Green Environment And Waste Management On Tourism Business Performance In The North Eastern Of Thailand

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ABSTRACT
The main purpose of the study is to examine the impact of the green environment and waste management on the tourism business performance in the North Sea of Thailand. Meanwhile, the study has examined the mediating role of waste management in the relationship between the green environment and tourism business performance in the North Sea of Thailand. The author has employed the survey-based methodology and data is collected with the aid of questionnaire. SEM-PLS is employed in the study. The results are in line with the hypothesized results. Scarce resources and limited time are the barriers to corporate greening. The environmental consciousness of the owner is greatly influenced by the decision for implementing environmental initiatives in the small hospitality sector. Some other factors, i.e. situational, socio-cultural, and personal can exert significant influences. Small hotel businesses can achieve four major benefits related to GDES. The first advantage is a competitive advantage and ability to attract customers that environmentally conscious. The second benefits are achieving economic benefit through reduced operational cost. The third includes the social responsibility achievement through reduced environmental impact and the fourth is the fulfillment of government requirements of grant schemes. The study will be helpful for policymakers in understanding the issues related to green environment, waste management and tourism business performance.

Keywords: green environment, waste management, tourism business performance, Thailand

1.0. Background
The strategic practices of an organization in response to the environmental issues are referred to as environmental responsibility (Mottiar & Boluk, 2017). Several activities are involved in
environmental responsibility, i.e. water management, waste reduction, and renewable energy sources. It was found by Kılkış, Wang, and Rosen (2019) that saving water and energy, hotels have experienced improved financial savings. It was reported by Han, Lee, and Kim (2018) that there is little interest among the hotel management for reduction of waste and use of recycling material, as these activities require time and need additional cost. Further, a little attention has been received by SWM (solid waste management) irrespective of its potential to offer several benefits, including financial gains. One of the negative impacts created by businesses is the generation of solid waste and its disposal. This waste is greater for small hotels, which have less than 30 rooms. A little consideration is given to environmental responsibilities by small hotels. Activities such as landfills are undertaken by small hotels, which create a major environmental degradation. The target of small and medium-sized enterprises is on environmental management standards including GDES (Green Dragon Environmental Standard). GDES is a scheme for environmental accreditation that is focused on SMEs. A structural approach is adopted to make SMEs environmentally responsible (Dodds & Ramsay, 2017). In the wider environmental policies of an organization, SWM is an important element. There are five levels of certification in GDES. The first two levels are suitable for small businesses in the tourism sector. These certifications required hotel management to make an environmental policy and identify their negative influences on the external environment. Small businesses must comply with the legal requirements as well. Organizations are provided by GDES with the factors of effective management systems towards the environment, which is in line with their scale and nature of operations.

The green product is based on the concept of green activities involved in the production process and that is safe for the environment. The concept is not easier to define. Green tourism is another concept, which is used in the tourism sector to reflect tourism activities, which are environmentally safe. There are different meanings and dimensions of green tourism. There are two purposes behind the use of such terms (NCC, 1996). Firstly, the customers are made aware of the holiday destination, which is not spoiled and beautiful. The concern of green tourism is with the environment to transform nature holidays into exotic destinations (Kruger, Rodgers, & Long, 2019). Secondly, it is claimed by green tourism that tourism activities in a specific area are not harmful to the environment (Dodds & Ramsay, 2017). In general, a product/service is considered green when it is advantageous for the consumer and producer and does not negatively impact the environment. It becomes difficult when the negative impacts of organizational activities are measured by stakeholders on the environment. When the measurement is possible, the next problem occurs related to the criteria of the agreement for standard level of impacts, which can be accepted. Traditionally, tourism is perceived to be a green sector except for the land development and transport implications. For this reason, tourism has become a key area of interest (Dodds & Ramsay, 2017).

In developing countries, the damaging impact of development in the tourism sector has been discussed by several researchers. The natural environment is regarded as an important resource in the tourism industry. Every organization (public and private) in the tourism sector is adopting development measures that are compatible with the environment to reduce their environmental impacts. By focusing on safe techniques of development, the negative influences created on the environment are reduced. The important factors in tourism development, which is safe for the environment, involve regulating and restricting new development, its preservation, and protection. It has become crucial to protect the natural beauty of tourism destinations and biological diversity. The rehabilitation of ancient resorts and destinations has become another...
concern in the sector. Green tourism certification is used by the tourism sector as a standard or logo to communicate a company's environmental qualifications. It is expected that a positive repute of the company will be created through environmental certifications and trademarks among the customers. Customers will perceive a positive image and develop a positive attitude towards the service (Briguglio & Avellino, 2021). Companies can receive various advantages through green strategy. They can achieve a competitive advantage as well. the green certification in tourism is intended to control the negative impact of businesses on natural resources (Gkoumas, 2019).

2.0. Hypothesizes

The term small can be defined in several ways in relation to the businesses in the hospitality and tourism sector. It was proposed by S. Wang, Hung, and Huang (2019) that the small business in the hospitality sector is the one that is owned and financed by an individual or a small group of members. There is no formal structure of management in small businesses. Small businesses may or may not be linked with external agencies for at least one function of the management. Comparing these businesses with other large organizations in the sector makes them be considered small. The small terms are linked with low physical facilities, the number of employees, and the capacity of a product/service. The sub-sector classification of the hotel is based on a number of rooms or capacity for people. It was referred by Mensah (2020) that there are 40-70 rooms in small hotels. The accommodation of hotels is categorized by Santoso and Negoro (2019) and it was indicated that hotels having 5-50 rooms are considered small. The hotel sector in Wales is dominated by a number of small hotels, which are comprised of around 40 rooms. In the current study, the hotels having rooms equal to or less than 30 are considered small.

In the hospitality sector, small hotels are important because of their high market share and potential advantages related to their size, i.e. variety of services and flexibility. Personal touch is involved in small hotels, which is the core strength. It offers a unique and personal experience to the customers. People often try to find accommodations that give them a home-like feeling. The services can be altered as per individual needs in small hotels (Zupan Korže & Lebe, 2019). A significant amount of solid waste is produced by small hotels in the sector. It was reported by the International Hotel Environment Initiative (IHEI, 2002) that one of the negative environmental impacts created by small hotels is solid waste generation. Several hotels dispose of their wastage through landfills that is the most hazardous option in solid waste management (Ahluwalia & Patel, 2018). This process causes a major contribution to environmental degradation.

Comprehensive environmental programs have been developed by some large hotel companies, such as solid waste management (Fernando, 2018). Some of the small hotels also possess the resources for solid waste management. The inefficient consumption or production results in waste material that incurs an environmental and economic cost on society. There is a need for the cost to collect waste, process, and dispose of it (Giannakitsidou, Giannikos, & Chondrou, 2020). A model of potential options for dealing with waste material is provided by the waste hierarchy, which includes minimization of waste, prevention of waste, reuse of material, recycling waste, energy recovery, and disposal of waste.

This hierarchy model should be adopted by companies working in public and private sectors to manage their waste effectively. The emphasis should be made on the reduction of waste disposal into landfills, which causes environmental degradation. Environmental degradation is the result of landfill activity, which leads to the emission of hazardous gases, including methane and...
groundwater pollution because of leachate (Mensah, 2020). Another impact of landfills occurs in the form of unpleasant odors, litter, flies, and noise that create a negative influence on the neighborhood communities (Osman, Noordin, & Mohd, 2018). It was shown by the survey of the Welsh Assembly Government that over 82% of municipal solid waste is used for landfills. Since it is the biggest threat to the environment, Connell, Martin, and Denny (2017) stressed the need to undertake more sustainable practices for solid waste management. From the beginning point, i.e. purchasing, the process of waste reduction should start. It was argued by Wang, Wang, and Zhang (2018) that environmentally safe practice is green purchasing that reduces wastage and increases the tendency for recycling and reusing of purchased materials. A positive association was found by Emekci (2019) between the green purchasing decision of a buyer, ecological knowledge, and environmental consciousness. Consumers highly concerned with the environment are intended to make green purchases. Limited information or lack of awareness can be significant obstacles in the purchasing decision of a buyer for eco-friendly products. Moreover, the alternatives of green products may not be suitable or viable. There is a need for national guidelines related to the advantages, disadvantages, and availability of green alternatives (Bamfo, Nyamekye, & Ahenkan, 2019). The public is informed by several local authorities about the opportunities of green purchasing based on the narrow concept of green purchasing. It was found by a critical review of these guidelines that they had a limited scope and based on a narrow concept of green purchasing. The awareness of green purchasing policies can be increased among buyers through training. As these policies are not widely adopted by the local authorities, there is a need for more awareness (Pattnaik & Pattnaik, 2019). Different ways for avoiding unnecessary packaging were identified, such as bulk purchasing of products. In the United Kingdom, just 10% of buyers found labels, which were environment and economic-friendly. However, almost 50% of the consumers were categorized as green purchasers. It was reported by Afonso, Gavilan, and Gonçalves (2018) that the quality of a product is a key driving factor for decisions related to the purchasing by a consumer, i.e. the environmental characteristics of a product are scaled at a low level in the list of priorities. Different barriers are faced by small businesses in trying to recycle their waste output, such as time and lack of space. They also experience issues of inconvenience and lack of concern. It was added by Pomare (2018) that recycling has become uneconomic and inaccessible for small businesses because of the poor local infrastructure of recycling. Several ways to increase small business recycling have been identified for local authorities. These methods include grouping collections, charge imposition for municipal waste collection, increasing awareness about the benefits of recycling programs, and developing markets for recyclable products. A lot of food waste is generated by hotels that can be disposed of through composting. It is an alternative for organic waste and is considered sustainable with environmental value by reduction of waste (almost 40%). The materials can be produced, which can be used as soil nutrients and for-profit (Butt, Aslam, & Shafiq, 2019). In the tourism business performance, the method of composting is not being used widely. This has been implemented by the outlets of food service. Landfill activity is a low-cost option as compared with composting. For this reason, it has not been adopted as a solid waste management technique. Moreover, small businesses consider it difficult because of negative perceptions related to composted materials (Department of the Environment, Transport and the Regions [DETR], 2000). The waste stream generation should be identified by business operators for effective solid waste management programs. In the process of identification, it should be pointed where the waste is coming from, and reasons behind its production, and the cost related to its disposal or recycling. The five-level
hierarchy model for hospitality was proposed by Obersteiner, Gollnow, and Eriksson (2021) that begins with commitment, key focus on purchasing considering waste aspects. Further, it moves to conservation concerns to rechanneling items for reuse. Later, it moves to disposal if recycling or reuse cannot be accommodated. It was stressed by Obersteiner et al. (2021) that consumers have a crucial role in waste recycling initiatives by hotels. It was argued by the researcher that several methods can be adopted by hotels for motivating customers to use separate recyclable material, such as different bins for different materials. The hotel operators can achieve several benefits through a solid waste management program, including reduced cost of disposal and complying with regulations. It was noted by Filimonau, Todorova, and Mzembe (2020) that the adoption of waste reduction programs can help hotel management in the reduction of the cost related to waste disposal by 60%.

The factors that can enhance corporate greening include competitive advantage, regulatory compliance, market differentiation, corporate social responsibility, image enhancement, media, and personal values (Williams, Schaefer, & Blundel, 2017; Yee, 2017; Agyeiwaah, 2020). It has been shown in previous studies that there is a diversity in attitudes of small tourism businesses towards environmental practices. Environmental issues are perceived as a burden by some businesses and others show a willingness to adopt environmental policies (Khan, Ishaq, & Abbass, 2020). Researchers have stressed the role of government in promoting environmental practices in the business sector.

Tourism businesses should be motivated for achieving high environmental standards. They must be able to provide guidelines to tourists related to the influence of their decisions and actions. These businesses should develop environmental standards for tourism products and services. The certification of green tourism fits with the policies of natural resource management, protection and conservation of the environment, and controlling pollution. In this way, businesses become able to adhere to the concept of developing environmentally friendly tourism (Sirma & Mngulwi, 2020). The tourism organizations in emerging countries consider the concept of green tourism as appealing. There is increased pressure on the tourism sector by the government for improving their performance in terms of environmental sustainability. Environmental performance can be improved through tangible and effective techniques of environment management (Jia & Chen, 2019). Moreover, environmental awards that are recognized at the international level can be instrumental for tourism businesses in developing countries to market their services. For maintaining a balance between the environment and the development of the tourism sector, there is a need for appropriate planning and management of resources. Several recommendations have been provided by concerned parties for promoting green tourism to regulate the negative impacts of tourism (Briguglio & Avellino, 2021; Gkoumas, 2019). Green tourism is applicable for resorts, hotels, travel agencies, air and ground transportation services, tour operators, and can be extended to airlines. The tourism companies in the developing countries include private, large, small scale, and internationally own franchises. The public sector controls the tourism industry in developing countries (Jia & Chen, 2019). Issues including conflict between stakeholders’ interest and distrust in assessment, and pressure for relaxation of criteria for certification create stress on certification efforts.

In developed countries, the concept of green tourism is similar to the concept of rural tourism. The natural environment is involved in green tourism and tourists come across opportunities to overview the local culture and lifestyle of rural communities (Kabir, 2020). An important role is played by rural residents, which are based in the forestry and agriculture industry, in environmental management. In Japan, green tourism is focused on the sustainable environment.
of rural areas that are managed by local people. There is a need for capital for businesses, which is provided by the local and central government along with rural residents. The interaction between the urban citizens is the key to revitalizing local economies that involves direct selling and purchasing of agricultural products. The focus is placed on the interaction between humans along with the selling of agricultural products. Programs offering opportunities to the urban community for tasting the unique homemade food by the host community and enjoyment on-farm destinations are a crucial tool for promoting interaction between urban and rural people. Green tourism in Japan is like rural tourism, which the rural culture. The forestry and agriculture sector are the key aspects in the formation of rural culture. Moreover, the secondary nature, i.e. farmlands is also a source of attraction (Kabir, 2020). In 1997, the Green Tourism Business scheme was established in the United Kingdom. This scheme aimed to ensure that the country becomes a sustainable destination for tourism across the globe in the future. It can be assured to tourists that the businesses accredited by the scheme are complying with specific environmental standards. After every two years, the assessment will be made for the establishment related to specific standards, such as energy efficiency, reduced waste, local product utilization, public transport support, and recycling. Businesses complying with these standards are able to receive awards, Gold, Silver, or Bronze. Delivering a high-quality service and improving sustainability is required. Every provider of services has to achieve a star grading before receiving a green grading. The concept of green tourism is new for the tourism industry of Thailand. The use of green products has not been much promoted. There is a need for promoting environmental management programs, the use of green products, and the introduction of waste management approaches (The Star, 2010). The resorts in green tourism must train and educate their employees for adopting eco-friendly approaches. There is a lack of a comprehensive training program among resorts (Mak & Chang, 2019). The key purpose is to conserve energy, water, and reduction of waste as a key towards sustainability. These initiatives help in the reduction of operational costs for the business. Switching towards the use of energy-efficient devices, key cards, development of water treatment plants, recycling and separating liquid and solid waste are examples. It is also encouraged to reuse bed linens and towels among resort guests to save resources such as laundry detergent and water. Sustainable building materials are also used by some resorts in their construction and design of architecture. Based on literature reviewed the study has proposed the following hypothesis:

H1: Green environment has significant impact on the tourism business performance in the North Sea of Thailand.

H2: Waste management has significant impact on the tourism business performance in the North Sea of Thailand.

H3: Waste management has significant impact on the green environment in the North Sea of Thailand.

H4: Waste management mediates the relationship between the green environment and tourism business performance.

3.0. Methodology

For the purpose of data analysis, descriptive statistics were obtained followed by the application of statistical tests on the data obtained from the survey. SEM is the suitable approach for data
analysis. SEM technique is a second generation technique (Henseler, Hubona, & Ray, 2016; Naala, Nordin, & Omar, 2017; Ong & Puteh, 2017). For models which involve multiple latent variables (Structural Equation Models), and have cause and effect relationships, PLS-SEM is found to be suitable (Hair, Sarstedt, & Ringle, 2019; Shiau, Sarstedt, & Hair, 2019). (Hatamifar, Darban, & Rezvani, 2018; Shiau et al., 2019) also suggested that PLS-SEM is proved to be rigorous in developing statistical models and in making predictions. The outer and inner models in this research are measured through Smart PLS-SEM, also known as PLS path modeling. Initially, for estimating the measurement model, reliability and validity tests were applied for each model construct. Total 216 responses were received. Afterwards, the bi-variate correlation analysis was performed followed by the regression analysis to measure the structural model. The structural model estimation explains the relationship effects on the model’s latent constructs.

4.0. Results
Following (Hatamifar et al., 2018; Ramayah, Cheah, & Memon, 2018) suggestion, the PLS-SEM path was estimated using a two-step process, which includes inner (structural) model and outer (measurement) model.

Researchers (Henseler et al., 2016; Naala et al., 2017; Ong & Puteh, 2017) argue that in measurement model estimation the constructs’ validity (convergent, discriminant, and content) and reliability (internal consistency, individual) are observed. In addition, outer loading of each of the indicators were observed to check the individual item reliability. A rule of thumb suggests that 0.70 to 0.99 is the range that should be considered while deciding which items to be retained (Hair, Matthews, Matthews, & Sarstedt, 2017).

<table>
<thead>
<tr>
<th></th>
<th>GNE</th>
<th>TP</th>
<th>WSTM</th>
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<tbody>
<tr>
<td>GNE1</td>
<td>0.886</td>
<td>0.735</td>
<td>0.608</td>
</tr>
<tr>
<td>GEN6</td>
<td>0.880</td>
<td>0.729</td>
<td>0.615</td>
</tr>
<tr>
<td>GNE2</td>
<td>0.879</td>
<td>0.676</td>
<td>0.595</td>
</tr>
<tr>
<td>GNE3</td>
<td>0.893</td>
<td>0.703</td>
<td>0.590</td>
</tr>
<tr>
<td>GNE4</td>
<td>0.871</td>
<td>0.713</td>
<td>0.598</td>
</tr>
<tr>
<td>GNE5</td>
<td>0.903</td>
<td>0.730</td>
<td>0.689</td>
</tr>
</tbody>
</table>
Since all the coefficients and AVE’s obtained are above 0.50 and ranges between 0.50-0.86, therefore it confirms the convergent validity. In addition, to confirm that each item of the construct belongs to their latent construct, satisfactory results are required for the item loadings and composite reliability.

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's Alpha</th>
<th>rho_A</th>
<th>CR</th>
<th>(AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE</td>
<td>0.958</td>
<td>0.959</td>
<td>0.965</td>
<td>0.775</td>
</tr>
<tr>
<td>TP</td>
<td>0.954</td>
<td>0.956</td>
<td>0.961</td>
<td>0.710</td>
</tr>
<tr>
<td>WSTM</td>
<td>0.955</td>
<td>0.957</td>
<td>0.962</td>
<td>0.762</td>
</tr>
</tbody>
</table>

After estimating the convergent validity, the constructs’ discriminant validity is then measured, i.e., by comparing cross-loadings with the constructs’ indicator loadings (Akter, Wamba, & Dewan, 2017). According to this criterion, indicator loadings are required to be greater in value than the value of cross-loadings. Discriminant validity is confirmed if the concepts are found to be unrelated.

<table>
<thead>
<tr>
<th></th>
<th>GNE</th>
<th>TP</th>
<th>WSTM</th>
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</thead>
<tbody>
<tr>
<td>GNE</td>
<td>0.880</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TP</td>
<td>0.814</td>
<td>0.842</td>
<td></td>
</tr>
<tr>
<td>WSTM</td>
<td>0.697</td>
<td>0.752</td>
<td>0.873</td>
</tr>
</tbody>
</table>

Ramayah et al. (2018) Suggested another criterion, in which the squared correlations of AVE are compared to the AVE square root values. For discriminant validity to be achieved, the AVE
square root values must be higher value than the squared correlations. Moreover, the diagonal elements in a correlation matrix are also required to have greater value than the off-diagonal elements.

In PLS path analysis, the second stage is the inner model assessment. For inner or structural model estimation, the significance of path coefficients was checked, followed by the calculation of effect sizes, predictive relevance, and the \( R^2 \) value. Therefore, at this stage, the standard errors and t-statistics were obtained to confirm the significance of path coefficients and to test the hypotheses in this study. For this purpose, we employed a bootstrapping method.

|                | \( O \) | \( S \) (M) | (STDEV) | \(|O/STDEV|\) | P Values |
|----------------|--------|------------|---------|----------------|----------|
| GNE -> TP      | 0.814  | 0.815      | 0.033   | 24.723         | 0.000    |
| GNE -> WSTM    | 0.697  | 0.698      | 0.066   | 10.602         | 0.000    |
| WSTM -> TP     | 0.359  | 0.366      | 0.086   | 4.154          | 0.000    |

For performing a bootstrapping procedure, 5000 samples were employed (Hair, Hult, & Ringle, 2016; Hair et al., 2017; Henseler et al., 2016). Using this procedure, reliable estimates are obtained for the structural model including the moderating variables, as presented in the Table … & Figure 2

|                | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics \(|O/STDEV|\) | P Values |
|----------------|---------------------|-----------------|---------------------------|-----------------------------|----------|
| GNE -> WSTM -> TP | 0.250               | 0.256           | 0.069                     | 3.605                       | 0.000    |

Another criterion to estimate structural model is the \( R^2 \)-square, which shows how much of the dependent variable’s variance is explainable by the model’s independent variables. Coefficient of determination is another name used to refers to the \( R^2 \)-square (Hatamifar et al., 2018; Henseler et al., 2016; Shiau et al., 2019). \( R^2 \)-square shows how much share of dependent variable’s variance
is explained by the independent variables. Basically, the type and context of the research are the factors which determine the satisfactory and acceptable range for the $R^2$. Akter et al. (2017) proposed 0.10 as the threshold level for $R^2$. Furthermore, some $R^2$ values were explained by Hair et al. (2017) who suggested that if the $R^2$ value is close to 1 it indicates greater predictive power. Thus, the value 0.19 denotes weak predictive power, 0.33 denotes moderate predictive power, and 0.67 indicates substantial predictive power.

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
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<tbody>
<tr>
<td>TP</td>
<td>0.729</td>
</tr>
<tr>
<td>WSTM</td>
<td>0.486</td>
</tr>
</tbody>
</table>

Finally, checking predictive relevance is the last criterion for structural model assessment. The model’s predictive accuracy is denoted by $Q^2$. Therefore, $Q^2$ value was calculated through a blindfolding procedure, following Akter et al. (2017) and Hair et al. (2017) suggestion. $Q^2>0$ represents that the structural model has predictive accuracy.

As per the suggested rule of thumb, $Q^2$ is referred to have small predictive relevance if it is equal to 0, medium predictive relevance if $Q^2=0.25$, and large predictive relevance for above 0.50 values (Hair et al., 2019).

References


