Small and Medium Tourism Enterprises Green Operation Performance Level

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INTRODUCTION

1. **SMALL AND MEDIUM TOURISM ENTERPRISES (SMTE) GENERATES UP TO 60% OF GLOBAL ECONOMIC OUTPUT**

2. **SMTES ARE WIDELY KNOWN AS A SECTOR THAT CONTRIBUTE UP TO 70% OF ENV POLLUTION (HILLARY, 2004)**

3. **HOWEVER, SMTES ENGAGEMENT IN THE AREA OF GREEN OPERATION PRACTICES IS LOW (HELLMEISTER & RICHINS, 2019; MOTWANI ET AL., 2006; MARIAM & YUSOF, 2016).**

4. **LIMITED STATISTICAL EVIDENCE AVAILABLE IN THE AREA OF PERFORMANCE LEVEL IN MALAYSIA (ALONSO & OGLE, 2010; HAMZAH & HAMPTON, 2013; KASIM, 2009; SALIMZADEH, COURVISANOS, & NAYAK, 2013; TZSCHENTKE ET AL., 2008A; ZHENGANG ET AL., 2011).**

STUDY AIM & OBJECTIVES

TO INVESTIGATE THE SMTES GREEN OPERATION PRACTICES PERFORMANCE LEVELS IN ORDER TO IMPROVE THE QUALITY OF ENVIRONMENT AND QUALITY OF LIFE.

OBJECTIVES

1. TO IDENTIFY THE OPERATORS' SOCIAL CHARACTERISTICS,

2. TO DETERMINE THE PERTINENT GREEN OPERATION PRACTICES AREA FOR SMTES

3. TO ANALYSE THE PERFORMANCE LEVELS OF SMTES GREEN OPERATION PRACTICES.

LITERATURE REVIEW

1) The emergence of sustainable development ideology had led to the beginning of sustainable tourism.
2) Hospitality industry started to incorporate green operation practices in 1990s when the International Hotels Environment Initiatives (IHEI) was established.
3) IHEI produce the Green Operation Practices Manual. Four areas energy, waste, water and community service (Jamaludin & Yusof, 2013).
4) Since then, the emergence of best environmental practices, eco-labels, environmental management system (EMS), environmental performance indicators and green certifications (Ayuso, 2006).
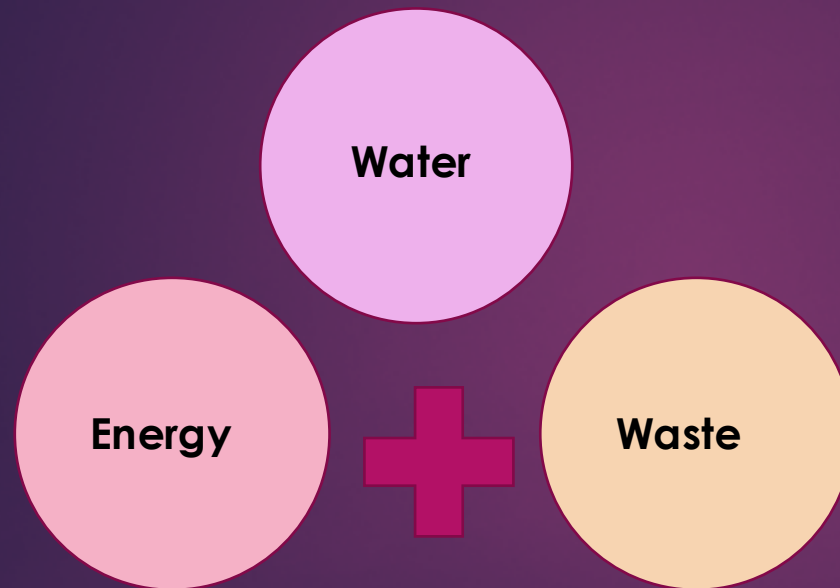
LITERATURE REVIEW

AREA OF GREEN OPERATION PRACTICES

(BOHDANOWICZ, ZIENTARA, & NOVOTNA, 2011; ERDOGAN & TOSUN, 2009; FAULK, 2000; JAMALUDIN & YUSOF, 2013; KIM, HLEE, & JOUN, 2015; KNOWLES, MACMILLAN, PALMER, GRABOWSKI, & HASHIMOTO, 1999; MENSAH, 2007; SCANLON, 2007; NICHOLLS & KANG, 2012; ŽIVADINOV & BLAZEVIC, 2010; RAHMAN ET AL., 2012; RUFFOLO, 2015;

LITERATURE REVIEW

Pertinent area of green practices

Water

Energy

Waste

Erdogan & Baris, 2007; Kasim & Dzakiria, 2009; Kirk, 1998; Mitrakis, 2008; Okeiyi, Okrah, Okeiyi, & Bryant, 2005, Tooman, Sloan, Legrand, & Fendt, 2009; Tsoutsos, Tournaki, Avellaner, & Vercellotti, 2013; Yusof & Jamaludin, 2013).

LITERATURE REVIEW
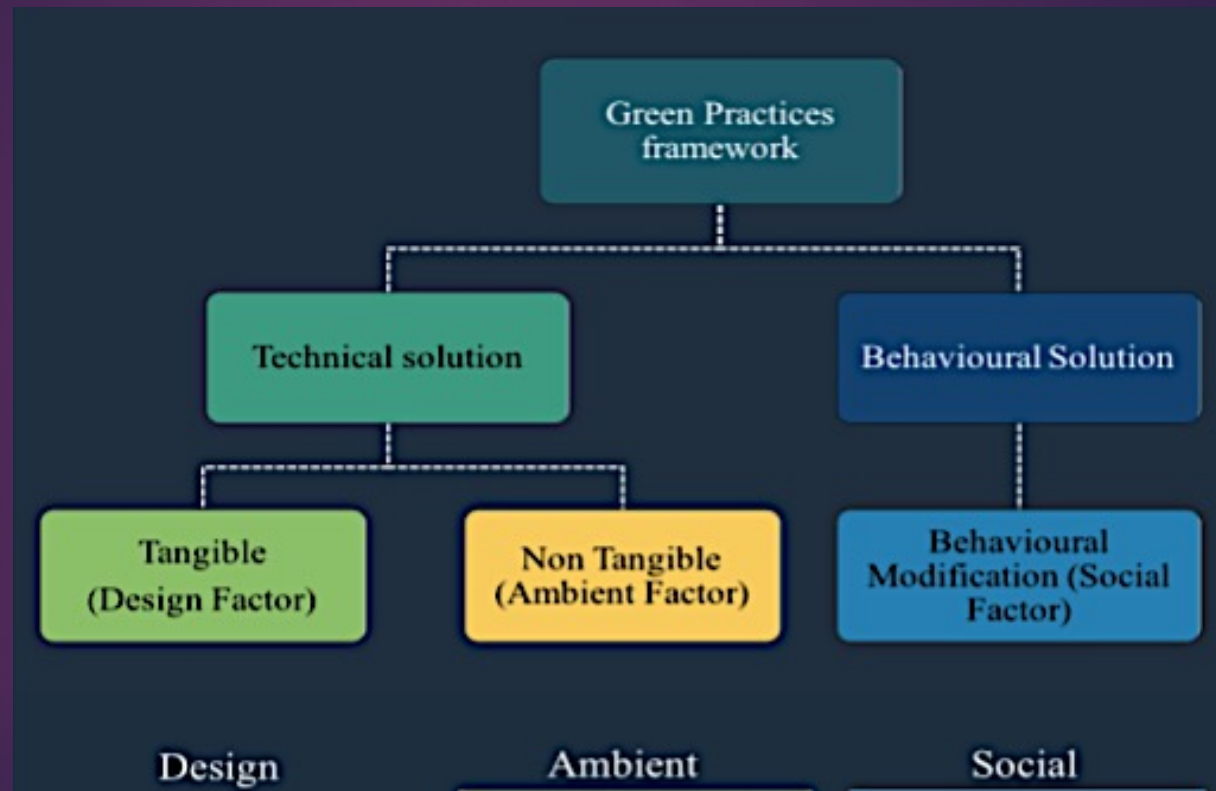
IDENTIFICATION OF GREEN PRACTICES FROM VARIOUS LIT AND PILOT STUDY – STUDY VARIABLES

Energy Measures	Freshwater Measures	Solid Waste Measures
Use of solar energy as supporting energy system.	Checking water faucets and taps to prevent wastages.	Positioned several recycling bins within chalet area.
Use of outdoor solar lighting.	Use of water efficient fixtures	Waste separation
Guests are advised to save energy during their stay.	Use of dual flush water closets	Recycle leftover cooking oil for other purposes.
Monitoring of energy based on the energy record.	Set limits on the extraction of ground or hill water	Creatively reuse unwanted natural material.
Use of energy efficient light bulbs.	Watering plants early morning and late evening	Buy goods in bulk to reduce packaging.
Use of energy saving appliances.	Rainwater harvesting	Drinking water in dispenser
Linens dry sun dried.	Monitoring of water bill to avoid leakages.	Serve foods using permanent kitchenware.
Electrical equipment are switch off when not in use.	Reminding guests about saving water through signage	Refill shampoo in the dispenser.
Air-conditioners set to higher temperature	Maintenance of water pumps and water tanks yearly	Leftover food composting

METHODOLOGY

01 PILOT STUDY AT PERHENTIAN ISLAND — INTERVIEW (3), QUESTIONAIRE (10)

02 MAJOR FIELDWORK — 4 ISLANDS

03 QUESTIONAIRE TO 150 OPERATORS — 93 ANSWERED

04 INTERVIEW 12 OPERATORS — THREE OPERATORS FROM EACH ISLAND

CASE STUDIES ISLANDS

AIR BATANG BEACH, TIOMAN ISLAND

LONG BEACH, KAPAS ISLAND

LONG BEACH, REDANG ISLAND

TELUK PAUH, PERHENTIAN BESAR ISLAND

METHODOLOGY

Questionnaire format
1) Part 1: Operators social characteristics
2) Part 2: Operators' green operation practices- 27 measures
3) Designed based on the Brown (2010) study using a Likert of 0: Not applicable, 1: Never, 2: Rarely 3: Sometimes, 4: Very often, and 5: Always.

In depth interview - 12 operators
1) Part 1: Operators social characteristics
2) Part 2: Operators' green operation practices
3) Semi-structure questions

METHODOLOGY

Table:12 Case Studies chalets

No	ISLANDS	CASE STUDIES SMTES
1	Tioman Island	Sun Beach Resort
		Johan Resort
		Salang Beach Resort
2	Kapas Island	Kapas Coral Beach Resort
		Qimi Private Bay Chalets
		Kapas Beach Chalet
3	Redang Island	Redang Reef Resort
		Redang Lagoon Chalet
		Redang Holiday Beach Villa
4	Perhentian Kecil and Besar Island	Cozy Chalet (Perhentian Besar)
		Mama's Place (Perhentian Besar)
		Matahari Chalet (Perhentian Kecil)

CASE STUDIES CHALETS

STATISTICAL ANALYSIS

1) Reliability test conducted- 27 measures
2) Cronbach's alpha value was 0.902, and all measures have scored more than 0.70.
3) Descriptive analysis- SPSS
4) The Likert scales are changed to performance scale and mean range. The method was adopted - (Erdogan & Tosun, 2009; Lewis & Cassells, 2010).

Frequency Likert scale	Performance level	Mean range
0= Not applicable	Not applicable	0.00
1= Never	No performance	1.00-1.22
2= Rarely	Low performance	1.23-2.48
3= Sometime	Moderate performance	2.49-3.74
4= Very Often	High performance	3.75-5.00
5= Always		

FINDINGS & DISCUSSION

DIMENSION	MEASURES	FREQUENCY	PERCENTAGE
Part 1A: Respondent Profile			
Gender	Male	74	79.6 %
	Female	19	20.4%
Age	Below 21	-	-
	21-24	-	-
	25-34	12	12.9%
	35-44	22	23.7%
	45-54	34	36.6%
	55-64	23	24.7%
	65 or above	2	2.2%
Position	Manager	48	51.6%
	Owner and manager	45	48.4%
Ethnicity	Malay	81	87.1%
	Chinese	5	5.4%
	Indian	2	2.2%
	Others	5	5.4%
Educational qualification	Primary	4	4.3%
	Secondary	65	69.9%
	Certificate	4	4.3%
	Diploma	1	1.1%
	Degree	18	19.4%
	Master	-	-
	PhD	1	1.1%

OBJECTIVE 1: To identify the operators' social characteristics

LITERATURE REVIEW
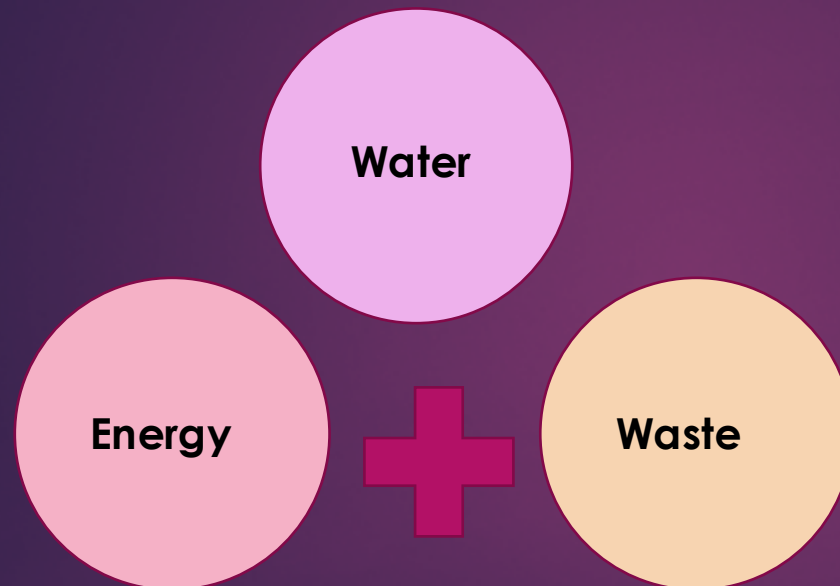
Pertinent area of green practices

Erdogan & Baris, 2007; Kasim & Dzakiria, 2009; Kirk, 1998; Mitrakis, 2008; Okeiyi, Okrah, Okeiyi, & Bryant, 2005, Tooman, Sloan, Legrand, & Fendt, 2009; Tsoutsos, Tournaki, Avellaner, & Vercellotti, 2013; Yusof & Jamaludin, 2013).

Water

Energy

Waste

OBJECTIVE 2: To determine the pertinent green operation practices area for SMTEs

FINDINGS

NO	INDICATOR AND MEASURES	MEAN				TOTAL MEAN
		Tioman	Kapas	Redang	Perhentian	
ENERGY MANAGEMENT						
1	Use of solar energy as supporting energy system.	1.00	1.00	1.80	1.27	1.27
2	Use outdoor solar lighting.	1.00	1.00	1.00	1.00	1.00
3	Guests are advised to save energy during their stay.	4.50	4.63	3.53	3.53	4.05
4	Monitoring of energy based on the energy record.	3.00	4.13	0.00	0.00	1.78
5	Use of energy efficient light bulbs.	2.51	4.25	4.00	2.77	3.38
6	Use of energy saving appliances.	1.51	1.80	1.30	1.80	1.60
7	Linens are dry sun dried.	4.87	5.00	4.70	4.10	4.67
8	Switch off all the electrical equipment when not in use.	4.82	4.75	5.00	3.50	4.52
9	Air-conditioners set to higher temperature such as 24 degrees Celsius.	0.93	0.63	1.00	0.93	0.87
	Group mean	2.68	3.02	2.48	2.10	2.57

.00=Not applicable, 1.00-1.22=No performance, 1.23-2.48=Low performance, 2.49-3.74=Moderate performance, 3.75-5.00=High performance

OBJECTIVE 3 :To analyse the performance levels of SMTEs- Energy

DISCUSSION

1. High performance – linens are sundry (4.67), all the electrical equipment are switched off when not in use (4.52), and guests are advised to save energy during their stay (4.05). (Easy to conduct)
2. Moderate performance -energy-efficient light bulbs (3.38).
3. Low performance -use of solar energy (1.27), monitoring of electricity based on the energy record (1.78), and use of energy-saving equipment (1.60). (not suitable for genset)
4. No performance- solar lighting for outdoor areas (1.00). Most of the operators stated they are unaware of outdoor solar lighting and where to buy it.
5. Not applicable-is setting air-conditioners to the higher thermostat (0.87). (Very hot)

FINDINGS

NO	INDICATOR AND MEASURES	MEAN				TOTAL MEAN
		Tioman	Kapas	Redang	Perhentian	
	FRESHWATER MANAGEMENT					
1.	Checking water faucets and taps to prevent wastages.	3.96	4.25	4.30	3.70	**4.05**
2	Use of water efficient fixtures such as aerators.	1.47	1.13	2.00	1.63	**1.56**
3	Use of dual flush water closets	1.11	1.25	1.60	1.57	**1.38**
4	Set limits on the extraction of ground or hill water	1.09	1.00	1.11	1.15	**1.36**
5	Watering surrounding plants early morning or late evening	2.90	2.38	3.24	2.37	**2.72**
6	Use rainwater in the operation	1.00	1.00	1.00	1.00	**1.00**
7	Monitoring of water bill to avoid leakages.	0.50	0.00	0.00	0.78	**0.32**
8	Reminding guests about saving water.	3.40	4.13	4.40	3.23	**3.79**
9	Maintenance of water pumps and water tanks.	2.67	2.63	2.60	2.20	**2.53**
	Group Mean	**2.04**	**2.00**	**2.32**	**2.01**	**2.07**

00=Not applicable, 1.00-1.22=No performance, 1.23-2.48=Low performance, 2.49-3.74=Moderate performance, 3.75-5.00=High performance

OBJECTIVE 3 :To analyse the performance levels of SMTEs- Freshwater

DISCUSSION

1. High performance - check water faucets and taps to prevent water wastages (4.05) and reminding guests about saving water (3.79). (easy to perform).
2. Moderate performance –maintenance of the water tanks and pumps yearly (2.53) and watering of surrounding plants early morning or late evening (2.72).
3. Low performance -water-efficient fixtures such as aerators (1.56), the use of dual-flush water closets (1.38), and set limits on the extraction of ground or hill water (1.36) (lack of knowledge & dry seasons)
4. No performance- rainwater harvesting (1.00). (lack of knowledge)

FINDINGS

NO	INDICATOR AND MEASURES	MEAN				TOTAL MEAN
		Tioman	Kapas	Redang	Perhentian	
	SOLID WASTE MANAGEMENT					
1	Positioned several recycling bins within chalet area.	2.20	1.63	2.90	1.13	**1.97**
2	Waste separation such as plastics bottles, aluminum cans, glass bottles	3.69	2.75	4.50	2.07	**3.25**
3	Recycle leftover cooking oil for other purposes.	2.60	3.88	3.80	2.03	**3.08**
4	Creatively reuse unwanted natural material.	2.20	3.25	2.76	2.20	**2.60**
5	Buy goods in bulk to reduce packaging.	4.13	3.50	5.00	3.70	**4.08**
6	Provide drinking water in a dispenser	2.62	2.50	4.40	2.20	**2.93**
7	Serve foods using permanent kitchenware.	5.00	5.00	5.00	5.00	**5.00**
8	Refill shampoo in the dispenser.	0.00	0.00	0.00	0.00	**0.00**
9	Composting of dry and wet waste	1.50	1.18	1.00	1.18	**1.22**
	Group Mean	**2.66**	**2.63**	**3.26**	**2.17**	**2.68**

00=Not applicable, 1.00-1.22=No performance, 1.23-2.48=Low performance, 2.49-3.74=Moderate performance, 3.75-5.00=High performance

OBJECTIVE 3 :To analyse the performance levels of SMTEs- Solid waste

DISCUSSION

1. High performance - serve foods in permanent kitchenware (5.00) and buy goods in bulk to reduce packaging (4.08). (Far from mainland)
2. Moderate performance –The measures were waste separation (3.25), recycling leftover cooking oil (3.08), use drinking water dispenser (2.93), and creatively reuse the unwanted things (2.60).
3. Low performance –positioning the recycling bins within the chalets compound (1.97). (Expensive)
4. No performance-composting of wet and dry waste (1.22). (lack of time, staff, and knowledge)
5. Not applicable- use of shampoo dispenser (SMEs operators do not required to provide toiletries for guests)

OBJECTIVE 3 :To analyse the performance levels of SMTEs- Solid waste

CONCLUSION

GREEN INDICATORS	GROUP MEAN				TOTAL MEAN	Performance Level
	Tioman	Kapas	Redang	Perhenti an		
Solid waste management	2.66	2.63	3.26	2.17	2.68	**Moderate**
Freshwater management	2.04	2.00	2.32	2.01	2.07	**Low**
Energy management	2.68	3.02	2.48	2.10	2.57	**Moderate**
Performance Index (Mean)	**2.46**	**2.55**	**2.69**	**2.09**	**2.45**	**Low**

Performance Index indicates that SMTEs have low performance of green operation practices in energy, freshwater, and solid waste (2.45). This finding consistent with other studies (Walker et al., 2008; Kasim & Dzakiria, 2009). However, individually solid waste (2.68) and energy management (2.57) have moderate performance compared to freshwater management (2.07). Freshwater management has the lowest performance due to most operators extracting groundwater or hill water, which is free. Therefore, they do not see the importance of performing water-saving practices in their operation.

RECOMMENDATIONS

Low performance are due to high implementation and maintenance costs, lack of staff, time, motivation, environmental awareness, low education level, no interest, high transportation cost, and lack of knowledge. Therefore, several appropriate recommendations are listed below:

- Operators should have proper schedules for staff to conduct green operation practices.
- Operators should have green policies and clear strategies for their operations.
- Operators should attend various seminars, workshops, and discussions to increase awareness and knowledge
- Operators should think creatively how to reduce waste, water, and energy.
- Operators should hire sufficient number of staff to perform green operation practices.
- Operators should seek expert advice regarding green operation practices.
- Operators need to seek monetary help from the government to improve their green operation.

THANK YOU
THE END