indicate the motivational factors that encourage them to implement an environmental management system. Section D comprised ten (10) questions that required the respondents to indicate the barrier factors to implement an environmental management system. Section E required the respondents to answer on a nominal scale 'Yes' ot 'No'. The questions in this study were presented on a five-point Likert Scale.

Partial Least Squares Structural Equation Modeling (PLS-SEM) is used to assess the reliability and validity of the data collected. The two main criteria for assessing the PLS-SEM measurement model are reliability and validity (Hulland, 1999; Ramayah et al., 2011; Hair et al., 2017). In the measurement model, the individual EMS or reliability indicators were assessed. Composite reliability for the collected data was measured to assess the consistency of the elements used in this study's research design, while data validity was assessed based on two criteria: convergent and discriminant validity.

4. ANALYSIS

A total of 86 online questionnaires were distributed to 4-star and 5-star hotels in the central region of Malaysia, yielding 56 usable responses (See Table 1). The hotels selected in this study are located in the Central Region (Selangor, Kuala Lumpur, and Putrajaya), where questionnaires were distributed to the respondents via email. The demographic characteristics of the respondents are presented in Table 1. The results show that 78.6% of the respondents are in the business hotel category, while there are 3.6%, 8.9% and 8.9% from resorts, heritage hotels and boutique hotels, respectively. Two-thirds (62.5%) of the sample are medium-sized hotels where 67.9% are mid-range hotels and 30.4% are luxury hotels (57.1% are 4-star hotels and 42.9% are 5-star accommodation).

Table 1
Demographic Profile of the Respondents in the Central Region

Demographic Profile	n	%
Hotel Category		
Resort	2	3.6
Business Hotel	44	78.6
Heritage Hotel	5	8.9
Boutique Hotel	5	8.9
Total	56	
Hotel Classification		
Medium	35	62.5
Large	21	37.5
Total	56	
Hotel Description		
Luxury	17	30.4
Mid-Range	38	67.9
Others	1	1.7
Total	56	
Hotel Rating		
4-Star	32	57.1
5-Star	24	42.9
Total	56	
Hotel Location		
City Centre	41	73.2
Commercial Centre	12	21.4
Tourist Resort	1	1.8
Other	2	3.6
Total	56	
Years in Operation		
5 years or less	5	8.9
6 to 10 years	15	26.8
11 to 15 years	17	30.4
More than 15 years	19	33.9
Total	56	
Number of guestrooms		
101 – 300 rooms	31	55.4
> 300 rooms	25	44.6
Total	56	

As predicted, the size of hotels does moderate the relationship between motivational factors and environmental management systems. Based on the original simple value, the moderating effects of motivational factors are positive, with a value of 0.574. Thus, hotel size moderates the relationship between motivational factors and the adoption of an environmental management system. The structural model results indicate that motivational factors did not have a statistically significant direct effect on EMS adoption ($\beta = 0.061$, $t = 0.604$, $p = 0.548$). However, hotel size significantly moderated the relationship

between motivational factors and EMS adoption (β = 0.574, t = 6.310, p = 0.000), indicating that hotel size strengthens this relationship.

Table 2
Hypotheses Results Using Path Coefficient

Hypotheses No	Path	Original Sample (O)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
1	Motivational Factors -> Environmental Management System	0.061	0.102	0.604	0.548	Insignificant
2	Moderating Effect: Motivational Factors -> Environmental Management System	0.574	0.091	6.310	0.000	Significant

5. DISCUSSION

This study documented a positive relationship between motivational factors and the environmental management system in Malaysian hotels. Meanwhile, the statistical results showed a positive but insignificant relationship between the two variables, with a significance level of 0.548 (O = 0.061, T-statistic = 0.604 < 1.96, P = 0.548 > 0.05). With this result, H1 was not empirically supported, suggesting that some of the factors affecting environmental practices clarified a collective 6 percent variation in motivation.

This suggests that government incentives and customer demand alone may not be sufficient to directly influence EMS adoption in the sampled hotels. This finding differs from Samdin et al. (2012), who reported a significant relationship between incentives and EMS practices. The study also found that hotel size significantly moderates the relationship between motivational factors and EMS adoption. The positive and significant moderating effect indicates that larger hotels are more likely to respond to motivational factors when adopting EMS than medium-sized hotels. This may be due to greater financial resources, stronger managerial capability, and better access to environmental knowledge in larger hotels. In line with this study was a 2002 study by Rivera in Costa Rica, which found that government regulation was one of the main reasons hotels adopted an environmental management system. Yusof and Jamaludin (2014) and Abdul Khalid et al. (2010) found that government regulations could motivate hotels to adopt environmental management practices. Another study by Ann et al. (2006) in Malaysia found that hotels were encouraged to adopt EMS due to the contrasting government subsidies and incentives provided. Moreover, the government offered additional resources and support to hotels to implement EMS in their operations, making government regulation one of the key drivers of EMS adoption in the hotel industry (Chan & Wong, 2006).

The study also found that hotel size significantly moderates the relationship between motivational factors and EMS adoption. The positive and significant moderating effect indicates that larger hotels are more likely to respond to motivational factors when adopting EMS than medium-sized hotels. This may be due to greater financial resources, stronger managerial capability, and better access to environmental knowledge in larger hotels. The results showed a positive and significant moderating effect of hotel size on the relationship between motivational factors and EMS at the level of significance of 0.000 (β = 0.574, T statistics = 6.310 < 1.96, P = 0.000 > 0.05), indicating that H2 was supported.

The recorded positive and significant moderating impact of hotel size on the motivational–EMS relationship may be attributed to its influence on motivational factors in the adoption of EMS in hotels.

6. CONCLUSIONS

The tourism and accommodation industry is a major player in the international economy, and several of its trade institutions have emphasized its role in advancing the Sustainable Development Goals. An EMS is a problem-solving tool that should be practiced by staff during regular organizational activities. While the hotel industry is strongly affected by environmental concerns, air pollution and waste disposal in Malaysia negatively impact the environment. Therefore, this study was conducted to examine the relationship between motivational factors and the adoption of an EMS among

Malaysian hotels. The moderating effects of hotel size on the aforementioned direct relationship were also examined in the context of Malaysia's hotel industry. The study sample comprised hotels located in the Central Region, Selangor, Kuala Lumpur, and Putrajaya. The questionnaires were distributed to the hotels located in all three states. The findings of this study outlined the factors affecting the EMS adoption in Malaysian hotels. Notably, the most affected motivational factors are government incentives, followed by customer demand.

The limitation was present in the examination of four and five-star hotels. Although most hotels adopting EMS were medium and large, it was not impossible for small hotels to also practice EMS in their management. Thus, future studies aim to examine small-sized hotels to obtain possible different results and findings. The study findings were expected to contribute to Malaysian hotels, the government, agencies, and the people, as they could serve as guidance for hotels to address environmental issues and improve organizational performance and people's lives.

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