

**AAMC 2019**  
**The 13th Asian Academy of Management International**  
**Conference 2019**

**ENVIRONMENTAL INDICATORS AND HOTEL RESTAURANTS**  
**PERFORMANCE**

Juliana Anak Langgat (a)\*

\*Corresponding author

(a) Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah, Jalan UMS, 88400 Kota Kinabalu, Sabah, juelanggat@ums.edu.my

*Abstract*

The need of tourism and hospitality businesses to be more environmentally friendly has led the hotels industry to open their doors to sustainable practices. Thus, the need to implement sustainability initiatives and other programme has led to hotels in Malaysia in adopting this practices to deliver quality services. The hotel restaurant business has embarked into this sustainable practice to increase hotel restaurant profitability and performance. This study is aim to investigate the environmental indicators that could influence hotel restaurant performance in Malaysia. There are 169 hotels has participated in this quantitative approach study. In order to conduct this study, a self-administrative questionnaire was used to investigate the issue. Chi-square analysis was performed to determine whether environmental indicators influence hotel restaurant performance. The findings of this study have confirmed, introduced environmental indicators in a restaurant operations could improve hotel restaurant performance by enhancing the hotel image, improve relationships with the local community and give a promotion advantage over competitors. It also grow the profitability, and enhance customer and employee satisfaction. The discussion highlights the need for the Malaysian hotel industry to move towards sustainable business operations.

2357-1330 © 2020 Published by European Publisher.

**Keywords:** Sustainability indicators, sustainable practices, hotel restaurant, sustainability performance, hotel.



## **1. Introduction**

To easily determine what the role of the hospitality industry is and how it should function is challenging to say the least. The challenges facing this industry are not only due to its size and diverse activities but also towards its responsibilities and obligations to our society. The hospitality industry cannot be excluded from the need to implement sustainability practices due to its enormous year-round operational impacts. Also, limited progress in developing sustainability practices has caught the attention of researchers hoping to report substantial findings regarding environmental management in the industry of hospitality. Academic research in the area of sustainability hospitality is limited (Chung & Parker, 2010). There are only 123 research studies that have conducted on sustainability practices among hotel and restaurant business (Kim et al., 2017).

Notwithstanding, it can be seen that the hospitality industry has, in fact, made some effort by making several improvements towards implementing sustainability practices (Leonidou et al., 2013; Peiro-Signes et al., 2014). However, according to Hegarty (1992), the current efforts, when compared to several decades previously, are not where the industry should be today. According to the Global Reporting Initiative (Leon, 2017), there are 46,000 businesses globally, of which the majority are publicly listed companies, regularly reporting on sustainability practices and performance. Indeed, this indicates that the issues surrounding sustainability have quickly caught the attention and interest of the global business community (Molina-Azorin et al., 2015). Notably, this is seen as growing business trend compared to prior years where companies were urged instead, to maximize their profitability and earnings by stakeholders. Concerns about the environment issues have undoubtedly influenced stakeholders' perception of the way hotels should now operate (Kasim & Ismail, 2012).

### **1.1. Environmental Education**

In order to measure environmental performance, environmental education programme need to be introduced as one of the important indicators (Erdogan & Tosun, 2009). The engagement of hotel guests and employees in the context of restaurant operations would also be a useful indicator in assessing how well the practices have been implemented and are performing. Indeed, it is found in the sustainability literature that the participation of hotel employees has positively influenced most of the successes associated with hotel restaurant sustainability practices (Chan et al., 2014).

### **1.2. Supports for Host Community**

In fact, hotels can offer incentives to the local community to engage in sustainability and green practices (Mensah & Blankson, 2013), and even develop a joint environmental plan to improve community welfare through adopting environmental programme (Lee & Park, 2009); for example, purchasing produce and other consumable products from local businesses for hotel and restaurant use.

### **1.3. Conservation Projects and Waste Management**

Importantly, sustainability performance can also be achieved through conservation certifications. Conservation projects could be identified and executed to explore minimising operations cost, managing waste, recycling and conservation of energy and water (Mensah & Blankson, 2013). Most hotel

organisations globally are now adopting certification and accreditation systems for example ISO 1400, ISO 14004, which are adapted as a mean to attain efficiency in resource use and cost saving operations. It is also being implemented to encourage staff participation and inculcate awareness among hotel guest which in turn would reflect in the international rating within hotel and tourism industry.

## **2. Problem Statement**

Restaurants in hotels have been found to play an important part in generating profit and react appropriately in meeting customer expectations (Ashton et al., 2010). Furthermore, hotel restaurants can offer a competitive advantage in meeting the needs and desires of hotel guests that result in increased revenue earned for the hotel and in some event, increasing the number of customers staying at the hotel (Rutherford, 2002). Since 1999, the hotel restaurants have been studied by many researchers (e.g., Kimes, 1999; Liu & Jang, 2009; Weiss et al., 2005) with much of the research focused on customer satisfaction regarding service quality and revenue management. Additionally, hotel managers have attempted to understand customer expectations to efficiently cater to their needs, wants and desires by offering excellent service quality.

The growth of tourism in Malaysia was no different from other places around the world, and this is believed to have helped increase the number of hotel rooms and restaurant occupancy. Malaysia recorded an increment in tourist arrivals since 2015 and it is predicted that there will be continuous growth in the coming years. Therefore, the sustainability impacts resulting from these two departments should be continuously monitored and measured. Further, due to the impacts resulting from hotel food and beverage departments (Kasim, 2007), it is timely for hotels to consider adopting sustainability practices, especially in the restaurant operation. Currently, it is evident that there are poor environmental practices implemented in restaurant operations (Nicholls & Kang, 2012). Indeed, this information is unsurprising as Kamalulariffin (2013) suggested that sustainability practices in Malaysia are still 'blurred' and indeed 'rare', and it is assumed that this issue has not yet become a focal point for many hotel operators. Therefore, the Malaysian hotels could make a significant contribution by adopting sustainable practices throughout the industry to reduce the operational consumption of solid waste, energy and resources (Hu et al., 2010).

Nicholls and Kang (2012) reported that hotels adopting sustainability practices in their operation achieved optimum performance. For instance, adopting sustainability practices enhanced hotel image and stimulate engagement with the local community, provided a marketing advantage compare to their competitors, increase bottom lines, and improved customer and employee satisfaction. Therefore, the adoption of sustainability practices in hotel restaurants could help to improve the attitude of customers regarding the hotel's operations by enhancing the image of the hotel, thereby contributing to increased customer revisit intentions and loyalty (McDonald & Rundle-Thiele, 2008).

## **3. Research Questions**

The main reason for this study to be conducted is to investigate to what extent environmental indicators will influence hotel restaurants performance in Malaysia. Therefore, the following two research questions have been developed for this study:

**3.1. To what extent environmental indicators will influence the hotel restaurants performances in Malaysia?**

**3.2. What are the performances received by Malaysian hotel restaurants in adopting environmental indicators?**

## **4. Purpose of the Study**

This study is to explore the Malaysian hotel managers' agreement on environmental indicators could influence the hotel restaurants performance. Therefore, the main objective of this study was measured with the environmental indicators where the construct included environmental education programme, giving a support to the host community, conducting conservation projects and waste management activities. These indicators were adapted from Mensah and Blankson (2013) and predicted could improves organizational and operational performance.

## **5. Research Methods**

The current research only focused on the 3-5 star rated hotels across Malaysia because this sample frame is able to achieve the aims of the present study by exploring the performances of hotels that adopt the sustainability indicators in restaurant operations. A convenience sampling method was used to establish the targeted population whereby the respondents have to meet the predetermined criteria in order to justify the research objectives (Guest et al., 2006) as well as the ability to provide reliable answers to each of the research questions. Therefore, the hotel managers of 3-5 star rated hotels were identified to be able to provide the necessary information about the issues of sustainability indicators.

The data collection for this study was designed using survey questionnaire through a self-administered approach. The hotels were approached through email to the manager's secretary and the human resource department. Prior to provide an answer to the survey, the targeted respondents were briefed on the confidentiality and anonymity matter through the information sheet that was attached with the questionnaire. The instrument used was adapted from Mensah and Blankson (2013) where it includes the variables such as environmental education programme, giving a support to the host community, conducting conservation project and waste management activities. The variables were measured and tested using five point Likert scales to identify the level of agreement of sustainability indicators as a mean to influence organization performance. The scales were ranged from one (1) with 'strongly disagree' up to five (5) with 'strongly agree'. There are 169 of 3-5 star rated hotel properties has participated in this exploratory study. The questionnaires were keyed and analysed using a software from IBM Statistical Package for Social Sciences (SPSS) version 25.

## **6. Findings**

### **6.1 Environmental Education**

As is acknowledged by Yusof and Jamaludin (2013), Malaysia only started to introduce environmental practices in 1997, emphasizing three main areas: energy and water savings and waste. Notably, the slow effort and uptake by hotels to implement sustainability practices (Siti-Nabiha et al., 2011)

reflect the extent of knowledge and awareness of eco-friendly practices in Malaysia. Therefore, environmental education needs to be a key priority in order to educate and increase the level of awareness among consumers, stakeholders and society. The study result was analysed using cross-tabulation analysis to explore the significant relationships between sustainability indicators and restaurant performance. The results of this study are presented in Table 01 below. Overall, the results have revealed significant findings of this study.

**Table 01.** Environmental Indicators

Item	Value	df	Chi-square (Sig.)
<b>Environmental Education</b>			
Guests' education on eco-friendly practices.	15.563	4	.004
Employee educations on eco-friendly practices.	13.863	4	.008
Guests' information towards hotel's environmental activities.	18.193	3	.000
Public areas non-smoking enforcement.	12.516	4	.014
Providing accurate information to guests.	20.289	4	.000
Usage of zone-friendly detergents and equipment.	13.599	4	.009
Sanitation and food safety measurements.	12.370	4	.015
Usage of recycled paper to produce brochures and promotion material.	9.751	4	.045
Reducing environmental impacts through modified operations.	16.534	4	.001
<b>Support for Host Community</b>			
Recruiting employee from local community.	6.618	4	.158
Using local materials for the operations.	10.201	3	.017
Highlighting local traditional culture.	21.206	3	.000
Buying raw materials from local sources.	15.338	3	.002
<b>Conservation Projects</b>			
Using energy-efficient equipment and products.	15.308	4	.004
Installation of water-efficient devices and equipment.	15.172	3	.002
Description of environmental standard for suppliers.	19.312	4	.001
Buying eco-friendly materials and detergents.	16.285	3	.001
Purchase in bulk.	9.844	3	.020
<b>Waste Management</b>			
Waste composting activities.	16.814	3	.001
Introducing recycling program.	12.039	4	.017
Categorisation of waste into paper, glass and plastic.	12.805	4	.012
Use back the material from papers, cans, bottles and plastic.	10.471	3	.015

From the table above, guests' education on eco-friendly practices, the Pearson chi-square value is 15.563 with an associated significance level of  $p < .005$ . In this case, the value of  $p < .005$  is smaller than the alpha value of .05, so we can conclude that guests' education especially on eco-friendly practices influences on overall restaurant performance. Besides that, employee education on eco-friendly practices also shows the Pearson chi-square value of 13.863 with an associated significance level of  $p < .05$ . The

result indicates that employee knowledge on such practices also will influence the restaurant performance. Furthermore, guests' information towards the hotel's environmental activities has indicated the Pearson chi-square value of 18.193 with an associated significance level of  $p < .005$ . It shows that information received by guests about the hotel's environmental activities influence restaurant performance. Likewise, the enforcement for not smoking in the restaurant public areas has revealed the Pearson chi-square value of 12.516 with a significance value of  $p < .05$ . The result indicates that enforcing non-smoking in public areas influence restaurant performance. Also, applying sanitation and food safety measurements also significantly influences the restaurant performance with Pearson chi-square value of 12.370 and  $p < .05$ . Using recycled paper to produce brochures and promotion material was also found significantly influence the restaurant performance with Pearson chi-square value of 9.751 and  $p < .05$ . It is also revealed that modification of operations to reduce environmental impacts also found significantly influence the restaurant performance with Pearson chi-square value of 9.751 and  $p < .05$ .

Interestingly, one of the findings observed from conducting the survey with the hotel managers suggested increasing customer awareness about sustainability issues in Malaysia was increasing. Some of the initiatives and effort that have already executed by some of the hotels that was found in this study included signage and programmes and activities to increase the guests' level of awareness regarding the importance of being 'green'. Clearly, environmental education is one of the practices that should be performed and championed by the hotel industry and government (Mensah & Blankson, 2013).

## **6.2 Supports for Host Community**

It is surprisingly that employing staff from the local community was found insignificant in influencing the restaurant performance with Pearson Chi-square indicates the value of 6.618 and  $p > .05$ . Meanwhile, the use of local materials was found significantly influence the restaurant performance with Pearson chi-square value of 10.201 and  $p < .05$ . Moreover, taken an initiative to promote local traditional culture was also found significant to influence the restaurant performance with Pearson chi-square value of 21.206 and  $p < .005$ . Highlighting local traditional culture is a way of practicing sustainability. Besides that, purchase from local was also found significant with Pearson chi-square value of 15.338 and  $p < .005$ .

Providing support to the local community where the hotel is located is also important to implement sustainability practices (Mensah & Blankson, 2013). Even though this study findings has revealed a contradict finding on employing local people do not influence the hotel restaurant performance but using local materials, purchasing from local suppliers and promoting local culture would help to improve the income for local community households and build relationships between industry and the community (Cvelbar & Dwyer, 2013; Mensah & Blankson, 2013; Nicholls & Kang, 2012). Therefore, one of the indicators of sustainability practices in hotel restaurant operations should be to support the local community. This not only establishes a good rapport with the local community but will also increase and improve the hotel image and reputation (Nicholls & Kang, 2012).

## **6.3 Conservation Project**

The third indicator also has revealed that participation in conservation project would influence the hotel restaurant performance. This was found that hotels that are using energy-efficient equipment and also products significantly influenced the restaurant performance with Pearson chi-square value of 15.308 and

$p < .005$ . Also, the installation of water-efficient devices as well as the equipment also found significantly influence the hotel restaurant performance with Pearson chi-square value of 15.172 and  $p < .005$ . Installation of water efficient devices and equipment has identified could save operation cost. Moreover, providing a description of environmental standards to their suppliers also found significantly influence the hotel restaurant performance with Pearson chi-square value of 19.312 and  $p < .005$ . Stakeholders' involvement will contribute to the successfulness of sustainable practices in the organisation. It is also found that the purchase of eco-friendly materials and detergents significantly influence the hotel restaurant performance with Pearson chi-square value of 16.285 and  $p < .005$ . Likewise, purchase in bulk also significantly influences the hotel restaurant performance with Pearson chi-square value of 9.844 and  $p < .05$ .

Imposing a requirement on hotel operations that compels that to undertake conservation projects could also be a means of encouraging sustainability in hotel restaurant operations. Undertaking conservation projects could help to reduce operational costs and overheads in such as; waste management, recycling, energy and water conservation as well as purchasing environmentally friendly products and supplies (Mensah & Blankson, 2013).

#### **6.4 Waste Management**

Implementing waste management in operation is one way to enhance the sustainability practices in hotel restaurant operations. This study finding has revealed that composting of waste were significantly influence the hotel restaurant performance with Pearson chi-square value of 16.814 and  $p < .005$ . Hence, implementations of the recycling program were also found to significantly influence the hotel restaurant performance with Pearson chi-square value of 12.039 and  $p < .05$ . Besides that, categorising of waste such as paper, glass and plastic accordingly were also significantly influence the hotel restaurant performance with Pearson chi-square value of 12.805 and  $p < .05$ . Moreover, reuse of papers, can bottles and plastic were also found significantly influence the hotel restaurant performance with Pearson chi-square value of 10.471 and  $p < .05$ . Several further initiatives and measures could help to drive sustainable practices in hotel restaurant operations. Efficiency practices in managing waste should be conducted, which could, accordingly, help to improve hotel performance in the area of sustainability (Mensah and Blankson, 2013).

#### **6.5 Hotel Restaurant Performance**

The survey analyses has also identified to what extent sustainability adoption in Malaysian hotel restaurants improves organizational and operational performance. Changing current management practices to further incorporate the concept of sustainability concept was not an easy task and a great deal of time to implement (Cvelbar & Dwyer, 2013; Kasim & Ismail, 2012). This study has revealed implementing the sustainability indicators in hotel restaurant operations would increase and enhanced the performance (Table 02).

**Table 02.** Hotel Restaurant Performance

Item	Value	df	Chi-square (Sig.)
Enhance the hotel image.	9.132	3	.028
Improve the relationships with local community.	10.288	4	.036
Promotion advantage over competitors.	11.968	3	.007
Growth in profitability.	16.145	3	.001
Enhance customer satisfaction.	9.392	3	.025
Enhance employee satisfaction.	10.808	4	.029

The study finding has indicated that applying the indicators in the hotel restaurants will significantly enhance the hotel image with Pearson chi-square value of 9.132 and  $p < .05$ . Besides that, it will also significantly improve the relationships with the local community with Pearson chi-square value of 10.288 and  $p < .05$ . Moreover, implementing the sustainability indicators in hotel restaurant operations will significantly give a marketing advantage over the hotel competitors with Pearson chi-square value of 11.968 and  $p < .05$ . Apart from that, the study finding has confirmed executing the sustainability indicators will significantly increase the hotel restaurant profitability with Pearson chi-square value of 16.145 and  $p < .005$ . It was also found that this study finding has disclosed the sustainability indicators will significantly increase the customer satisfaction with Pearson chi-square value of 9.392 and  $p < .05$  and also increase the employee satisfaction with Pearson chi-square value of 10.808 and  $p < .05$ .

Hence, adopting environmental indicators would offer greater performance to the hotels when changing direction. Implementing this indicators in hotel restaurants would has a positive association with the overall performance of the hotel (e.g. Fraj et al., 2015; Leonidou et al., 2013; Leonidou et al., 2015; Molina-Azorin et al., 2015; Nicholls & Kang, 2012).

## 7. Conclusion

This exploratory finding of the sustainability practices in hotel restaurants reveals that the sustainability indicators could influence the hotel restaurant performances. Adopting sustainability indicators in hotel restaurant operations will enhance the hotel image and reputation, improve the relationships especially with the local community, give promotion advantage over their competitors, growth in profitability, enhance customer and employee satisfaction. More importantly, imparting the environment indicators in hotel restaurant operations will encourage customers who are really concerned and care for the environment to come and visit. Further research should emphasised on the hotel guest acceptance on the environmental practices in hotel restaurant operations. The practice and concept of sustainability should be the primary focus of the Malaysian hotel industry. The dramatic expansion of this industry has recently demonstrated the urgency of the industry to respond to this issue. Implementing environmental indicators in hotel restaurants could be one of the options to assist in this area and increase overall hotel organisational and operational performance.

## References

- Ashton, A. S., Scott, N., Solnet, D., & Breakey, N. (2010). Hotel restaurant dining: The relationship between perceived value and intention to purchase. *Tourism and Hospitality Research*, 10(3), 206-218.

- Chan, E. S., Hon, A. H., Chan, W., & Okumus, F. (2014). What drives employees' intentions to implement green practices in hotels? The role of knowledge, awareness, concern and ecological behaviour. *International Journal of Hospitality Management*, 40, 20-28.
- Chung, L. H., & Parker, L. D. (2010). Managing social and environmental action and accountability in the hospitality industry: A Singapore perspective. *Accounting Forum*, 34(1), 46-53.
- Cvelbar, L. K., & Dwyer, L. (2013). An importance–performance analysis of sustainability factors for long-term strategy planning in Slovenian hotels. *Journal of Sustainable Tourism*, 21(3), 487-504.
- Erdogan, N., & Tosun, C. (2009). Environmental performance of tourism accommodations in the protected areas: Case of Goreme Historical National Park. *International Journal of Hospitality Management*, 28(3), 406-414.
- Fraj, E., Matute, J., & Melero, I. (2015). Environmental strategies and organisational competitiveness in the hotel industry: The role of learning and innovation as determinants of environmental success. *Tourism Management*, 46, 30-42.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field methods*, 18(1), 59-82.
- Hegarty, J. A. (1992). Towards establishing a new paradigm for tourism and hospitality development. *International Journal of Hospitality Management*, 11(4), 309-317.
- Hu, H. H., Parsa, H. G., & Self, J. (2010). The dynamics of green restaurant patronage. *Cornell Hospitality Quarterly*, 51(3), 344-362.
- Kamalulariffin, N. S. (2013). *Adoption of Environmental Management Practices (EMPs) in the Malaysian Hotel Industry: An Investigation on EMPs Drivers and Market Performance Outcomes* (Doctoral Dissertation) Universiti Sains Malaysia.
- Kasim, A. (2007). Corporate environmentalism in the hotel sector: Evidence of drivers and barriers in Penang, Malaysia. *Journal of Sustainable Tourism*, 15(6), 680-699.
- Kasim, A., & Ismail, A. (2012). Environmentally friendly practices among restaurants: drivers and barriers to change. *Journal of Sustainable Tourism*, 20(4), 551-570.
- Kim, S. H., Lee, K., & Fairhurst, A. (2017). The review of “green” research in hospitality, 2000-2014: Current trends and future research directions. *International Journal of Contemporary Hospitality Management*, 29(1), 226-247.
- Kimes, S. E. (1999). Implementing restaurant revenue management: A five-step approach. *The Cornell Hotel and Restaurant Administration Quarterly*, 40(3), 16-1.
- Lee, S., & Park, S. Y. (2009). Do socially responsible activities help hotels and casinos achieve their financial goals?. *International Journal of Hospitality Management*, 28(1), 105-112.
- Leon, A. (2017). Annual Report 2017. Global Reporting Initiative (GRI).
- Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., & Aykol, B. (2015). Dynamic capabilities driving an eco-based advantage and performance in global hotel chains: The moderating effect of international strategy. *Tourism Management*, 50, 268-280.
- Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., & Zeriti, A. (2013). Resources and capabilities as drivers of hotel environmental marketing strategy: Implications for competitive advantage and performance. *Tourism Management*, 35, 94-110.
- Liu, Y., & Jang, S. S. (2009). Perceptions of Chinese restaurants in the US: what affects customer satisfaction and behavioral intentions?. *International Journal of Hospitality Management*, 28(3), 338-348.
- McDonald, L. M., & Rundle-Thiele, S. (2008). Corporate social responsibility and bank customer satisfaction: a research agenda. *International Journal of Bank Marketing*, 26(3), 170-182.
- Mensah, I., & Blankson, E. J. (2013). Determinants of hotels' environmental performance: Evidence from the hotel industry in Accra, Ghana. *Journal of Sustainable Tourism*, 21(8), 1212-1231.
- Molina-Azorin, J. F., Tari, J. J., Pereira-Moliner, J., López-Gamero, M. D., & Pertusa-Ortega, E. M. (2015). The effects of quality and environmental management on competitive advantage: A mixed methods study in the hotel industry. *Tourism Management*, 50, 41-54.
- Nicholls, S., & Kang, S. (2012). Green initiatives in the lodging sector: Are properties putting their principles into practice?. *International Journal of Hospitality Management*, 31(2), 609-611.

- Peiro-Signes, A., Segarra-Oña, M. D. V., Verma, R., Mondéjar-Jiménez, J., & Vargas-Vargas, M. (2014). The impact of environmental certification on hotel guest ratings. *Cornell Hospitality Quarterly*, 55(1), 40-51.
- Rutherford, D. G. (2002). *Hotel Management and Operations* (3rd ed.). John Wiley and Sons.
- Siti-Nabiha, A. K., George, R. A., Wahid, N. A., Amran, A., Abustan, I., & Mahadi, R. (2011). A field survey of environmental initiatives at selected resorts in Malaysia. *World Applied Sciences Journal*, 12(1), 56-63.
- Weiss, R., Feinstein, A. H., & Dalbor, M. (2005). Customer satisfaction of theme restaurant attributes and their influence on return intent. *Journal of Foodservice Business Research*, 7(1), 23-41.
- Yusof, Z. B., & Jamaludin, M. (2013). Green approaches of Malaysian green hotels and resorts. *Procedia-Social and Behavioral Sciences*, 85, 421-431.