

# Green Kopitiam: Operators' Awareness and Readiness

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## Abstract

**Purpose:** Operator awareness and readiness are critical to ensure the sustainability of the ecosystem, so this study investigates the awareness and readiness of kopitiam operators to implement green practices in their operations.

**Design/methodology/approach:** A quantitative approach was utilised for this study. In total, 149 kopitiam operators in Kota Kinabalu city has participated in this study via a self-administered survey. The items were measured using a five-point Likert scale (*1 = strongly disagree to 5 = strongly agree*). The gathered data were analysed using cross-tabulation analysis to investigate the kopitiam operators' awareness of, and readiness to, implement green practices.

**Findings:** This study identified two significant findings relating to the awareness and readiness of kopitiam operators to implement green practices at their coffee shops. First, the kopitiam operators are aware of the importance of green practices, eco-friendly cleaning supplies and packaging, and menu sustainability. Surprisingly, installing energy- and water-efficient equipment in their premises seems not to be the main priority when implementing green practices, since high operational costs would be involved. The second finding concerns the readiness to participate in green practices.

**Research limitations/implications:** The kopitiam operators' awareness was measured by assessing the importance of green practices, the installation of energy- and water-efficient equipment, the use of eco-friendly cleaning supplies and packaging, as well as offering a sustainable menu. The kopitiam operators' readiness was measured through their participation in green practices. Further studies should investigate the awareness and readiness of kopitiam operators located in the other main cities of Sabah.

**Practical implications:** The city council and restaurant association can use these findings to promote green practices to the other business operators involved in the food and beverages sector. Kota Kinabalu City Council (DBKK) could develop proper guidelines and procedures to implement these practices to achieve the intention of promoting the city as a green city.

**Originality/value:** Kopitiam play an essential role in providing food and drinks for tourists who want to experience the local destinations. Therefore, this study could derive a more holistic strategy that promotes Sabah as a major eco-tourism destination in Malaysia.

**Keywords:** Kopitiam, Green Practices, Awareness, Readiness, Operators

### **Introduction**

The environment is an essential resource for the tourism and hospitality sector, although this sector also has significant environmental impacts (Leonidou et al., 2013; Peiro-Signes et al., 2014). The expansion of the hospitality industry, especially the restaurant industry, has had a significant impact on environmental degradation (Wang et al., 2013; Kasim, 2009). Restaurant operations could lead to global warming, high energy consumption and the usage of large quantities of ingredients that can contribute to food wastage (Asadi et al., 2020). According to Burke (2007), an action that restaurant entrepreneurs must perform is to embark on sustainable operational practices. Therefore, restaurant operators play a crucial role in ensuring environmental sustainability (Peattie, 1992; Nicholls and Kang, 2012).

Moving towards sustainable practices has been demonstrated to reduce environmental impacts (Kasim and Ismail, 2013). Previous findings have revealed that Environmental Management System (EMS) standards or guidelines could limit the environmental impacts of restaurant operations (Yusof and Jamaludin, 2014). However, switching to sustainable operations is not easy. It requires research and practical strategies to ensure that it operates successfully. Apart from the need for awareness of the environmental impacts, the switch also requires operators' willingness to participate in sustainable operations. As posited by Azmi et al. (2017), the willingness to become involved in green practices can be a burdensome liability to some business operators. Lorenzini (1994, pp.119) defined green restaurants as "new or renovated structures designed, constructed, operated, and demolished in an environmentally friendly and energy-efficient manner." A green restaurant also emphasises activities and programmes such as "reduce, reuse, recycle" (Gilg et al., 2005).

Meanwhile, adopting sustainable practices in a restaurant is an innovative way to reduce the environmental impact (Krozer, 2008). However, the extent of the participation and involvement of kopitiam owners in more sustainable operations is an important factor in protecting the environment. Sustainable operations are beginning to gain attention among societies that are increasingly concerned about the ecosystem. Many businesses are starting to shift to more sustainable operations, signifying their full support for eco-friendly concepts. Increasing awareness of, and concern about, the effects on the environment has led some owners to address this issue. However, green practices guidelines for Malaysian restaurants are yet to be introduced, which is one reason for the slow adoption of green practices in the country (Langgat, 2019).

### **Literature Review**

#### ***Importance of Green Practices***

The Department of Statistics Malaysia (2017a, 2017b) has recorded 167,490 foodservice establishments, showing that this business is currently thriving compared to five years ago, when only 130,570 establishments were recorded. Evidence for this is the rise in dining out on weekdays, weekends and public holidays (Euromonitor International, 2015). The demand for dining out in a restaurant has had indirect environmental effects. By adopting green practices, kopitiam owners can indirectly reduce their impacts on the environment. This exposure to green practices will also make their suppliers and customers aware of the need to care for the ecosystem (Hu et al., 2010).

***Energy- and Water-Efficient Equipment***

Restaurant operations require very high levels of energy consumption for lighting, air conditioning, machinery and equipment. The heat and noise produced from the use of these facilities and systems significantly impact the environment (Tan et al., 2018). Furthermore, restaurants also need high volumes of water for their daily operations, such as toilets, kitchen, taps laundry and sprinkler systems. Therefore, all restaurants, especially kopitiam, need to install energy- and water-efficient equipment to minimise the environmental impacts.

***Eco-friendly Cleaning Supplies and Packaging***

It has been shown that using eco-friendly cleaning supplies and packaging could potentially reduce the environmental impacts of these products (Tan et al., 2018). Restaurants use numerous hazardous chemical products in their operations (Kasim and Ismail, 2013). The extensive use of non-environmentally friendly chemicals degrades the ecosystem. Hence, food and beverage establishments should change to eco-friendly cleaning supplies. Meanwhile, using chlorine-free paper products as takeaway packaging has been identified to potentially preserve the environment. According to Tan et al. (2018), there is a pressing need for restaurants in Malaysia to embark on the paperless concept in their operations.

***Sustainability Menu***

Establishing a supply of green ingredients and offering these on the menu would have a major effect on preserving the environment. Most restaurants in Malaysia do not intend to offer organically grown ingredients on their menu, research suggests (Tan et al., 2018). The main reasons for not using locally grown fruits and vegetables were the lack of demand from their customers and the slightly higher prices of such products. Meanwhile, many researchers have revealed that adopting green practices, for example, using locally grown ingredients, could contribute to a restaurant's environmental performance (Kang et al., 2010; Kim & Kim, 2015; Rhou et al., 2016; Theodoulidis et al., 2017).

**Research Questions**

This study aims to investigate the awareness and readiness of kopitiam operators to implement green practices in their operations. Therefore, the following research questions were developed for this study:

- a. What awareness do kopitiam operators have of implementing green practices?
- b. What is the extent of kopitiam operators' readiness to participate in green practices?

**Purpose of the Study**

The main purpose of this study is to investigate kopitiam operators' awareness of green practices and the extent to which they are ready for such practices in their coffee shops. Thus, the first objective of this study measures the importance of green practices, energy- and water-efficient equipment, as well as eco-friendly cleaning supplies and packaging. Meanwhile, the second objective focuses on the operators' awareness of green practices and their readiness to adopt such practices. This involves examining menu sustainability and participation in green practices. These variables were adopted from Hu et al. (2010) and significant findings could be derived from investigating the kopitiam operators' awareness of, and readiness for, performing green practices.

**Methods**

This study utilised a quantitative approach, whereby a purposive sampling method was used to conduct the investigation. Kota Kinabalu was known to have more tourists received compared to

other main cities in Sabah. Not only tourist but also the locals will visit Kopitiam to taste the local delicacies. Therefore, Kopitiam owners operating coffee shops in Kota Kinabalu, Sabah, were identified as the main respondents and deemed potentially able to provide reliable answers (Guest et al., 2006). In total, 656 kopitiam operators were registered with Kota Kinabalu Municipal City Council. The investigation was conducted using a survey questionnaire to identify owners' awareness and readiness to implement green practices at their coffee shops. The kopitiam operators were approached by appointment and a self-administered survey was completed within ten minutes without interrupting their business hours. Before answering the questionnaire, the operators were briefed on the purpose of the study and the confidentiality and anonymity assurances.

The instruments used in this study were adopted from Hu et al. (2010): the importance of green practices; energy- and water-efficient equipment; eco-friendly cleaning supplies and packaging; sustainability menu; and participation in green practices. The variables were measured and tested using five-point Likert scales (1 = strongly disagree to 5 = strongly agree) to identify the level of awareness of, and readiness for, implementing green practices at the various kopitiam. This investigation study collected 149 respondents, who were all kopitiam operators. The IBM Statistical Package for Social Science (SPSS) version 26 was used to analyse the responses and derive the study findings. The demographic profiles of the respondents in this study are highlighted in Table 01 below.

**Table 01: Demographic Profiles (N= 149)**

| Demographic Profiles                  |                      | Percentage |
|---------------------------------------|----------------------|------------|
| Gender                                | Male                 | 47         |
|                                       | Female               | 53         |
| Age                                   | 30 - 39 years        | 2.7        |
|                                       | 40 – 49 years        | 20.8       |
|                                       | 50 years and above   | 76.5       |
| Year Established                      | 5 years              | 6.7        |
|                                       | 10 years             | 24.2       |
|                                       | 15 years             | 64.4       |
|                                       | > More than 20 years | 4.7        |
| No. of Employees                      | 10 employees         | 93.3       |
|                                       | 15 employees         | 6.0        |
|                                       | > 20 employees       | 0.7        |
| Types of Food                         | Local                | 96.0       |
|                                       | Local and Western    | 4.0        |
| Do you know what green practices are? | Yes                  | 94.6       |
|                                       | No                   | 5.4        |

### Findings

The restaurant sector has been identified as the tourism industry's second-highest resource user and waste generator (Trung & Kumar, 2005; Alonso-Almeida; Langgat et al., 2020). Apart from the external factors that influence the adoption of green practices, it is also important to examine the awareness and readiness of the kopitiam operators (Perramon et al., 2014). The main findings of this study were analysed using cross-tabulation analysis to investigate the operators' awareness of, and readiness for, implementing green practices. The results of this study are presented and discussed in this section.

**Importance of Green Practices**

Table 02 below highlights the importance of green practices. Recycling paper, plastic, cardboard, glass and aluminium behind the kopitiam was the first item; it revealed a Pearson Chi-Square value of 18.208<sup>a</sup>, 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 it was concluded that recycling activities at kopitiam depend on the operators' awareness of the importance of taking care of the environment. Furthermore, the composting food waste item also showed a Pearson Chi-Square value of 19.405<sup>a</sup>, with an associated level of  $p < .005$ . An awareness of the need to compost food waste will contribute to minimising the environmental impacts. Some kopitiam also reported selling their composted waste to local farmers for use as fertiliser.

This sustainability chain was deemed highly practical in terms of environmental care, while also producing organic crops that are healthy to consume. Moreover, providing recycle bins in kopitiam was indicated to have a Pearson Chi-Square value of 19.112<sup>a</sup>, with an associated significance level of  $p < .005$ . This shows that kopitiam operators would like to encourage their employees and customers to preserve the environment. Likewise, using flow restrictions on taps low-flow toilets and waterless urinals was revealed to have a Pearson Chi-Square value of 15.783<sup>a</sup>, with  $p < .005$ . Using flow restrictions would reduce water usage and minimise water-related impacts on the ecosystem. It was also revealed that only serving water to the customer upon request had a Pearson Chi-Square value of 14.695<sup>a</sup>, with an associated significance level of  $p < .005$ . Some customers needed to take plain water from self-service stations provided by the kopitiam. This is a useful practice for minimising the use of detergent for washing the cups and is therefore more environmentally friendly.

**Table 02: Importance of Green Practices (N= 149)**

| Items   | Value               | df | Chi-Square (Sig.) |
|---|---------------------|----|-------------------|
| Recycle paper, plastic, cardboard, glass and aluminium behind the kopitiam. | 18.208 <sup>a</sup> | 4  | .001              |
| Conduct food waste composting activities.                                   | 19.405 <sup>a</sup> | 3  | .000              |
| Provide recycling bins in the shop.   | 19.112 <sup>a</sup> | 3  | .000              |
| Use flow restrictions on taps, low-flow toilets and waterless urinals.      | 15.783 <sup>a</sup> | 3  | .001              |
| Only serve water to customers upon request.                                 | 14.695 <sup>a</sup> | 3  | .002              |

**Energy- and Water-Efficient Equipment**

The findings on the energy- and water-efficient equipment are shown in Table 03; surprisingly, no significant findings were revealed from this variable. All the items show Pearson Chi-Square values of  $>.05$  and there was no association. No operators had installed any energy-saving and water-efficient equipment at their kopitiam, possibly due to the high costs involved in installing such devices and equipment. Besides that, this would involve some renovation, for example, using a double entrance door at their premises. A kopitiam might need to close for some time for this renovation and business would be temporarily suspended. Even though the kopitiam investigated had no energy- and water-efficient equipment, they were aware of the impacts of their operations and are performing green practices in other ways, as discussed elsewhere in this study.

**Table 03: Energy- and Water-Efficient Equipment (N= 149)**

| Items   | Value              | df | Chi-Square (Sig.) |
|---|--------------------|----|-------------------|
| Replace incandescent light bulbs with longer-lasting CFL light bulbs or LED.  | 2.873 <sup>a</sup> | 3  | .412              |
| Use motion detectors for lights in the restroom.                              | 2.047 <sup>a</sup> | 3  | .532              |
| Use a system that monitors and controls comfortable temperatures efficiently. | 6.581 <sup>a</sup> | 3  | .087              |
| Keep the entrance door closed or use a double entrance door.                  | 7.291 <sup>a</sup> | 3  | .063              |

### ***Eco-friendly Cleaning Supplies and Packaging***

The kopitiam operators' awareness of using eco-friendly cleaning supplies and packaging are presented in Table 04 below. The use of environmentally friendly cleaning products for dishes and linen had a Pearson Chi-Square value of 8.370<sup>a</sup>, with an associated significance level of  $p < .05$ . This indicates that kopitiam operators were using environmentally friendly detergents to minimise the environmental impacts. Meanwhile, environmentally friendly table and floor cleaners produced a Pearson Chi-Square value of 8.705<sup>a</sup> and  $p < .05$ . Apart from dishes and linen, kopitiam operators also used environmentally friendly detergents for their tables and floors. Moreover, the usage of biodegradable take-out containers had a Pearson Chi-Square value of 11.631<sup>a</sup> and  $p < .05$ . The use of plastic containers is no longer preferable for the operators because this harms the environment. These findings demonstrate that kopitiam operators are aware of the use of eco-friendly cleaning supplies and packaging. They are ready to move towards sustainable practices and increase their efforts to protect the environment. Excessive operational hours and the customers high turnover in kopitiam operators have made operators aware of green practices and led them to adopt such actions.

**Table 04: Eco-friendly Cleaning Supplies and Packaging (N= 149)**

| Items   | Value               | df | Chi-Square (Sig.) |
|---|---------------------|----|-------------------|
| Use of environmentally friendly cleaners for dishes and linen.  | 8.370 <sup>a</sup>  | 3  | .039              |
| Use of environmentally friendly cleaners for tables and floors. | 8.705 <sup>a</sup>  | 3  | .033              |
| Use of take-out containers that are biodegradable (paper).      | 11.631 <sup>a</sup> | 3  | .009              |

### ***Sustainability Menu***

Moving towards sustainability operations requires operators to change their current practices to more sustainable ones, such as serving a sustainable menu. Table 05 below reveals an awareness practice performed by the kopitiam operators. Offering local ingredients on the menu due to awareness had a Pearson Chi-Square value of 40.502<sup>a</sup> and  $p < .005$ . Using local ingredients is far cheaper and avoids excessive logistical movements that may impact the environment. Likewise, offering organic food on the menu because of awareness was also significant, with a Pearson Chi-Square value of 21.759<sup>a</sup> and  $p < .005$ . It is well known that organic food uses no chemical fertilizers that harm human health and the environment. Therefore, initiatives should be introduced to encourage restaurant operators to utilize organic ingredients and raise their awareness of using such foods. Meanwhile, offering fish and seafood harvested sustainably and free of harmful pollutants had a Pearson Chi-Square value of 12.936<sup>a</sup>, with an associated significance level of  $p < .05$ . Also, avoiding genetically modified

foods produced a Pearson Chi-Square value of 11.508<sup>a</sup> and  $p < .05$ . These findings illustrate that operators are aware that offering a sustainable menu is a green practice. Therefore, by taking the initiative and offering a healthy menu for their customers they are preserving environmental sustainability. In addition to maintaining environmental sustainability, owners would also become more aware of the importance of the safety and health of their customers, since most of the latter tend to be loyal patrons of their favorite kopitiam.

**Table 05:** Sustainability Menu (N= 149)

| Items  | Value               | df | Chi-Square (Sig.) |
|--|---------------------|----|-------------------|
| Offer local ingredients on the menu.   | 40.502 <sup>a</sup> | 3  | .000              |
| Offer organic food on the menu.  | 21.759 <sup>a</sup> | 3  | .000              |
| Offer fish and seafood harvested sustainably and free of harmful pollutants. | 12.936 <sup>a</sup> | 3  | .005              |
| Avoid genetically modified foods.  | 11.508 <sup>a</sup> | 3  | .009              |

**Participation in Green Practices**

The findings of the kopitiam operators' readiness to participate in green practices are presented in Table 06 below. Readiness to adopt green practices produced a Pearson Chi-Square value of 12.884<sup>a</sup>, with an associated significance level of  $< .05$ . The majority of kopitiam owners were deemed ready to participate in green practices in their operations. This also reflects the sense of responsibility that operators felt towards the environment. They were also aware that apart from locals, their customers also consist of the tourists who come to enjoy the beauty of the destinations in Sabah. Furthermore, the item that stated stalls tenants are ready to participate in green practices revealed a Pearson Chi-Square value of 16.465<sup>a</sup> and  $p < .005$ . Most kopitiam were renting out their shop space to other hawkers, so if kopitiam owners wanted to embark on sustainable operations, their tenants had to cooperate by mutually practicing such actions. Besides that, training employees to practise green practices also produced a Pearson Chi-Square value of 17.835<sup>a</sup> and  $p < .005$ . The successful implementation of green practices also requires the involvement of employees. Thus, operators must provide guidelines and training so that green practices can be successfully introduced.

**Table 06:** Participation in Green Practices (N= 149)

| Items  | Value               | df | Chi-Square (Sig.) |
|--|---------------------|----|-------------------|
| My kopitiam is ready to adopt green practices.   | 12.884 <sup>a</sup> | 3  | .005              |
| The stalls tenants are ready to participate in green practices.  | 16.465 <sup>a</sup> | 3  | .001              |
| I will train my employees/s on how to perform green practices.   | 17.835 <sup>a</sup> | 3  | .000              |
| My kopitiam will participate in the green practices campaign.  | 19.401 <sup>a</sup> | 3  | .000              |
| I will give full support to the green practices campaign.  | 18.621 <sup>a</sup> | 3  | .000              |
| It is fine if implementing green practices will cost me more.  | 13.912 <sup>a</sup> | 4  | .008              |
| I believe that by participating in green practices, I will be protecting and preserving the environment. | 12.040 <sup>a</sup> | 3  | .007              |

Besides that, operators will also be participating in the green practices campaign, which has an association: the Pearson Chi-Square value was 19.401<sup>a</sup> and  $p < .005$ . Other than that, it was

also revealed that kopitiam operators would give their full supports to the campaign, with this item having a Pearson Chi-Square value of 18.621<sup>a</sup> and  $p < .005$ . Thus, successful sustainability efforts in kopitiam require long-term effort. A response is needed, as is continuous support through initiatives and campaigns to provide more exposure to green practices. In addition, kopitiam operators can accept implementing green practices even if it will cost them more, since this item had a Pearson Chi-Square value of 13.912<sup>a</sup> and  $p < .05$ . Owners also believe that participating in green practices will protect and preserve the environment, with this item having a Pearson Chi-Square value of 12.040<sup>a</sup> and  $p < .05$ . Due to the awareness of the impact of kopitiam's operations and the importance of environmental care, the operators in this study were willing to implement green practices even though it would incur high costs.

### Conclusion

Introducing sustainability in food and beverage operations is a significant means of preserving the environment. Green practices can reduce operational impacts and satisfy the customers, while the operators can enjoy high returns on their investment. Hence, this action would also be valued by future generations. Notably, this study identified two significant findings relating to the awareness and readiness of kopitiam operators to implement green practices at their coffee shops. First, the kopitiam operators are aware of the importance of green practices, eco-friendly cleaning supplies and packaging, and menu sustainability. They know that such actions need to be performed when pursuing green practices in their operations. Surprisingly, installing energy- and water-efficient equipment in their premises seems not to be the main priority when implementing green practices, since high operational costs would be involved. The second finding concerns the readiness to participate in green practices.

The kopitiam operators were found to be ready to embark on green practices and make further efforts to protect the environment. The city council and restaurant association can use these findings to promote green practices to the other business operators involved in the food and beverages sector. Kota Kinabalu City Council (DBKK) could develop proper guidelines and procedures to implement these practices to achieve the intention of promoting the city as a green city. Further studies should investigate the awareness and readiness of kopitiam operators located in the other main cities of Sabah. Kopitiam play an essential role in providing food and drinks for tourists who want to experience the local destinations. Therefore, this study should be extended to all the cities in the state to derive a more holistic strategy that promotes Sabah as a major eco-tourism destination in Malaysia.

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