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# The Driving and Restraining Forces for Environmental Strategy Adoption in the Hotel Industry: A Force Field Analysis Approach

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**Abstract**

The main purpose of this study was to explore the specific environmental strategies adopted in the hotel industry in Taiwan. Furthermore, through a force field analysis approach, this study also attempted to identify the driving and restraining forces of environmental strategy adoption from the industry perspective. A series of semi-structured interviews were conducted with senior hotel managers in Taiwan. A total of 21 environmental strategies emerged from the data, which were further categorised into 14 key areas, namely, water, energy, transport, waste, amenities, harmful substances, guest rooms, building design and materials, procurement, food services, outdoor environment, corporate social responsibility, guest information, management and staff commitment. Eight main types of "low-cost" environmental strategies were also identified. Furthermore, 26 key driving forces and restraining forces for environmental strategy adoption were obtained from the data. Based on these findings, strategies to encourage the driving forces of environmental strategy adoption were derived.

**Keywords:** environmental strategy; green strategy; Green Mark; force field analysis; driving force; restraining force.

## 1. INTRODUCTION

The hotel industry is recognised as one of the most energy-intensive sectors of the tourism industry. Hotel facilities rank among the top five in terms of energy consumption in the commercial building sector (U.S. Energy Information Administration, 2018). It is estimated that a typical hotel annually releases between 160 and 200 kg of $CO_2$ per $m^2$ of room floor area, depending on the fuel used to generate electricity, heating, or cooling (Bohdanowicz, 2005; Chan

& Lam, 2002). However, the hotel industry was initially slow to respond to environmental demands until several environmental awareness programmes have emerged since the 1990s, for example, the International Hotel Environmental Initiative (IHEI), the Environmental Action Pack for Hotels (Choi et al., 2018; Diamantis, 1999).

Nowadays, hotel managers and owners are generally more aware of the importance and benefits of adopting environmental strategies (or so-called "green strategies") in their operations (Chan, 2013; Gupta, Dash, & Mishra, 2019; Molina-Azorín et al., 2015). There are also a greater number of internationally recognised green hotel certification programmes in place, such as the ISO14001 Certification, Green Globe 21, Leadership in Energy and Environmental Design (LEED) certification, the European Union Eco-Management and Audit Scheme (EMAS), TripAdvisor GreenLeaders, Green Seal, and Green Key (Choi et al., 2018; Teng et al., 2012). Nonetheless, despite these efforts, previous research indicates that environmental strategies tend to give way to other operational concerns in many cases, and a large gap still exists between managerial attitudes and environmental strategy adoption in the hotel industry (Bohdanowicz, 2006; Chan, 2008; Leonidou et al., 2013).

Research findings have revealed that many hoteliers perceive implementation and maintenance cost as one of biggest barriers to implementing environmental strategies (Chan, 2008; Tzschentke, Kirk, & Lynch, 2008). This accentuates the need to identify perceived low-cost environmental strategies that are suitable and effective for the hotel sector (Rahman, Reynolds, & Svaren, 2012). Such knowledge would be most valuable in contribution to a higher adoption rate of "green" strategies in the hotel sector. Other than implementation cost, there are a number of factors that may hinder the adoption of environmental strategies. High among these factors are lack of professional advice, lack of knowledge and skills and lack of resources (Bohdanowicz, 2006; Chan, 2008; Kirk, 1998). Conversely, there is preliminary evidence that certain factors support the adoption of environmental strategies, for example, legislation, corporate governance, environmental pressure, and economic benefits. A better understanding of the driving and restraining forces would, therefore, provide valuable insight into increasing the adoption of environmental strategies. Nonetheless, there is a lack of systematic studies on the driving and restraining forces of environmental strategy adoption in the hotel industry, and it is one of the main purposes of the present study to identify these forces.

On the demand side, although there is a general increase in customers' awareness and interest

in “greener” products, such predilection may not be readily transferred to consumption in the tourism context. One of the major reasons is that tourism is predominantly hedonic (Mak et al., 2012), and many tourists may not be keen in enduring “inconvenience” or “hardship” when they travel. In fact, there is a common conception that “environmentally friendly” practices may often entail austerity and certain degree of inconvenience, which are in stark contrast with the hedonic nature of tourism. As a result, some hotel managers and owners are wary that “green practices” carried out to the extreme extent may lead to perceived degradation of service quality.

In Taiwan, the Environmental Protection Administration (EPA) has initiated a green certification system, the Green Mark, to promote green production and consumption in 1992. The Green Mark has been extended to cover the hotel industry since November 2008 (Hsiao et al., 2014). Furthermore, a Regulatory Standards for Accrediting Green Hotels (RSAGH) was established, which include seven environmental strategy categories: (1) corporate environmental management, (2) energy conservation measures, (3) water conservation measures, (4) green procurement, (5) reduction of disposable products and waste, (6) management of hazardous materials, and (7) garbage sorting and recycling (EPA., 2010). Nevertheless, Teng et al. (2012) contend that the standards for the Green Mark and RSAGH still lack consensus among various stakeholders, including the government, hoteliers, and environmental experts.

In addressing the above issues, the main objectives of this study are: to explore the environmental strategies (including perceived “low-cost” environmental strategies) adopted in the hotel industry in Taiwan; to identify the driving and restraining factors of environmental strategy adoption through a force field analysis approach; and to identify appropriate strategies to encourage the driving forces and to minimise the restraining forces of environmental strategy adoption.

## 2. LITERATURE REVIEW

### 2.1 Definitions of Environmental Strategies

With the increasing awareness of the environmental burden created by hotels, environmental strategies in the hotel industry have begun to receive a great deal of research attention. There are various definitions of the term “environmental strategy”. For example, Aragón-Correa and Sharma (2003) defined environmental strategy as “a strategy to manage the interface between its

business and the natural environment" (p.71). Carmona-Moreno et al. (2004) view environmental strategy as the strategic orientation a firm gives to environmental questions and to how it uses them as a competitive tool. Latan et al. (2018) regard environmental strategies as a set of initiatives that can reduce the impact of operations on the natural environment through products, processes and corporate policies such as reducing energy consumption and waste, using green sustainable resources and environmental management system implementation" (p.299). Based on these definitions, the present study defines environmental strategy as a strategy adopted by an organisation in an attempt to reduce or minimise the environmental impacts of its operations on the natural environment.

## 2.2 Approaches to Environmental Strategies

There are generally two approaches to environment strategies: reactive approach, and proactive approach. In the reactive approach, environmental strategies are in place because of the need to respond to external pressures. In contrast, the proactive approach entails voluntary environmental strategies that go beyond regulatory requirements. The approach adopted will impact on the choice and implementation of environmental strategies (Claver-Cortés et al., 2007; Fraj, Matute, & Melero, 2015).

As Sharma (2000) states, "a voluntary (proactive) environmental strategy represents 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. Rather, according to strategic choice theory, such actions would be the product of a wide range of organisational and managerial choice." (p. 683). In this sense, the proactive approach has been proposed as urgent, profitable and sustainable ways for firms to deal with environmental issues. In their quantitative study, Fraj et al. (2015) found that innovative hotels tend to be more proactive in their environmental strategies, and the proactive approach positively affects organisational competitiveness. Conversely, Heikkurinen (2011) further delineates two alternative approaches to environmental strategies: instrumental approach and awareness approach. Table 1 depicts the key differences of the two approaches in terms of values, actions and words.

*** Please insert Table 1 about here**

The instrumental approach refers to values based on utilitarian ethics, passive/reactive/ proactive actions, and pragmatic/image-driven discourses. Under this approach, the

environmental responsibility is mainly a tool to achieve economic gains. In contrast, the awareness approach refers to values based on virtue/duty ethics, entrepreneurial/creative actions, and reflective/identity-driven discourses. In this approach, the environmental responsibility is a tool to achieve environmental gains. The awareness approach maximises the contribution to sustainability. More recently, Hyatt and Berente (2017) distinguish two general approaches to environmental strategies in relation to stakeholder pressures, namely, substantive approach and symbolic approach. The substantive approach assigns high priority to environmental criteria in making decisions and often involves a meaningful and authentic commitment to the natural environment. In contrast, the symbolic approach often entails ceremonial or compliance-oriented practices to bolster or protect an organisation's reputation but not genuine commitment in resolving environmental issues. In this sense, the substantive approach is analogous to the proactive and awareness approaches; whereas the symbolic approach is comparable to the reactive and instrumental approaches.

## 2.3 Environmental Strategies

Previous environmental strategies usually take the form of three R principles: reduce, reuse and recycle (Diamantis, 1999). Today, environmental strategies are more concerned with a holistic environmental management system (EMS). A review of literature has identified a number of environmental strategies: implementation of environmental management system, applying for green certification, adopting green marketing strategies, and employing low-cost environmental strategies. These strategies are discussed in the following sections.

*Implementation of Environmental Management System*. The implementation of a formal environmental policy or an environmental management system (EMS) has been widely acknowledged as an effective environmental strategy. EMS is a management system that aims to encourage an organisation to control its environmental impacts and reduce such impacts continuously. Research suggests that some of the key reasons for hotels to adopt a EMS include environmental concern, economic reasons, and to achieve a positive image (Chan, 2008). Research evidence also indicates that hotels with a formal environmental policy or an EMS tend to achieve better environmental performance (Brown, 1996).

*Applying for Green Certification*. There are an increasing number of internationally recognised certification schemes available for the hotel industry. For example, the ECOTEL

Certification is centred upon the idea of the “Five Globes”, which together encompass the processes, systems and practices that ensure sustainable hotel operations. The “Five Globes” include these dimensions: (1) environmental commitment, (2) waste management, (3) energy management, (4) water management, and (5) employee education and community involvement. An audit is undertaken in each of these globes based on a checklist (ECOTEL, 2014).

Another internationally recognised certification system is the ISO14001 offered by the International Organisation for Standardisation (ISO). The ISO 14000 family addresses various aspects of environmental management. It provides practical tools for companies and organisations looking to identify and control their environmental impact and constantly improve their environmental performance. ISO 14001:2004 and ISO 14004:2004 focus on environmental management systems. The other standards in the family focus on specific environmental aspects such as life cycle analysis, communication and auditing (ISO, 2014).

With regard to building standards, the Leadership in Energy and Environmental Design (LEED) is available for hotel building certification. Developed by the U.S. Green Building Council (USGBC), LEED is an internationally recognised green building certification system providing third-party verification that a building or community was designed and built using strategies aimed at improving performance. LEED addresses seven areas: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation in design, and regional priority.

Although different certification systems focus on different environmental issues, some fundamental criteria are addressed by most certification systems. By reviewing major international hotel certification programmes, Teng et al. (2012) identified twelve dimensions that constitute the common standards for a green hotel: (1) water, (2) energy, (3) waste, (4) corporate environmental management, (5) staff involvement, (6) guest information, (7) indoor environment quality, (8) hazardous substances, (9) social involvement and communication, (10) purchasing, (11) transport, and (12) food and beverage.

*Adopting Green Marketing Strategies*. Ginsberg and Bloom (2004) based on the marketing mix, suggested four different green strategies: (1) the lean green strategy, (2) the defensive green strategy, (3) the shaded green strategy, and (4) the extreme green strategy (Figure 1).

*** Please insert Figure 1 about here**

According to Ginsberg and Bloom's (2004) typology, companies adopting the "lean green strategy" implement environmental strategies in order to reduce costs and comply with regulations. They are often hesitant to promote their green initiatives or green product attributes for fear of being held to a higher standard which they cannot live up to. Companies that employ the "defensive green strategy" usually do so as a precautionary measure to respond to competitors' actions and to external pressures from environmental groups. They might mention their green initiatives on their websites, but would not publicise them externally much beyond that. Conversely, companies using the "shaded green strategy" typically invest in long-term, system-wide environmentally friendly processes that require a substantial financial and nonfinancial commitment. They adopt green strategies to develop innovative products and technologies that can be turned into a competitive advantage. Finally, companies adopting the "extreme green strategy" fully integrate environmental considerations into their core business and marketing mix elements. Social responsibility is often embedded in their identities and missions, and they often service niche green markets. Table 2 provides a comparison of the four green strategies based on the marketing mix elements.

*** Please insert Table 2 about here**

*Employing Low-cost Environmental Strategies.* Low-cost environmental strategies are also known as low-cost green practices (Rahman et al., 2012). Although there is no universally-accepted definition of a low-cost environmental strategy at present, this type of strategies are generally considered as easy-to-achieve, which may include both monetary and non-monetary aspects (Kirk, 1995; Tzschentke et al., 2008). Rahman et al.'s (2012) study is one of the first published research to explore low-cost environmental strategy adoption in North American hotels. They have identified five main categories of low-cost environmental strategies based on a number of sources, including the San Francisco Green Business Programme's energy conservation, water conservation, pollution prevention, and recycling and waste minimisation guides. These five main categories are: (1) energy management (e.g., replace incandescent light bulbs with energy efficient light bulbs), (2) waste reduction (e.g., have a linen reuse programme), (3) recycling practices (e.g., have recycling receptacles in guest rooms), (4) staff education (e.g., train staff to be more eco-friendly), and (5) green business (e.g., purchase from green vendors).

Taking cognizance of Rahman et al.'s (2012) emphasis that many low-cost environmental practices, when implemented with a little ingenuity, do not require large start-up investments. This connotation echoes the stakeholder theory which states that managers are often in a position to pursue the best interests of a company they manage, especially economic/financial interest (Jones, Wicks, & Freeman, 2017). Hence, "cost-motivated" green initiatives are often commonplace (Gupta et al., 2019). Yet, there is a lack of such knowledge in the hotel industry, and this deficiency would make comparison or further theoretical development difficult if not impossible. Accordingly, this study attempts to systematically examine the "low-cost" environmental strategies adopted in the hotel industry. One major difficulty in doing so is the lack of a universally-agreed definition on "low-cost" environmental strategy; despite this setback, this present study defines "low-cost" environmental strategies as strategies that do not require large start-up investments in comparison with the immediate results as perceived by the management. Since this study adopts an interpretivist approach, this working definition of low-cost environmental strategy is considered appropriate.

## 2.4 Driving Forces for Adoption of Environmental Strategies

Driving forces can be divided into *external* and *internal* forces. External forces include forces generated outside of the company; such as from the macro-environment: political, economic , social, technological, legal, and environmental (PESTLE analysis) (Kew & Stredwick, 2005) as well as from the micro-environment: suppliers, competitors, customers, marketing intermediaries and the general public. Internal forces refer to forces within the company. To date, no study has examined the external and internal forces for adoption of environmental strategies in the hotel industry. Based on the existing literature, a number of potential driving forces are discussed below.

Considerable research evidence suggests that legislation can be one of the most important driving forces for environmental strategy adoption. For example, Chan and Wong (2006) identified legislation and corporate governance as the two salient factors for predicting whether or not a hotel intends to obtain the ISO 14001 certification. Hsiao et al. (2014) contend that the dynamic evolution of legislation is a crucial driving force behind environmental strategy adoption. Chan (2013) points out that some hotel companies see simple compliance with environmental legislation as an opportunity to promote their green credentials.

Corporate governance is also recognised to play a significant role in driving the adoption of environmental strategies such as obtaining ISO 14001 certification (Chan & Wong, 2006). Corporate governance refers to the mechanisms that influence the decisions made by managers when there is a separation of ownership and control (Larcker, Richardson, & Tuna, 2007). An effective corporate governance system will allow a company to ensure compliance with corporate ethics and promote corporate social responsibility (CSR), which will in turn facilitate the adoption and implementation of environmental strategies.

Top management attitude and perception are acknowledged as a crucial driving force for environmental strategy adoption. Implementation of environmental strategies usually starts from top management. Hence, top management attitude and perceived importance of environmental strategies will significantly affect their strategic priority. For example, Chan (2013) explored Hong Kong hotel managers' perceptions of the relative importance of different green marketing strategies. Thirty statements derived from the literature were used in the questionnaire survey. It was found that hotel managers perceive "hotel green marketing should begin with green product and service design", "hotels provide products and services that do no harm to human health" and "the Internet is an effective channel to market a hotel's green initiatives to customers directly" as the top green marketing ploys.

The environmental pressure from consumers is also vital in driving environmental strategy adoption. For example, consumer advocacy group may put pressures on organisations to incorporate green practices into their operations (Kovács, 2008). Many believe that the hotel industry will no longer be able to ignore its environmental responsibilities and will have to respond to a number of pressures, for example, from "green tourists" (Brown, 1996; Chan, 2013; Diamantis, 1999).

## 2.5 Restraining Forces for Adoption of Environmental Strategies

Restraining forces for implementing environmental practices refer to the physical or social obstacles that may hinder or prevent the adoption and implementing of environmental strategies. Similarly, there is a lack of systematic studies addressing the restraining forces for adoption of environmental strategies in the hotel industry. Based on the existing literature, a number of potential restraining forces for adoption of environmental strategies are discussed below.

Chan's (2008) study attempted to identify the barriers that may hinder a hotel from adopting a formal EMS in the hotel industry in Hong Kong. Six dimensions of barriers were identified (ranked in order from the greatest to the lowest barrier): (1) implementation and maintenance costs; (2) lack of professional advice; (3) lack of knowledge and skills; (4) lack of resources; (5) certifiers/verifiers; and (6) uncertainty of outcome. Chan (2008) contends that these barriers indicate that hotels are normally hindered by both internal and external barriers; however, internal barriers such as implementation and maintenance cost, knowledge, skills, and resources appear to have the most significant role in impeding the progress when considering a formal EMS. This is particularly obvious for smaller scale hotels. Chan's (2008) study provides useful insight as it is one of the first few attempts to investigate the factors hindering the adoption of EMS. Nevertheless, there is still a lack of studies on the restraining forces for adoption of other environmental strategies.

Peattie and Crane (2005) emphasise that the fear of being accused of "green washing" can be a restraining force to adopt green strategy. "Green washing" refers to any form of marketing or public relations that links an organisation to a positive association with environmental issues for an unsustainable product, service, or practice. Although, Peattie and Crane (2005) do not explicitly link this factor to the hotel industry, Chan (2008) argues that the fear of being accused of "green washing" may affect hotel managers' evaluation and adoption of certain environmental strategies.

## 2.6 Force Field Analysis

Force field analysis (FFA) was developed by Lewin (1935; 1946) as a systemic method aimed to enhance the management of change by generating a tactical approach. As Lewin (1946) states, behaviour in an institutional setting is not static but as a dynamic balance of forces working in opposite directions. Accordingly, if a change is to be successfully implemented, it is important to identify the driving forces that will support the change as well as the restraining forces that will inhibit the change.

There are five main steps in the FFA: (1) identify planned change, (2) identify driving forces that will drive the change, (3) identify restraining forces that will restrain the change, (4) formulate strategies to encourage driving forces, and (5) formulate strategies to reduce or eliminate resisting forces. Tribe (2006) emphasises that the main merits of FFA is that it provides

the researcher a framework to identify both the driving and restraining forces of the issues that are being examined. Hartwig (2016) also cogently describes FFA as an effective tool for identifying the "headwinds" acting against and "tailwinds" pushing for lasting organisational change. FFA facilitates an in-depth understanding of the forces for and against the change, and thus, allows a change agent to organise information in terms of its relevance for change and formulate strategies to effectively manage the change (Shrivastava, Shrivastava, & Ramasamy, 2017; Swanson & Creed, 2014).

## 3. METHODOLOGY

### 3.1 Research Design and Process

To achieve the research objectives, an interpretivist research approach was adopted. The main purposes of the study were to explore the specific environmental strategies adopted and to identify the driving and restraining forces of environmental strategy adoption. A purposive sampling method was used to recruit appropriate key informants. Senior hotel managers of both international tourist hotels and ordinary tourist hotels were invited to a semi-structured interview. The purposive sampling method enables the researcher to select suitable participants who have the knowledge of the research topic so that it would be of most benefit to answer the research questions and to meet the research objectives (Saunders, Lewis, & Thornhill, 2009). In other words, the main aim of purposive sampling is to select participants who are particularly informative rather than being statistically representative of the total population (Patton, 2002). Although purposive sampling is a non-probability sampling method, it is considered appropriate in the exploratory stages of research (Saunders et al., 2009).

Hotels in Taiwan can be divided into international tourist hotels and ordinary tourist hotels (TTB, 2017). International tourist hotels, based on patterns of operations, can be distinguished into three sub-groups: independent operations, domestic hotel chains and international hotel chains, which can further be subdivided into franchise chains, management contract and membership (Hwang & Chang, 2003). In order to obtain a more comprehensive view of the current state of environment strategy adoption in the hotel sector, this study includes both international tourist hotels and ordinary tourist hotels in the investigation.

### 3.2 Data Analysis

Content analysis was used to analyse the qualitative data. Content analysis is "a multipurpose research method developed specifically for investigating a broad spectrum of problems in which the content of communication serves as the basis of inference" (Cohen & Manion, 1994, p. 55). It involves collecting, classifying, ordering, synthesising, evaluating, and interpreting of the content of communication, and aims to provide an in-depth knowledge and understanding of the phenomenon under inquiry (Downe-Wamboldt, 1992). The method is widely used for analysing qualitative research data such as speech, written text, and interviews (Patton, 2002). One key benefit of content analysis is that it allows the researchers to generate frequencies from qualitative data, while at the same time maintaining the richness of the data (Veal, 2006).

When analysing the interview data, the three fundamental steps for analysing qualitative data were adopted, namely: (1) unitising the data, (2) categorising the data, and (3) contextualising the data (Denzin & Lincoln, 2000; Maxwell, 1996; McCracken, 1988). The first step was to unitise the data into smaller pieces that could stand alone. The initial coding process was guided by the literature review and the research objectives of this study (Bryman & Bell, 2007). The second step involved labelling and categorizing of phenomena as indicated by the first step. The third step was to contextualise the phenomena and to establish connections between each category in order to examine what conditions caused the categories or the consequences that arise from the categories.

### 3.3 Reliability and Validity

Contrary to quantitative methods which focus on reliability and validity, qualitative methods such as the semi-structured interview are concerned with "trustworthiness" of data (Franklin, Cody, & Ballan, 2010). Lincoln and Guba (1985) distinguish four criteria of trustworthiness: (1) credibility, (2) dependability, (3) transferability and (4) confirmability, which correspond roughly to the positivist concepts of internal validity, reliability, external validity and objectivity. In order to ensure the trustworthiness of the analysis of semi-structured interview data, a number of measures were adopted, including audit trail, member checking, and peer debriefing (independent coding).

An audit trail is a key strategy to enhance dependability of qualitative findings. It involves the systematic record keeping of the procedures and data relevant to the study (Lincoln & Guba,

1985). In this study, an audit trail was established by the researcher documenting the research process through journaling of research activities and data analysis procedures clearly. Member checking refers to channelling researcher's interpretations back to the participants to ensure credibility (Lincoln & Guba, 1985). The researcher asked relevant questions during the interview in order to assess whether participants' meanings were interpreted precisely.

Peer debriefing is the process of engaging professional colleagues in analytic discussions about data interpretation. After the data was coded independently by the principal investigator and two research assistants, a tourism/hospitality researcher was invited to serve as a peer debriefer to check the accuracy and objectivity of the coding. Following the procedures described by Thomas (2004), the peer debriefer was given the research objectives and some of the interview transcripts. The peer debriefer was then invited to create themes/categories from the transcripts. The themes/categories independently coded by the peer debriefer were then compared with the ones developed by the principal investigator and research assistants. The percent agreement among the four coders was 88% (average percent agreement = (88 + 89 + 87) %/300 = 88%). Where disagreement occurred, the classification was reviewed again and discussed until agreement was reached. In this way, coding consistency was established.

### 3.4 Ethical Considerations

With regard to ethical issues, interview participants were told that their participation was completely voluntary, and they could withdraw from the study at any time. The researcher assured participants that their responses would be kept anonymous, and all information obtained would be kept strictly confidential and be used for academic purposes only. If the participants agreed to accept the interview invitation, they were asked to sign a letter of consent. The researcher also sought participants' consent before digitally recording the interview.

## 4. FINDINGS AND DISCUSSION

### 4.1 Profile of the Participants

A total of 17 senior hotel managers were interviewed between August 2015 and May 2016. The majority of them were general managers (41%), followed by vice chairman/director/CEO

(24%), resident managers (18%) and assistant general managers (12%). Their years of experience in their current position ranged from 1 to 27 years (mean = 6).

Over half of the participants' hotels were 5-star hotels (53%), followed by hotels that had not joined the star rating system (24%), and 4-star hotels (18%). There were slightly more business hotels (59%) compared with resort hotels (41%) in the sample. The number of rooms ranged from 15 to 405 (mean = 218). The number of full-time employees ranged 5 to 620 (mean = 210). Over one-third of the hotels (35%) in the sample were "green certified" (either as an environmental hotel or as a low carbon hotel) at the time of the interview. Further details of the participants and the properties they managed are presented in Table 3.

*** Please insert Table 3 about here**

## 4.2 Green Strategies

A total of 21 green strategies emerged from the interview data. These strategies were further categorised into 14 key areas: water, energy, transport, waste, amenities, harmful substances, guest rooms, building design and materials, procurement, food services, outdoor environment, corporate social responsibility, guest information, management and staff commitment. These areas and their respective green strategies are summarised in Table 4.

*** Please insert Table 4 about here**

Many of the green strategies identified coincide with Diamantis' (1999) "three R principles" (i.e., reduce, reuse and recycle), for example, reduce water consumption, recycle greywater and swimming pool water, reduce heating, ventilating, and air-conditioning (HVAC) energy consumption, reduce waste, reduce the use of disposable amenities, and recycle and reuse of resources.

The green strategies identified covered important areas of a typical full-service hotel, including water, energy, transport, waste, procurement, and food services. Most importantly, these areas are recognised as important environmental "hot spots" by a number of certification organisations, for example, the ECOTEL Certification. The findings imply that the participants were aware of and had taken action to mitigate the environmental impacts of crucial functional areas within their hotels.

Furthermore, many of the participants were found to have adopted a "proactive approach", which involves voluntary green strategies that go beyond regulatory requirements (Sharma, 2000). For example, many managers expressed that they had taken the initiative to participate in various "green" events (e.g., the National Green Dragon Boat Competition in Taiwan) and to form strategic partnership with environmental organisations (e.g., Clean the World, the largest global recycler of hotel soaps and bottled amenities).

### 4.3 Low-cost Green Strategies

As previously stated, there is no universally-accepted definition of a low-cost green strategy at present. However, this type of strategies are generally considered as less costly and easy-to-achieve (Kirk, 1995). A total of eight key low-cost green strategies were identified. These low-cost green strategies and their respective sub-strategies are summarised in Table 5.

*** Please insert Table 5 about here**

The majority of the participants expressed that providing staff education and training and encouraging staff involvement were effective and economical green strategies. Efforts to recycle and reuse resources, as well as to reduce waste were also recognised as crucial yet inexpensive means to achieve environmental goals. Interestingly, a number of creative low-cost green tactics had emerged from the data, including installing water dispenser in every floor in order to reduce the supply of in-room bottled water, placing plastic water bottles filled with pebbles in toilet tanks to save water, and using PVC pipes to collect rainwater. Other low-cost green strategies identified include providing environmental information to guests, committing to environmental management, and cultivating the right attitude among senior management.

### 4.4 External and Internal Driving Forces Identified

A total of 26 key driving forces and restraining forces were identified from the data. These forces were further categorised into: (1) external driving forces, (2) internal driving forces, (3) external restraining forces and (4) internal restraining forces (Figure 2).

*** Please insert Figure 2 about here**

*External driving forces (EDFs).* EDFs denote forces that are external and cannot be directly controllable by the hotels, yet they can significantly influence the adoption of environmental strategies. A total of eight EDFs were identified from the data: (1) government policy and regulation, (2) subsidies and rewards by the government, (3) counselling and assistance by the government, (4) information and experience sharing among practitioners, (5) collaboration among industry, government and academia, (6) increased availability of green products, (7) rising customer environmental awareness, and (8) increased number of NGOs promoting environmental protection.

Among these EDFs, the most frequently quoted one was government policy and regulation, revealing that participants perceived that the implementation of appropriate policies by the government was critical to propel green strategy adoption. This sentiment is epitomised in the following comments:

> *Government policy is very important! Once a policy is in place, we will try our best to comply with it. However, if there is no such policy and we take the initiative to introduce change, we will be blamed by both the hotel guests and the travel agencies as a contrarian. (Participant #9, Male, 4-Star Resort Hotel, Hualien)*

> *Most fundamentally, it's government policy that really matters. Relevant policies must be very clear and be strictly enforced. If the government is determined to push this through, it can issue a decree that all hotels should not provide disposable toiletries. Is that possible? I think it is! (Participant #8, Male, 5-Star Resort Hotel, Hualien)*

This finding corroborates previous evidence that policy and legislation can be an effective driving force for environmental strategy adoption (e.g., Chan, 2013; Chan & Wong, 2006; Hsiao et al., 2014). Moreover, subsidies and rewards offered by the government, as well as counselling and assistance provided by the government were also considered as important EDFs by the participants. This view is best exemplified by the following remarks:

> *The investment required for certain green strategies can be very high. This is a huge financial burden, especially for small hotels. If I adopt more green strategies in my hotel, it may cost me more than NT$1-2 million. This is a large sum for small hotels, and how effective it can be is actually unknown. So if the government can provide subsidies to hotels for adopting green strategies, I think many hotels will be willing to implement them. (Participant #2, Female, 5-Star Resort Hotel, Tainan)*

*We'd welcome the government to improve their counselling services! We welcome exchange of ideas and experience! For areas that we don't know how to become "greener", if the government can provide counselling services to guide us, we will definitely try our best to improve! (Participant #9, Male, 4-Star Resort Hotel, Hualien)*

These comments indicate that assistance by the government, either in the form of financial subsidies or counselling service, were important constructive forces driving the adoption of green strategies. This finding supports Tsai and Liao's (2017) findings that organisations are more likely to adopt a proactive environmental strategy to improve eco-innovation under high levels of government subsidy.

Apart from government assistance, information and experience sharing among practitioners was regarded as an important EDF by the participants. As one participant cogently put it:

*The mindset in our hotel group is that we should not hide our "green" knowhow! Effective environmental practices should be shared within the industry and be promoted to other places in the world. (Participant #14, Male, 5-Star Business Hotel, Taipei)*

This attitude of generous sharing of "green" practical knowledge allows for inter-organisational learning (IOL), which refers to the process of learning from the experience and knowledge of other organisations (Wang & Ahmed, 2003). A number of recent studies have underscored the contribution of organisational learning to innovation and environmental success (e.g., Chen et al., 2018; Fraj et al., 2015; Martinez-Martinez et al., 2019). Besides, a closer collaboration among industry, government and academia was considered crucial in stimulating not just the adoption rate, but also the diversity of environmental strategies. As one participant remarked:

*We are open to various new ideas from government, industry and academia. There are many hoteliers who want to do something, but they just have no idea what they can do and how to do it. (Participant #10, Female, 3-Star Business Hotel, Taichung)*

Besides, an increased availability of green products was deemed as a prominent force expediting the adoption of environmental strategies. For example, some participants expressed that the recent availability and popularisation of green products allowed them to have more options to choose among. This substantiates Chan's (2013) findings that hotel managers perceived "hotel green marketing should begin with green product and service design" and "hotels provide

products and services that do no harm to human health" as important "green" strategic ploys. Lastly, most participants agreed that with rising customer environmental awareness and an increased number of NGOs promoting environmental protection, customers are more aware of and willing to pay for environmentally sustainable products or services, thereby providing drives and incentives for hotels to become more environmentally friendly (Chan & Hawkins, 2012).

*Internal driving forces (IDFs). IDFs* refer to forces within the hotels that can encourage the adoption of green strategies. Five IDFs emerged from the data: (1) environmental awareness and attitude of hotel management, (2) support by corporate headquarters, (3) high level of corporate social responsibility (CSR), (4) belief in balancing green practices and service quality, and (5) availability of green building features.

The majority of the participants indicated that environmental awareness and attitude of hotel management was a crucial IDF. This corresponds with previous research which found that top management's attitude and their perceived importance of environmental strategies would significantly affect the strategic priority in their properties (Carballo-Penela & Castromán-Diz, 2014). For chain hotels, the level of support given by corporate headquarters was essential in instigating a higher level of green strategy adoption. This finding is in line with the findings by Chan and Hawkins (2012) that environmental strategy adoption is usually a top-down initiative; and even when the hotel management is committed to adopting green strategies, they would still need to persuade their corporate office to invest in the necessary resources. A high level of CSR was also regarded as influential from the participants' point-of-view. The adoption of environmental strategy is often regarded as an important component of CSR (Levy & Park, 2011). Kucukusta, Mak, and Chan (2013) has also found that environmental concern was one of the five CSR of four- and five-star hotels in Hong Kong.

The belief in the possibility of balancing green practices and service quality was also a critical IDF in propelling green strategy adoption. Although some participants were of the opinion that green practices would lead to perceived lower service quality by hotel guests (e.g., switching off lights in certain unoccupied areas, not providing certain types of in-room amenities), some believed that a good balance can be struck between green practices and service quality. This belief is best represented in the following comment:

*In my opinion, being environmentally friendly does not mean poorer quality. In fact, we can put*

*in more effort in implementing environmental strategies so that our guests can actually feel our devotion. (Participant #8, Male, 5-Star Resort Hotel, Hualien)*

This belief is supported by research showing that synergy between green practices and service quality can be achieved. For example, Kassinis and Soteriou (2015) found evidence that linking service quality and environmental practices is associated with an increase in customer satisfaction. Kucukusta et al. (2013) also found that two CSR factors, namely, "environment" and "mission and vision", had the strongest predictive power in explaining Hong Kong visitors' preference to stay, willingness to pay, perception of service quality, and brand image.

Finally, the availability of green building features was regarded by the participants as an important internal competitive advantage that facilitates green strategy adoption. Some hotel properties that were built more recently had incorporated green building features such as energy efficient air-conditioning and lighting systems. These built-in features were perceived by the participants as providing the necessary conditions and inducements for green strategy adoption.

### 4.5 External and Internal Restraining Forces Identified

*External restraining forces (ERFs).* ERFs refer to forces that are not controllable by the hotels but may hinder the adoption of environmental strategies. A total of seven ERFs were unveiled: (1) inadequate government support and subsidies, (2) inadequate follow-through of policies by the government, (3) conflict between environmentally-friendly practice and hotel star rating system, (4) green hotel standards being too high and rigid, (5) inadequate customer environmental education and awareness, (6) customers' ingrained travel habits, and (7) lack of a role model for benchmarking.

Inadequate government support and subsidies were frequently mentioned by the participants as major stumbling blocks to environmental strategy adoption. In many cases, subsidies could only be applied afterwards, not before or during the implementation of certain green strategies. This had decreased the intention to invest time, money and effort in these strategies. Several participants (e.g., Participants #6, #9, #12) further expressed that the situation was worsened by the fact that emphasis was on penalties, but not on offering enough support or advice to hoteliers.

Besides, inadequate follow-through of policies by the government was found as a detrimental

force that hinders the adoption of green strategies. As one participant (Participant #11) cogently pointed out: “even though there is a policy in place, there is often not enough follow-through by the government”. This reveals that continuous support and communication was much needed from the government or relevant authorities.

Many participants also opined that conflict between environmentally-friendly practices and hotel star rating system as well as green hotel standards being too high and rigid posed significant hindrance to environmental strategy adoption. In particular, many “green” practices were often mutually opposed to the criteria in the hotel star rating system in Taiwan. The following comment by one of the participants exemplified this dilemma:

> *The in-room disposable amenities are not environmentally friendly as they can only be used once and be thrown away. However, the provision of them is one of the criteria in the hotel star rating system. So if I want to obtain a higher score in the rating system, the more and better disposable amenities I should provide. This is contradictory to being environmentally friendly. (Participant #4, Female, 4-Star Resort Hotel, Taipei)*

Inadequate customer environmental education and awareness was thought to be hampering the implementation rate of green practices. Many participants were of the opinion that tourists, especially domestic tourists, in Taiwan did not have a high level of environmental awareness. They further suggested that the problem was compounded by customers’ ingrained travel habits. For example, many domestic tourists in Taiwan were accustomed to using disposable amenities provided by hotels instead of bringing their own. This phenomenon is best described by the following remarks:

> *Because our average room rate is not low, our guests might think it’s unacceptable for us not to provide disposable amenities. Alternatively, some of them would think they are on a holiday and it would be troublesome to bring their own toiletries. (Participant #1, Female, 4-Star Resort Hotel, Hualien)*

> *If we don’t provide disposable amenities, the customer would wonder “You are a five-star hotel! Why are you not providing these?” They would certainly complain to us. (Participant #8, Male, 5-Star Resort Hotel, Hualien)*

Lastly, some participants expressed that the lack of a benchmarking model for “green” practices could also hinder the implementation of environmentally strategies. The following

comment reflects this attitude:

> *Actually, we spent a lot of time and effort in figuring out how to become more environmentally friendly by ourselves. And up to now, there is still not a benchmarking model we can refer to, despite the fact that we have been trying to implement green strategies for a long time! The lack of a benchmark really slowed down our progress. (Participant #3, Male, 5-Star Resort Hotel, Hualien)*

Although some might argue that certification schemes promoting sustainable practices can serve as a benchmarking platform, steering the hotel towards best practices in the industry (Reid, Johnston, & Patiar, 2017); over half of the participants (nine out of 17), however, did not hold any "green certification" at the time of the interview, but yet, they had been trying to become "greener", and expressed the intention to apply for green certification in the next three years. In such circumstances, knowledge with regard to the best practices in the industry is of paramount importance. This finding lends support to the importance of a benchmarking platform that steers the industry toward best practice (Reid et al., 2017).

*Internal restraining forces (IRFs).* IRFs are forces within the hotels that can prevent the adoption of green strategies. Six key IFRs were identified: (1) lack of environmental awareness of hotel management, (2) difficulties in introducing change within the hotel, (3) customer orientation outweighs environmental orientation, (4) short-term orientation outweighs long-term orientation, (5) pressure for profit maximisation, and (6) lack of green building design and features.

The lack of environmental awareness of hotel management was found to be a key IRF. Some participants pointed out that not all hotel management are aware of the environmental impacts of their operations. Moreover, despite the role of the participants as senior managers, many of them still had to report to the corporate headquarters or the hotel owner. If the corporate headquarters or owners had a low level of environmental awareness, they tended to underestimate the harmfulness of pollution, and to perceive the quality of the environment as better than it actually was, thereby leading to a lower willingness to adopt varying environmentally friendly strategies. This mindset could result in adopting a symbolic or instrumental approach to environmental strategies in the hotel (Heikkurinen, 2011; Hyatt & Berente, 2017).

Some participants expressed that the difficulties in introducing change within the hotel was also an unignorable IRF. For example, one participant expressed that:

*It's all down to the hotel's management culture. If the original culture is not "green", and the hotel has been operating for a long period of time, it's very hard to change. (Participant #2, Female, 4-Star Resort Hotel, Tainan)*

Indeed, change is often difficult to implement and execute in many hotels (Okumus & Hemmington, 1998), and its success often hinges on the presence of an effective "change agent" (Furnham, 2002; Martinez-Martinez et al., 2019). As Egan (1985) describes, a change agent refers to an individual who plays an important part in designing, redesigning, running, renewing, or improving any system or program. Although the participants had the advantages of having managerial authority to implement change, they might have to be effective change agents in order to influence all members of staff in the hotel to make needed changes.

Customer orientation outweighs environmental orientation, short-term orientation outweighs long-term orientation, and the pressure for profit maximisation were regarded as long-standing IFRs by the participants. Although customer orientation is highly desirable in service organisations, catering to customers' needs could be in conflict with environmental orientation, which refers to the recognition of the impact that the organisation's economic activities have on the environment and the need to minimise it (Banerjee, 2002). This conflict is particularly prominent in the hotel industry as it involves a high level of hedonic experience (Mak et al., 2017).

Furthermore, short-term orientation leads to a lower inclination to invest time and money in green strategies. And short-term orientation tended to be more prevalent in smaller hotels compared with larger ones. Profit maximisation is also perceived as a major factor deterring environmental strategy adoption. This reflects the "single bottom line" mentality in which financial rates of return prevails over social rates of return (Woolverton & Dimitri, 2010).

Lastly, a lack of green building design and features was also identified an internal obstacle to green strategy adoption. A number of participants emphasised that making fundamental changes to existing properties, especially old ones, could be extremely cost-ineffective and time-consuming compared to having these features being incorporated into the building in the first place. As Valentine (2010) asserts, "age of asset" can be a firm-specific force that influences corporate environmental governance as older equipment tends to generate more pollution or waste.

The findings of the present study reveal that for older hotel properties which lacked green building design and features, management was often reluctant towards investing in fundamental or structural changes to the property.

## 5. CONCLUSION

Considering that tourism is expected to continue its growth (UNWTO, 2018) and the fact that the hotel industry is one of the most energy-intensive sectors of the tourism industry (Bohdanowicz, 2005; Fraj et al., 2015), it is imperative that the industry collectively strives to become more environmentally responsible and sustainable. To achieve this desired state, it is important to understand the status quo, and to identify those factors which facilitated and those which restrained the adoption of green strategies. It is in this light that this study attempted to explore the specific environmental strategies adopted by hotels in Taiwan, and to identify the driving forces and restraining forces for environmental strategy adoption from the industry perspective.

Before discussing the implications of the findings, it is important to address the limitations of this study. First, the sample in this study was limited to Taiwan, and thus, the findings may not be readily generalisable to the hotel industries in other countries. Second, this exploratory study has adopted an interpretivist approach and the findings were derived from a relatively small sample. Furthermore, given the current lack of a universally-accepted definition of a low-cost environmental strategy, “low-cost” environmental strategies identified in this study were based on the perceptions of the hotel senior managers.

Notwithstanding the above limitations, the findings of this study are believed to contribute to theory and practice in the following manners. First, there is a lack of systematic study on the current state of environmental strategy adoption in the hotel industry in Taiwan. Thus, knowledge with regard to what environmental strategies are adopted in different types of hotels and why remains rather sketchy. This study is intended to be a first step towards closing this gap. Second, one of the objectives of this study is to explore the perceived “low-cost” environmental strategies adopted by hotels in Taiwan. So far there is no universally-accepted definition of a low-cost environmental strategy, and Rahman et al.’s (2012) study is one of the first attempts to explore low-cost environmental strategy adoption in North American hotels. Given that implementation cost may deter the adoption of certain green strategies, knowledge about “low-cost”

environmental would be most valuable in contribution to a higher adoption rate of "green" strategies in the hotel sector. This study has proposed a working definition of this important concept in the hotel industry and laid the foundation for further exploration and validation in future studies. Third, the force field analysis (FFA) approach adopted in this study allows for an in-depth understanding of both the driving forces and restraining forces of environmental strategy adoption from the hotel industry perspective. Fourth, limited research interest has focused on small hotels' environmental strategy adoption (Tzschentke et al., 2008), this study has not just focused large chain hotels, but has also explored environmental strategies adopted by relatively smaller hotels. Last but not least, strategies to encourage the driving forces as well as strategies to reduce/eliminate the restraining forces can be formulated based on a synthesis of the findings. In order to mitigate the negative impacts of tourism without sacrificing its benefits, understanding the driving and restraining forces to adopting environmental strategies from the hoteliers' perspective is of paramount importance.

A number of key strategies to encourage the driving forces of environmental strategy adoption can be drawn from the findings. First, since government policy and regulation was found to have played an instrumental role in affecting green strategy adoption, it is important for the government to understand the unique characteristics and needs of the hotel industry and to introduce appropriate environmental legislation and regulations. Regulatory agencies should also consult with the key industry representatives during the process of regulation formulation. Second, hotel management or owner's environmental awareness and attitude and were found to be of utmost importance in determining the level of green strategy adoption. Efforts should be invested in instilling a proper environmental awareness and attitude among hotel management/owners. It would be most ideal to cultivate a "proactive approach" to environmental strategies which brings about voluntary actions taken to reduce the environmental impact of operations, rather than to fulfil conform to regulatory requirements (Sharma, 2000). This can be achieved, for example, by providing workshops or forums for hotel owners and senior management regularly through local hotel associations. Third, it is unanimously agreed that customer education and awareness is a crucial driving force for green strategy adoption. Thus, it is imperative for the government to step up its efforts to enhance general public's environmental awareness even if it means more spending. In particular, it is important to change tourists' ingrained travel habits into more sustainable ones. This can be done by social marketing, public discourse and substantial media coverage McLennan et al. (2014). Finally, considering the fact that information and experience sharing among practitioners was regarded as an important driving force, inter-organisational

learning (IOL) can be used as an important strategy to increase green strategy adoption among hotel practitioners. IOL refers to process of learning from the experience and the knowledge of other organisations. Government and hotel associations may join hands to encourage and stimulate IOL among hotels. A good example is the Green Hospitality Annual Conference (GREENfest) which was recently held in November 2017 in Dublin, Ireland (Green Business, 2017). The conference focused on idea exchange to explore effective ways to achieve resource efficiency in the hospitality sector, and allowed IOL among hotel managers, facility/maintenance managers, academics/students, and state agencies.

Several strategies to minimise the restraining forces of green strategy adoption can also be derived from the findings. First, the conflict between environmentally-friendly practice and hotel start rating system was identified as a difficult dilemma to resolve from hotel managers' perspective. It is important for the regulatory agencies to critically review the rating standard in consultation with the hotel industry in order to identify effective solutions to resolve the conflict. Second, many hotel managers acknowledged that they had experienced difficulties in introducing change within their hotels. To minimise this restraining force, incremental change can be used as a strategy to introduce changes gradually within hotels. According to Tushman, Newman, and Romanelli (1986), change can be introduced by two approaches, namely, incremental change and transformational change. Incremental change refers to gradual change which is compatible with the existing structure of an organisation and is reinforced over a number of years. Hotel managers may consider introducing necessary environmental policies and changes with the incremental change approach to avoid resistance. Last but not least, the findings indicate that short-term orientation usually dominates long-term orientation in terms of environmental policies within the participants' hotels. To overcome this, government may introduce long-term incentive plans to encourage continuing environmental efforts. Conversely, companies using the "shaded green strategy" typically invest in long-term, system-wide environmentally friendly processes that require a substantial financial and nonfinancial commitment. They adopt green strategies to develop innovative products and technologies that can be turned into a competitive advantage. Finally, companies adopting the "extreme green strategy" fully integrate environmental considerations into their core business and marketing mix elements. Social responsibility is often embedded in their identities and missions, and they often service niche green markets.

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**Table 1. Instrumental and Awareness Approaches to Environmental Strategy**

| | **Instrumental Approach** | **Awareness Approach** |
|---|---|---|
| Values | Utilitarian ethics | Virtue/duty ethics |
| Actions | Passive/reactive/proactive actions | Entrepreneurial/creative actions |
| Words | Pragmatic/image-driven discourses | Reflective/identity-driven discourses |

(Source: adapted from Heikkurinen, 2011)

**Table 2. A Comparison of the Four Green Strategies**

| | Product | Price | Place | Promotion |
|---|---|---|---|---|
| Lean green strategy | X | | | |
| Defensive green strategy | X | | | X |
| Shaded green strategy | X | X | | X |
| Extreme green strategy | X | X | X | X |

(Source: Ginsberg and Bloom, 2004)

## Table 3. Profile of the Participants and the Hotels

| ID | Gender | Age Group | Position Held | Education Level | Years of Experience | Hotel Type | Star Rating (if applicable) | Location | No. of Rooms | No. of FT Employees | No. of PT Employees | Currently holding any Green Cert. | Intention to Apply for Green Cert. (in the next 3 years) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P1 | F | 40-49 | Resident Manager | Postgraduate degree | 10 | Resort | 4-star | Hualien | 205 | 80 | 30 | No | Yes |
| P2 | F | 50-59 | General Manager | Postgraduate degree | 2 | Resort | 5-star | Tainan | 255 | 300 | 150 | No | Yes |
| P3 | M | 40-49 | Vice Chairman | Undergraduate degree | 2 | Resort | 5-star | Hualien | 262 | 245 | 51 | No | Yes |
| P4 | F | 40-49 | General Manager | Undergraduate degree | 3 | Resort | 4-star | Taipei | 77 | 110 | 15 | No | Yes |
| P5 | M | 30-39 | Resident Manager | Postgraduate degree | 2 | Business | N/A | Taipei | 15 | 5 | 0 | No | Yes |
| P6 | F | 40- | General Manager | Undergraduate degree | 1.5 | Resort | 5-star | Hualien | 197 | 165 | 20 | Environmental Hotel | Yes |
| P7 | M | 40-49 | Resident Manager | High school | 1.5 | Business | N/A | Hualien | 96 | 36 | 4 | No | Yes |
| P8 | M | 50-59 | Asst. General Manager | Junior college | 1 | Resort | 5-star | Hualien | 343 | 286 | 30 | Environmental Hotel | Yes |
| P9 | M | 60-65 | Director | Junior college | 8 | Resort | 4-star | Hualien | 257 | 125 | 20 | No | Yes |
| P10 | F | 30-39 | General Manager | Postgraduate degree | 3.5 | Business | 3-star | Taichung | 168 | 55 | 15 | Low Carbon Hotel | N/A |
| P11 | M | 50-59 | Asst. General Manager | Postgraduate degree | 27 | Business | 5-star | Taipei | 343 | 480 | 60 | No | No |
| P12 | M | 60-65 | General Manager | Postgraduate degree | 5 | Business | N/A | Tainan | 217 | 250 | 40 | No | Yes |
| P13 | F | 40-49 | CEO | Postgraduate degree | 6 | Business | N/A | Tainan | 27 | 15 | 0 | No | No |
| P14 | M | 40-49 | Director of Engineering | Junior college | 21.5 | Business | 5-star | Taipei | 405 | 620 | 200 | No | Yes |
| P15 | F | 50-59 | General Manager | Postgraduate degree | 2 | Business | 5-star | Tainan | 315 | 300 | 100 | Environmental Hotel | Yes |
| P16 | M | 50-59 | General Manager | Postgraduate degree | 9 | Business | 5-star | Tainan | 197 | 190 | 58 | Environmental Hotel | Yes |
| P17 | F | 40-49 | Director | Undergraduate degree | 3 | Business | 5-star | Taichung | 334 | 302 | 30 | Low Carbon Hotel | No |

**Table 4. Green Strategies Adopted**

| Area | Green Strategies | Tactics |
|---|---|---|
| (1) Water | 1. Reduce water consumption | 1.1 Use water-saving toilets (e.g., low-flow toilets, dual flush toilets)<br>1.2 Reduce washing frequency (e.g., bed sheets, towels)<br>1.3 Use rainwater harvesting systems<br>1.4 Adjust tap flow to reach an optimal level of water output (e.g., adjusting tap flow or using tap aerator) |
| | 2. Recycle greywater | 2.1 Install wastewater treatment plant to recycle greywater (e.g., for irrigation)<br>2.2 Recycle swimming pool water (e.g., for flushing toilets) |
| (2) Energy | 3. Reduce HVAC energy consumption | 3.1 Use energy efficient heating, ventilating, and air-conditioning (HVAC) systems (e.g., heat pump, solar panel)<br>3.2 Use of indoor thermostatic control systems |
| | 4. Reduce lighting energy consumption | 4.1 Use energy efficient lighting (e.g., LED)<br>4.2 Adjust light intensity depending on time and season (e.g., adjusting manually or using lighting control system) |
| (3) Transport | 5. Use energy efficient transport | 5.1 Use of fuel-efficient vehicles<br>5.2 Use of electric vehicles<br>5.3 Use of electric boats |
| (4) Waste | 6. Reduce food waste | 6.1 Reduce food waste in restaurants<br>6.2 Recycle food waste as organic compost |
| | 7. Reduce paper waste and other waste | 7.1 Create a paperless environment<br>7.2 Recycle paper<br>7.3 Reuse scape paper<br>7.4 Reduce packaging waste (e.g., providing minimal packaging) |
| (5) Amenities | 8. Reduce the use of disposable amenities | 8.1 Do not provide certain types of disposable amenities (e.g., bottled shampoo, bottled conditioner)<br>8.2 Replace bottles amenities with dispensers (e.g., dispensers for shampoo and shower gel)<br>8.3 Reduce the types of disposable amenities provided (e.g., providing an all-in-one shampoo and shower gel instead of two separate bottles)<br>8.4 Recycle disposable amenities (e.g., soap recycling)<br>8.5 Reduce disposable amenities waste (e.g., by choosing appropriate package size) |
| (6) Harmful substances | 9. Reduce environmentally harmful substances | 9.1 Reduce environmentally harmful substances in daily operations (e.g., laundry detergent) |
| (7) Guest rooms | 10. Recycle guest garbage | 10.1 Provide recycle bins in guest rooms<br>10.2 Provide incentive to housekeeping staff to sort and recycle guest garbage |
| (8) Building design and materials | 11. Adopt green building design and materials | 11.1 Adopt green building design to increase natural light (e.g., use full-length windows to increase natural daylight illumination)<br>11.2 Use heat insulation materials (e.g., heat insulation glass, heat insulation wall material) |
| **Area** | **Green Strategies** | **Tactics** |
| (9) Procurement | 12. Increase the purchase of green products | 12.1 Use green / organic in-room amenities<br>12.2 Purchase from green suppliers (e.g., office supplies, cleaning supplies) |
| (10) Food services | 13. Increase the use of local food | 13.1 Increase the use of local food to reduce food mile<br>13.2 Design new dishes using local ingredients |
| (11) Outdoor environment | 14. Increase green coverage rate | 14.1 Increase green coverage rate (e.g., planting new trees)<br>14.2 Set up a “gardening team” to look after the plants in the property |
| (12) Corporate social | 15. Participate in external environmental | 15.1 Form strategic partnership with environmental organisations (e.g., Clean the World) |

| | | |
|---|---|---|
| responsibility | programmes | 15.2 Participate in environmental donation<br>15.3 Participate in "green" competition (e.g., National Green Dragon Boat Competition) |
| | 16. Participate in internal green promotion activities | 16.1 Participate in hotel chain environmental programmes (e.g., Green Engage)<br>16.2 Introduce "eco-friendly room package" (e.g., special room rate for rooms without disposable amenities) |
| (13) Guest information | 17. Provide environmental information to guests | 17.1 Place environmental cards / signs in guest rooms<br>17.2 Communicate environmental initiatives to guests and potential guests (e.g., via hotel website) |
| (14) Management and staff commitment | 18. Commit to environmental management by senior management | 18.1 Set up green goals and action plans (e.g., using green checklist)<br>18.2 Set up standard operating procedures (SOPs)<br>18.3 Set up environmental management systems (EMS) |
| | 19. Cultivate the right attitude among senior management | 19.1 Cultivate a long-term orientation (LTO) instead of short-term profit orientation |
| | 20. Provide staff education and training | 20.1 Provide regular environmental education and training to all levels of staff |
| | 21. Encourage staff involvement | 21.1 Encourage staff involvement by providing incentives |

**Table 5. Low-Cost Green Strategies Adopted**

| Low-Cost Green Strategies | Sub-strategies |
|---|---|
| 1. Provide staff education and training | 1.1 Provide regular environmental education and training to all levels of staff |
| 2. Encourage staff involvement | 2.1 Encourage staff involvement by providing incentives |
| 3. Recycle and reuse of resources | 3.1 Recycle guest garbage (e.g., by providing recycle bins)<br>3.2 Recycle disposable amenities (e.g., soap recycling)<br>3.3 Reduce in-room amenities waste (e.g., by choosing appropriate package size) |
| 4. Reduce waste | 4.1 Reduce food waste<br>4.2 Reduce packaging waste (e.g., providing minimal packaging) |
| 5. Adopt low-cost and creative green tactics | 5.1 Install water dispenser to reduce the supply of in-room bottled water.<br>5.2 Place plastic water bottles filled with pebbles in toilet tanks to save water.<br>5.3 Use PVC pipes to collect rainwater |
| 6. Provide environmental information to guests | 6.1 Place environmental cards / signs in guest rooms<br>6.2 Communicate environmental initiatives to guests and potential guests (e.g., via hotel website) |
| 7. Commit to environmental management by senior management | 7.1 Set up green goals and action plans<br>7.2 Set up standard operating procedures (SOPs)<br>7.3 Set up environmental management systems (EMS) |
| 8. Cultivate the right attitude among senior management | 8.1 Cultivate a long-term orientation (LTO) instead of short-term profit orientation |

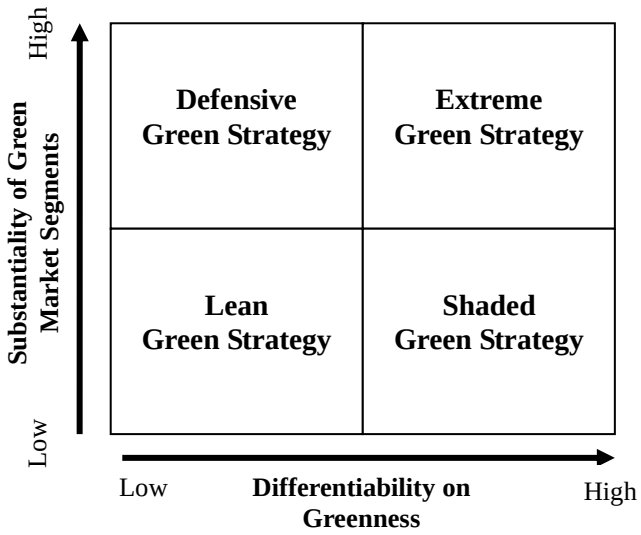


**Figure 1. Four Green Marketing Strategies**

(Source: Ginsberg and Bloom, 2004)

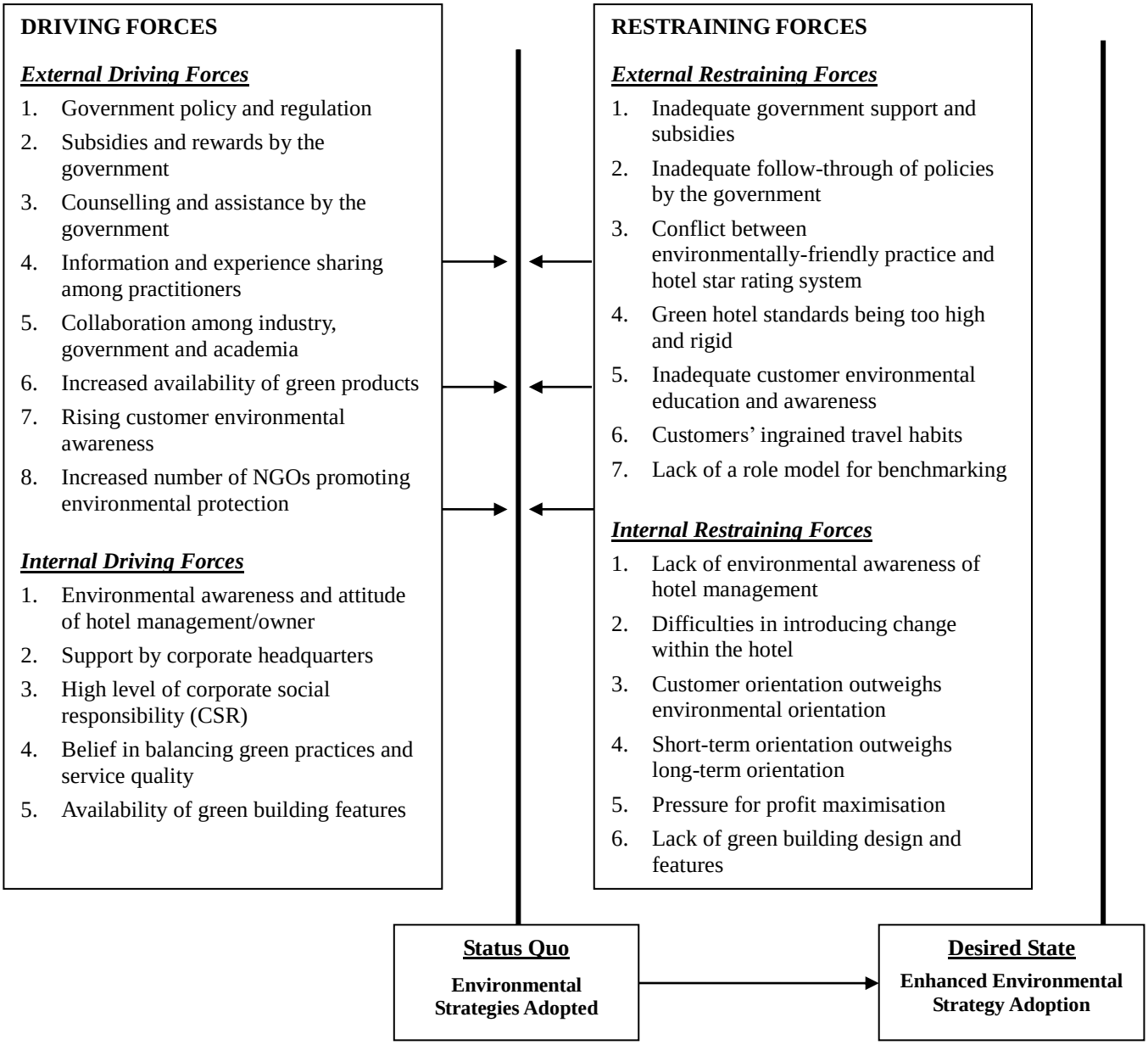


**Figure 2. Driving Forces and Restraining Forces of Environmental Strategy Adoption**



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