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Green Strategy and Its Benefits: An Empirical Study of the Hotel Industry in Thailand

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Abstract

The tourism industry is one of the main industries that drives Thailand's economy. However, the poor performance in environmental sustainability endangers the tourism competitiveness of the nation. This study aims to identify the specific benefits from the adoption of proactive environmental strategy (PES) in the hotel industry in Thailand in order to encourage more hotels to implement green strategies and to improve travel and tourism competitiveness. The paper-based questionnaires were distributed at a major conference organised by the Green Leaf Foundation. Structural equation modelling (SEM) was employed using partial least squares (PLS) with SmartPLS 3.0 software. The results show that PES strongly influences environmental performance in terms of utility consumption, waste management and environmental risk management and therefore improves organisational competitive advantage and financial performance. Competitive advantage can be achieved, not only directly through PES, but also indirectly through environmental performance. While PES does not have a direct positive effect on financial performance, it does have an indirect effect through environmental performance and competitive advantage. Moreover, environmental performance can improve financial performance only through organisational competitive advantage in terms of cost competitiveness and differentiation competitive advantage. As the results showed that several benefits, including environmental performance, organisational competitiveness and financial performance, can arise from the implementation of green strategies in the hotel industry, the conclusion can be drawn that the adoption of such strategies is a suitable business model for the hotel industry in both developed and developing countries.

Keywords: Proactive environmental strategy, competitive advantage, environmental performance, financial performance, hotel, Thailand

1. INTRODUCTION

It has been argued that proactive environmental strategy (PES) is an appropriate business model for the hotel industry (Fraj, Matute, & Melero, 2015) to cope with social pressure regarding environmental sustainability issues and to improve performance. As the tourism industry is strongly linked to the natural environment, businesses within this industry should pay more attention to the impact of their activities on natural resources (López-Gamero, Molina-Azorín, & Claver-Cortes, 2011). It has been pointed out that the hotel industry creates a significantly negative impact on the natural environment in terms of consumption of water and energy, impacts on biodiversity, and the use of nondurable products to provide services to their customers (Fraj et al., 2015). The implementation of PES can provide an opportunity for hotels to not only stand out from competitors, but also improve their organisational performance.

Thailand is one of the developing countries that relies heavily on the tourism industry. It was estimated that the total contribution of travel and tourism activities to Thailand's GDP in 2016 was USD82.5 billion, which was 20.6 percent of GDP (World Travel and Tourism Council, 2017). According to the recent report from the World

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Economic Forum, Thailand is ranked number 35 among 141 countries in the travel and tourism competitiveness index (Crotti & Misrahi, 2015). Thailand scores very high in natural resources and tourism infrastructure, but performs poorly in environmental sustainability, ranking number 116. In Thailand, the Green Leaf Foundation supports the implementation of green practices in the hotel industry; however, few hotels have joined this organisation. This reflects that the adoption of green strategies in Thailand's hotel industry is not widely practised. While there are many reasons for this, one is because hotel operators do not fully understand the benefits of implementing environmental practices.

The relationship between PES and organisational performance in the manufacturing context (Clarkson, Li, Richardson, & Vasvari, 2011; Menguc, Auh, & Ozanne, 2010; Molina-Azorín, Claver-Cortés, López-Gamero, & Tarí, 2009) and in the tourism industry, especially in developed countries (Fraj et al., 2015; Leonidou, Leonidou, Fotiadis, & Zeriti, 2013; Molina-Azorín, Tarí, Pereira-Moliner, López-Gamero, & Pertusa-Ortega, 2015), has been well documented. Little research has been done on this relationship in developing countries, especially developing countries that rely on the tourism industry. Moreover, the implementation of PES is affected by several local factors (Park, Kim, & McCleary, 2014; Schneider, 1989). These factors could differentiate the levels of the adoption of PES and, therefore, the relationship between PES and organisational performance might be different. This study examines the specific benefits of the implementation of PES in Thailand in order to encourage more hotels to implement environmental practices which could, in turn, improve the travel and tourism competitiveness in Thailand.

The remainder of this study is organised as follows: Section 2 describes the theoretical framework and presents the research hypotheses. Section 3 describes the research methodology. Analysis of the results is presented in section 4, while section 5 presents the main findings, the limitations, and directions for future research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Proactive Environmental Strategies

According to the natural-resource-based conceptual framework (Hart, 1995), strategy and competitive advantage are likely to be rooted in capabilities that facilitate environmentally sustainable economic activity. By adopting environmental strategies, firms can gain a competitive advantage by improving manufacturing efficiency, enhancing reputation, and raising a rival's costs by influencing future industry environmental standards (Clarkson et al., 2011). Hart's (1995) conceptual framework consists of three interconnected strategies: (1) pollution prevention, (2) product stewardship, and (3) sustainable development. A pollution prevention strategy proposes that products and production processes are continuously adopted by firms in order to reduce pollution levels below legal requirements (Buysse & Verbeke, 2003). Such pollution prevention strategies help companies to realise significant savings resulting in a cost advantage relative to that of competitors: for example, the installing and operating costs of pollution-control devices will decrease waste; less waste will result in a decrease in the cost of raw materials and waste disposal, and the cycle times will decrease because unnecessary steps in production operations are simplified or removed (Hart, 1995). This strategy can thus be viewed as a cost leadership approach (Buysse & Verbeke, 2003).

According to Hart (1995), through product stewardship strategies, companies can exit environmentally risky businesses by redesigning products and manufacturing systems to reduce liability, and by developing new products with lower life-cycle costs. A product stewardship strategy may be viewed as a form of product differentiation (Buysse & Verbeke, 2003). A sustainable development strategy requires companies to have a long-term vision of minimising the environmental burden of growth by developing clean technologies (Buysse & Verbeke, 2003). However, firms may not realise these benefits to the same degree if they have insufficient financial resources and limited management capability (Clarkson et al., 2011).

Management approaches toward environmental issues may vary because of a dependence on divergent determinants, such as organisational resources, managerial values, or market and industry conditions (Aragón-Correa & Sharma, 2003). These approaches are frequently categorised in a linear manner ranging from reactive to proactive behaviours (Fraj et al., 2015). Reactive behaviours are short-term-focused solutions aiming to adopt the environmental strategy for required regulations only; proactive behaviours go beyond environmental regulations by implementing voluntary actions to prevent environmental pollution, reduce waste, or minimise energy and water consumption (Fraj et al., 2015). Sharma (2000, p. 683) defines proactive environmental strategies as "a consistent pattern of company actions taken to reduce the environmental impact of operations, not to fulfil environmental regulations or to conform to standard practices". Menguc et al. (2010, p. 279) define PES as "a top management-supported, environmentally oriented strategy that focuses on the prevention […] of wastes,

emissions, and pollution through continuous learning, total quality environmental management, risk taking, and planning". In summary, PES may imply that the firm is committed to solving its environmental problems through the development of innovative practices (Buysse & Verbeke, 2003; Fraj et al., 2015) and this definition is used in this study.

PES can be viewed as a dynamic capability. According to Teece, Pisano, and Shuen (1997, p. 516), dynamic capability is defined as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments". According to this view, the development of critical capabilities and the ability to create, extend, upgrade, protect, and retain the firm's valuable and unique assets will result in a competitive advantage (Teece, 2007). Aragón-Correa and Sharma (2003) expanded Hart's resource-based-view, arguing that PES is a dynamic capability that allows firms to evolve and to align their strategy with the uncertain and changing environment. Teece (2007) argues that dynamic capabilities will enable a firm to effectively learn from its business process, to efficiently and rapidly adjust to markets and technologies, and to ultimately renew its competencies over time. Theoretically, as a dynamic capability, PES is regarded as a key source of sustained competitive advantage that will lead to improved performance. However, studies such as Gilley, Worrell, Davidson, and El-Jelly (2000) and Wagner, Van Phu, Azomahou, and Wehrmeyer (2002) have found no a positive significant effect of environmental management on performance. Molina-Azorín et al. (2009) reviewed 23 studies to find the relationship between environmental management and organisational performance and found mixed results; however, the majority of studies (21 out of 23) demonstrated a positive impact of environmental management on organisational performance.

2.2 Competitive Advantage

Business strategies are formulated to make sure that firms can sustain their current competitive position or can move to a stronger one. Improving a firm's competitiveness is the key objective (Rainer & Kazem, 1994). Porter (2004) argues that competitive advantage is at the heart of a firm's performance in highly competitive markets. According to Barney (1991, p. 102), a competitive advantage exists when a firm implements "a value creating strategy not simultaneously being implemented by any current or potential competitors"; and a sustained competitive advantage exists when a firm implements "a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy". Porter (2004, p. 11) defines a sustainable competitive advantage as a "fundamental basis of above-average performance in the long run". Many definitions share the concept that the major objective of a firm's competitive advantage is to achieve organisational objectives in the long term by implementing competitive strategies and successfully using unique resources and capabilities (Barney, 1991; Porter, 2004). This understanding is followed in this study.

To gain a competitive advantage, firms have to set up and implement their strategies and different strategies can result in different competitive advantages. For example, the differentiation competitive advantage can be obtained from a product innovation strategy and an intensive marketing and image management strategy (Miller, 1988). The product innovation strategy aims to create the most up-to-date and attractive products by leading competitors in design innovation, efficiency, quality, or style. The intensive marketing and image management strategy attempts to use marketing practices to create a unique image for the product. The cost competitive advantage can be obtained from strategies that focus on minimising product and operating costs and becoming the lowest cost producer in its industry (Porter, 2004). By implementing PES, several studies in different developed countries have confirmed that the adoption of such strategies will help firms to obtain both cost competitive advantage and product/service differentiation (Fraj et al., 2015; Leonidou et al., 2013; Menguc et al., 2010; Porter & van der Linde, 1995). However, the implementation of any strategies must be supported by resources and capabilities in order to sustain competitive advantage (Barney, 1991).

2.3 Hypotheses Development

Implementing PES could result in various benefits. Previous research has found a positive relationship between PES and environmental performance, such as the reduction of utility consumption and waste. Wagner (2009) claims that environmental performance can be improved by acting proactively to improve processes and products beyond the regulatory requirement. Using data from 77 ISO 14001-certified firms from various industries, Link and Naveh (2006) found that ISO 14001 rules, policies and procedures positively influence organisational environmental performance. López-Gamero, Molina-Azorín, and Claver-Cortés (2009) confirm that the adoption of proactive environmental management is a source of the improvement in environmental performance. Because of the high volume of water and energy consumption in providing services in the hotel industry, PES provides an opportunity for hotels to identify environmental inefficiencies and to initiate activities to reduce such

inefficiencies. Logically, PES will improve an organisational environmental performance. However, the implementation of green strategies is likely to be affected by several factors, such as local government regulations, the local environmental infrastructure, and the resources available (Park et al., 2014; Schneider, 1989). The question arises whether the benefits from the adoption of PES in other developed countries can be found in developing countries like Thailand. Therefore, it is proposed that:

H1: PES positively influences environmental performance (EP) in developing countries

Firms that implement PES are likely to be more innovative and socially conscious, which will impress their customers (Menguc et al., 2010; Porter & van der Linde, 1995). Green marketing strategies can help firms to reduce long-term costs markedly and to offer differentiated products to their customers (Leonidou et al., 2013). It can be argued that PES will result in product/service and process improvements. Menguc et al. (2010) argue that PES will help firms to go one step beyond their competitors, enjoying first-move competitive status because they can present their customers with a strong signal about their commitment to the natural environment. Leonidou et al. (2013) point out that customers are more likely to pay higher prices for environmentally friendly products and service. Therefore, the firms will gain not only competitive advantage, but will also generate greater business growth. However, the implementation of PES may require a significant amount of investment and the return from such investment may not be visible in the short-term. Although the findings about the relationship between PES and organisational competitive advantage are not conclusive (Molina-Azorín et al., 2015), and some studies find no effect or negative effect of environmental initiatives on organisational performance (Gilley et al., 2000; Wagner et al., 2002), most recent studies show that competitive advantage from the implementation of PES does occur (Delmas, Hoffmann, & Kuss, 2011; Fraj et al., 2015; Leonidou et al., 2013; Menguc et al., 2010). As previous research studies were conducted in developed countries with advanced environmental regulations, this study will extend previous research by investigating the positive relationship between PES and competitive advantage in Thailand, where environmental practices are relatively uncommon. Therefore, it is proposed that:

H2: PES positively influences organisational competitive advantage (COM) in developing countries

Regarding the link between environmental performance and competitive advantage, increased environmental efficiency could reduce costs and improve corporate image. Based on a survey of North American organisations, Vachon and Klassen (2008) find a correlation between environmental performance and competitive advantage. Using data from hotels in Greece, Leonidou et al. (2013) also find that the adoption of PES leads to superior market penetration, competitive advantage, and financial performance. Based on survey data from Taiwanese companies in various industries, Chiou, Chan, Lettice, and Chung (2011) find a positive relationship between environmental performance and competitive advantage. However, Rao (2002) did not find such a link in Southeast Asian firms (Indonesia, Malaysia, Philippines, Thailand and Singapore). It can be argued that these countries, may not be able to obtain immediate competitive advantage from positive environmental performance because the promotion of green strategies in these countries has only recently been introduced (OECD, 2013). As the adoption of green practices is in the early stages in Thailand, the positive relationship between environmental performance and competitive advantage might not be obvious. However, the existence of the Green Leaf Foundation might encourage hotels to improve their adoption of green practices and, in turn, the link between environmental performance and competitive advantage might be different from the previous study. Therefore, it is proposed that:

H3: Environmental performance (EP) positively influences competitive advantage in developing countries

Research has found that the consequence of competitive advantage deriving from PES and environmental management is one of the significant factors in enhancing financial performance (López-Gamero et al., 2011; López-Gamero et al., 2009; Nakao, Amano, Matsumura, Genba, & Nakano, 2007). López-Gamero et al. (2009) found that PES resulting from a differentiation and cost competitive advantage has a significant and positive effect on financial performance in both the service and manufacturing sectors. Enhancing competitive advantage through reducing costs, improving a firm's image and gaining a reputation among customers will improve the firm's overall financial performance (López-Gamero et al., 2009). Moreover, environmentally friendly products and services enable firms to charge higher prices, increase sales from existing segments, target new potential customers and generate increased cash flow (Leonidou et al., 2013). Rodríguez and del Mar Armas Cruz (2007) noted that firms with higher levels of environmental responsibility improved their profit levels and cash flow. As previously discussed, PES can help firms to eliminate many environmental inefficiencies, resulting in the reduction of operational costs. In addition, the reduction of out-of-pocket costs improves a firm's operating cash flow. With the reduction of operational costs and increased sales revenue, logically, it can be argued that PES, environmental performance and organisational competitive advantage will help firms to improve their operating

profit and other financial performance. To extend the study of the link between PES, environmental performance, competitive advantage and financial performance to the hotel industry in Thailand, the following hypotheses are proposed:

H4: PES positively influences financial performance (FIN)

H5: Environmental performance positively influences financial performance

H6: Competitive advantage positively influences financial performance

Figure 1 summarises the conceptual model that will be tested in this study.

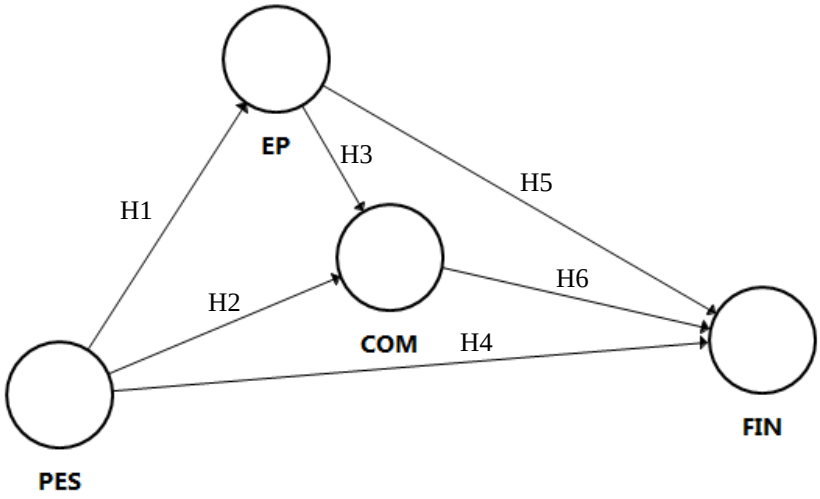

Fig. 1. Research model.

3. RESEARCH METHOD

3.1 Data Collection

This empirical study focuses on hotels that participated in the Green Leaf Program. The target population covers the hotel environmental manager, director or owner in charge of management of 219 hotels with a rating of four and five stars. The original questionnaire was written in English, translated to Thai, and then translated back to English. A different translator was used to translate from English to Thai and vice versa. This led to minor adjustments in the questionnaire. The two versions of the questionnaire were compared to make sure that the Thai and English questions convey the same meaning.

The data were collected at a major conference organised by the Thai Hotels Association (THA), the Green Leaf Foundation, the Hotel Human Research Management Club (HHRM) and the Tourism Authority of Thailand (TAT). The participants in the conference were informed about the research project and the paper-based questionnaire was distributed. Only the Thai version was made available to participants.

In total, 78 responses were received. Out of these, 7 had to be removed due to the significant amount of missing data and suspicious response patterns (same response for all question items). Missing data of the usable questionnaires were treated using a mean value replacement method. Under this method, the missing values of an indicator variable were replaced with the mean of valid values of that indicator. Because there were less than five percent values missing per indicator, the mean value replacement method is recommended (Hair Jr, Hult, Ringle, & Sarstedt, 2017). To determine the sufficiency of the sample size for the data analysis, a statistical power analysis was conducted (Hair Jr et al., 2017). The maximum number of independent variables in the model is 3, therefore a total sample size of 37 was required to achieve a statistical power of 80% for detecting R^2 values of at least 0.25 (with a 5% probability of type 1 error). Thus, the sample size for this study is likely to be sufficient to ensure reasonable statistical validity.

3.2 Measurement of Variables

Questionnaire items for all variables were obtained and adopted from existing literature. All variables were measured with a 7-point Likert scale. Table 1 summarises the questions and items that measure each construct.

Table 1. Measurement of variables.

Construct	Question	Questionnaire item
Proactive environmental strategy PES	To what extent do the participants agree that there is a wide range of environmental activities in various areas in their hotels?	15 items (Fraj et al., 2015; Sharma, 2009)
Environmental performance (EP)	To what extent do the hotels reduce the indicated environmental impact through the improvement of environmental management?	10 items (Molina-Azorín et al., 2015)
Competitive advantage (COM)	To what extent do the participants agree that their organisations are competitive because of strategies and activities relative to those of other firms in the sector?	8 items (López-Gamero et al., 2011; Molina-Azorín et al., 2015; Wagner, 2009)
Financial performance (FIN)	To what extent do the participants agree that their financial performance is better than their main competitors	4 items (Leonidou et al., 2013; Molina-Azorín et al., 2009; Molina-Azorín et al., 2015)

3.3 Data Analysis

In order to test the proposed model, structural equation modelling (SEM) was employed using partial least squares (PLS) with SmartPLS 3.0. PLS is the method of choice when the number of observations is lower than 250 (Reinartz, Haenlein, & Henseler, 2009) and when the main objectives of the research are to predict one or more dependent variables, not to confirm a previously theoretically accepted model. Consequently, it can be argued that PLS is appropriate for this study.

The common method bias may cause problems for survey research relying on self-reported data, especially when one respondent reports both dependent and independent variables. Therefore, the procedural and statistical methods were used to cope with this issue (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A separation of the measurement of dependant and independent variables as well as ensuring confidentiality and anonymity were used as the procedural method. The statistical method was conducted through the Harman's single-factor test by including all items in a principle components analysis (Podsakoff et al., 2003). The results showed that one factor explains 48 percent of variance. As it is less than 50 percent, it can be argued that common method bias does not seem to cause a relevant bias in this study.

4. RESULTS

The research model was evaluated through a two-step process. The process involves separate assessments of the measurement models and the structural model.

4.1 Measurement Models

All constructs included in the research model are first-order reflective constructs. Reliability (including construct reliability), convergent validity, and discriminant validity were examined. The *reliability* of the indicators' out loadings was examined to determine whether the indicator loadings are higher than 0.70. The results show that all of the items' loadings were above the critical value of 0.7, except items 4, 9, 13 and 15 under the PES construct and items 7 and 8 under the COM construct (see Table 2). Therefore, these items were removed from the analysis and this does not lead to biases as all constructs are reflective (Hair Jr et al., 2017).

Table 2. Results summary of measurement models.

Construct and Indicator	Loading > 0.7	Alpha > 0.7	Composite Reliability > 0.7	AVE >0.5	HTMT confidence intervals does not include 1
Competitive Advantage (COM)*		0.911	0.932	0.695	Yes
COM1: Brand image	0.852				
COM2: Quality of service	0.861				
COM3: Customer orientated	0.874				
COM4: Greater credibility	0.884				
COM5: Minimising operational costs	0.771				
COM6: Reduction in regulation compliance costs	0.750				
Environmental Performance (EP)		0.955	0.961	0.711	Yes
EP1: Water	0.766				

EP2: Energy	0.826				
EP3: Non-renewable resources	0.878				
EP4: Chemical	0.866				
EP5: Solid waste	0.826				
EP6: Discharges	0.852				
EP7: Emission	0.870				
EP8: Noise	0.841				
EP9: Landscape	0.863				
EP10: Risk of Accident	0.814				
Financial Performance (FIN)		0.923	0.946	0.815	Yes
FIN1: Operating profits	0.912				
FIN2: ROI	0.913				
FIN3: Sales volume	0.825				
FIN4: Cash-flow from operating activities	0.957				
Proactive Environmental Strategy (PES)*		0.949	0.956	0.663	Yes
PES1: Environmental policy	0.861				
PES2: Updating environmental knowledge	0.873				
PES3: Interested in the best green practices	0.787				
PES5: Using green products	0.830				
PES6: Reducing environmentally threatening products	0.828				
PES7: Applying utility saving practices	0.729				
PES8: Recycle	0.827				
PES10: Employee involvement	0.843				
PES11: Training on environmental issues	0.819				
PES12: Green reward program for employees	0.777				
PES14: Guest involvement	0.774				

* Items 7 and 8 under the COM construct, and items 4, 9, 13 and 15 under the PES construct were removed.

The *construct reliability* of the construct measures was evaluated through an internal consistency measure. The composite reliability should be higher than 0.70 and, in this case, all constructs had high levels of internal reliability. *Convergent validity* was assessed based on the average variance extracted (AVE). The results showed that the AVE values of all constructs were well above the required minimum level of 0.5 (Hair Jr et al., 2017). Therefore, the measures of the reflective constructs had high levels of convergent validity.

Discriminant validity was assessed to determine whether the construct measures discriminate well empirically. According to the Fornell-Larcker criterion (Hair Jr et al., 2017), the square root of the AVE values of each construct should be higher than the correlation coefficients between the constructs. The results showed that the square roots of the AVE values for all constructs were higher than the correlations of these constructs with other variables in the model (Table 3). The results also showed that an indicator's loading on its assigned construct is higher than all of its cross-loadings with other constructs. For further investigation of discriminant validity, a bootstrapping of 5,000 subsamples was conducted. The confidence intervals of Heterotrait-Monotrait (HTMT) showed that neither of the confidence intervals includes the value of 1. Therefore, all discriminant validity assessments indicate that all constructs are valid measures of unique concepts.

Table 3. Discriminant validity (Fornell-Larcker Criterion).

Construct	**COM**	**EP**	**FIN**	**PES**
COM	0.834			
EP	0.753	0.843		
FIN	0.588	0.493	0.903	
PES	0.733	0.754	0.432	0.815

4.2 Structural Model

Once the construct measures were confirmed to be reliable and valid, the next step was to assess the structural model results. First, collinearity issues for the structural model were checked by examining the VIF values of all sets of predictor constructs in the structural model. The results showed that all VIF values were above 0.20 and below the threshold of 5. Therefore, collinearity among the predictor constructs is not a critical issue. Second, a bootstrapping of 5,000 subsamples was conducted to assess the significance of the path coefficients. The structural model was examined through the significance of the path coefficients, and the R^2 values of the dependent values were observed.

The results showed that all of the path coefficients were significant at the 1 percent level except the coefficient of PES to FIN and that of EP to FIN. Therefore, all hypotheses are supported except hypotheses 4 and 5 (see Table 4). The R^2 values showed that the model explains 63.10 percent of the variance of the competitive advantage, 56.80 percent of the variance of environmental performance, and 35.30 percent of the variance of financial performance. The effect size f^2 assesses an independent construct's contribution to a dependent variable's R^2 value.

The results showed that PES has a large effect of 1.315 on EP and a medium effect of 0.173 on COM, while EP has a medium effect of 0.251 on COM, and COM also has a medium effect of 0.157 on FIN. In contrast, PES and EP have no effect on FIN. In addition to an evaluation of predictive accuracy using the R^2 values, Stone-Geisser's Q^2 values were examined using the blindfolding procedure. As Q^2 value is larger than zero (Q^2-COM = 0.389; Q^2-EP = 0.356; Q^2-FIN = 0.260), the results provide clear support for the model's predictive relevance regarding the dependent variables.

Table 4. Significance testing results of the structural model path coefficients.

Hypotheses	β	t Values	p Values	95% confidence intervals	Significance (p < 0.05)?	f^2
H1: PES -> EP	0.754	13.275	0.000	[0.621, 0.215]	Yes	1.315
H2: PES -> COM	0.384	3.583	0.000	[0.150, 0.564]	Yes	0.173
H3: EP -> COM	0.463	4.763	0.000	[0.284, 0.660]	Yes	0.251
H4: PES -> FIN	-0.062	0.447	0.656	[-0.325, 0.215]	No	0.002
H5: EP -> FIN	0.144	0.907	0.358	[-0.144, 0.481]	No	0.011
H6: COM -> FIN	0.525	3.389	0.001	[0.202, 0.819]	Yes	0.157

The total effects were also examined by the 5,000 subsamples bootstrapping procedure. The sum of direct and indirect effects is referred to as the total effect. The results showed that all total effects are significant at a 5 percent level (Table 5).

Table 5. Significance testing results of the total effects.

Hypotheses	β	t Values	p Values	95% confidence intervals	Significance (p < 0.05)?
PES -> COM	0.733	11.164	0.000	[0.590, 0.847]	Yes
PES -> FIN	0.432	4.790	0.000	[0.236, 0.589]	Yes
EP -> FIN	0.387	2.531	0.011	[0.094, 0.694]	Yes

The mediation effects were also examined. Table 6 summarises the bootstrapping results for the relationships between PES and COM, PES and FIN as well as EP and FIN. Since none of the 95 percent confidence intervals includes zero, all indirect effects are significant. A test for the significance of the direct effect showed that only the direct effect from PES to COM is significant. It can be concluded that on one hand, EP represents complementary mediation of the relationship from PES to COM, and on the other hand, EP and COM fully mediate the relationship from PES to FIN, and COM fully mediates the relationship from EP to FIN.

Table 6. Results of the indirect effects estimation.

Hypotheses	Direct Effect	95% Confidence Interval of the Direct Effect	Significance (p < 0.05)?	Indirect Effect	95% Confidence Interval of the Indirect Effect	t Values	Significance (p < 0.05)?
PES -> COM	0.384	[0.150, 0.564]	Yes	0.349	[0.200, 0.544]	4.012	Yes
PES -> FIN	-0.062	[-0.325, 0.215]	No	0.494	[0.255, 0.742]	3.978	Yes
EP -> FIN	0.144	[-0.144, 0.481]	No	0.243	[0.081, 0.462]	2.532	Yes

Figure 2 presents the path coefficients of the structural model.

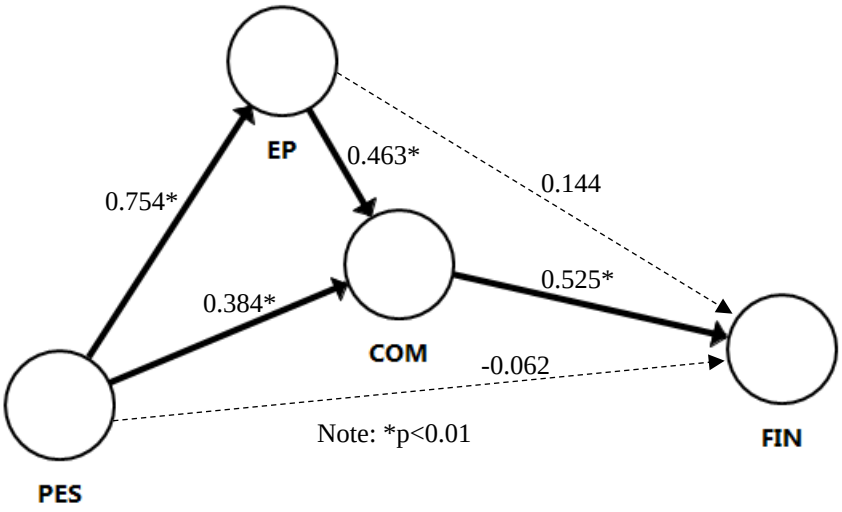

Fig. 2. Results of the structural model.

5. DISCUSSION

This study identifies the specific benefits from the implementation of PES by examining the relationships of PES, environmental performance, competitive advantage and financial performance. Several implications can be drawn from the findings of this study.

Regarding the relationship between PES and environmental performance, the results showed that the adoption of PES strongly influences environmental performance in terms of the reduction of water and energy consumption, waste management and environmental risk management. Therefore, hypothesis 1 is supported. By implementing PES, hotels are able to eliminate environmental inefficiencies and to find an innovative way to reduce their utility consumption. As the hypotheses 2 and 3 are supported, a competitive advantage can be obtained in not only a direct way from PES but also an indirect way through environmental performance. Hotels will be able to reduce their short-term operational costs and waste management costs by reducing consumption of utilities and waste by utilising green practices. Moreover, the long-term operational costs can also be reduced through the use of environmentally friendly products, which extends the useful life of operational assets, together with lower maintenance costs. The implementation of green practices will allow hotels to evaluate and assess their operating activities in order to minimise environmental risks and to communicate the risks to the stakeholders. The communication with stakeholders will tend to improve hotels' reputations. Therefore, differentiation competitive advantage can be obtained through PES.

With the link between PES and financial performance, the results showed that PES does not have a direct positive effect on financial performance. Therefore, hypothesis 4 is rejected. However, an indirect effect was found through environmental performance and competitive advantage. It can be argued that environmental performance and competitive advantage fully mediate the relationship between PES and financial performance. Hotels cannot directly improve their financial performance by adopting PES; but PES will contribute to minimising environmental efficiencies as well as improving their image and reputation which will, in turn, enhance the financial performance in terms of operating profits, sales volume and cash flow. The same argument can be applied to the relationship between environmental performance and financial performance. As hypothesis 5 is rejected, environmental performance can improve financial performance only through organisational competitive advantage.

For the final hypothesis, organisational competitive advantage including cost competitiveness and differentiation competitive advantage will ultimately enhance financial performance. Therefore, hypothesis 6 is supported. As previously discussed, short-term and long-term costs can be reduced through the adoption of PES. The cost reductions will result in improved operating profits and increased return on investment. Differentiation competitive advantage through brand image and reputation will help hotels to increase sales from existing segments and target new potential customers and, therefore, increase sales revenue and market share.

The results of this study are subject to the following limitations. Firstly, the data reflect the perceptions of participants. As individual perception is subjective and may differ from objective facts, the results should be interpreted with caution. Secondly, this study did not investigate the effects of PES on organisational performance over time. This should be part of further research in this domain. Additionally, this study focuses only on the outcomes of the implementation of PES. To better help hotels implement green strategies, more studies regarding resources and capabilities that complement the adoption of such strategies are required. Moreover, further cross-national studies would help to utilise the findings in other developing countries that heavily depend on the tourism industry.

The conclusion can be drawn that taking good care of the natural environment and implementing green strategies can benefit the hotel industry. As a number of research studies extensively conducted in developed countries (Fraj et al., 2015; Martínez-Martínez, Cegarra-Navarro, & García-Pérez, 2015; Molina-Azorín et al., 2015), this study extends previous studies by adding to the literature that a green strategy is an appropriate part of a business model for the hotel industry in both developed and developing countries. Hotels should be encouraged to go green in order to successfully stand out from their competitors and survive in the highly competitive global market. For the hotel industry in Thailand, the implementation of PES will not only benefit the hotels themselves, but will also improve environmental sustainability levels and the competitive advantage of the country's travel and tourism industry.

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