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Green Practices in Hotels in Riyadh, Saudi Arabia

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Hospitality, and Recreation Management

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ABSTRACT

Green Practices in Hotels in Riyadh, Saudi Arabia

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Tourism is recognized as one of the largest industries in the world and continues to expand rapidly. Even though tourism has a positive impact, it may affect the environment in different ways. The impact of tourism on the natural environment is large and should be recognized by any tourism destination. This is because most tourism destinations are dependent on the environment to sustain the tourism sector. To reduce the negative impacts on the environment, the innovation of green practices is being adopted by.

The purpose of the study was to explore the implementation of green practices in hotels in Riyadh, Saudi Arabia. This study sought to achieve four objectives: (1) to find out the extent of green practices in hotels; (2) to determine the current level of green practices implementation; (3) to address the supporting factors and barriers to
implementing green practices, and (4) to find out the differences of implementation among hotels in terms of characteristics.

Diffusion of innovation theory was used for this study to examine green practices in hotels. A survey using self-administered questionnaires was conducted in Riyadh. Out of 55 questionnaires distributed, 36 surveys were valid and thus analysed.

The result of the study showed twenty-eight (77.8%) of the hotels responding had implemented environmental best practices, which include recycling, water saving, energy saving, and reuse lines/towels program. Participants who reported that they applied environmental management numbered six (16.7%) and only two (5.6%) used an environmental management system. There was only one hotel reported as a green certified.

Participating hoteliers were asked to indicate their level of agreement with statements about supporting factors and barriers. The sample reported that the strongest supporting factors for implementing green practices in hotels were government assistance, funding, and technical assistance. In contrast, the strongest barriers for the majority of participants were the complication of implementation, lack of tools, and cost. A five point Likert type scale was used to measure their level of agreement.

The study ended up with some recommendations based on the result of the study. Recommendations were primarily to hospitality industry and government sector to help hotels to implement green practices.
Saudi Arabia:

Saudi Arabia is located in the Middle East. Specifically, the country is bordered by Jordan, Iraq, and Kuwait to the north, Yemen to the south, and Oman, Qatar, and the United Arab of Emirates to the east (Figure 1-1). The country is divided into 13 provinces. The capital city, Riyadh, is located in the central eastern region of the country (SCTA, 2014). Saudi Arabia is home to 30,770,375 people including 10,067,839 non-citizens (Central Department of Statistics & Information, 2014). The Arabic language is the main language in the country. In recent years, Saudi Arabia has focused on diversifying its income through different industries including tourism.

International tourism has become a trend worldwide with 1.135 billion tourists crossing international borders in 2014 (UNWTO, 2014). Developing countries have promoted tourism for several reasons including but not limited to employment, boosting the local economy, foreign exchange, and investment (Sadi & Henderson, 2005). The tourism industry in Saudi Arabia has existed since ancient times when many people would travel to the country for religious purposes. The tourism industry is classified as the second largest source of income in Saudi Arabia after oil, generating approximately US$ 13.8 billion annually, and it is the third largest source of employment (Khan & Alam, 2014). International tourism to Saudi Arabia is predicted to reach US$ 63.7 billion by 2019 (Khan & Alam, 2014).

Prior to 1999, Saudi tourism was given little attention; however, in 2000, tourism received an official recognition from the government through the establishment of the Saudi Commission for Tourism and Antiquities (SCTA) to develop tourism in the country. This agency
is responsible for developing policies, plans, and a strong framework to ensure the growth of tourism industry. Increasing investment, employment opportunities for Saudi citizens, and an investment in human resources are the main reasons to develop tourism in the country. (SCTA, 2014; Scott & Jafar, 2010).

Saudi Arabia offers a variety of products for different types of tourism such as religious, natural, culture and heritage resources. The country is a destination for all Muslims around the world since the holy cities of Mecca and Madinah are located there. Many Muslims visit the country for religious purposes annually. According to El Hanandeh (2013), approximately 300 million people from around the world participate in religious tourism every year. Pilgrimage to Mecca, is one of the oldest examples of religious tourism in the world. In 2011, the city of Mecca attracted 2.79 million people to practice their religion over the course of 5 days (El Hanandeh, 2013).

In addition to holy sites, Saudi Arabia has many more resources to offer tourists, citizens, and residents, providing them a unique opportunity to explore the culture of the country. Tourists resources include but are not limited to natural, historic, and heritage resources. In terms of heritage, there are four sites registered on the United Nations Educational, Scientific, and Culture Organization’s (UNESCO) World Heritage List and ten sites on the tentative list (SCTA, 2014; UNESCO, 2015).

Statement of Problem

The tourism and hospitality industry highly depends on the country’s natural resources. Therefore, conserving the environment should be a priority when it comes to developing a destination for tourism purposes. In the last two decades, the practice of ‘greening’ or the implementation of ‘green practices’ has emerged of one of the tourism industry’s major
strategies to minimize impacts to the natural environment. It is necessary to identify the extent of green practices that have been implemented in hotels, to address barriers towards successful implementation, to evaluate how the hotels’ characteristics have leant themselves to the implementation of green practices at the hotels, and to explore these issues using the diffusion of innovation theory as the primary construct.

**Contribution of Study**

Since there are no studies (to the researcher’s knowledge) that address implementation of green practices in hotels in Saudi Arabia, this study will fill the gap by adding knowledge and information about implementation in the city of Riyadh. Additionally, there are no studies that illustrate the supporting factors and barriers to implementing green practices. Therefore, it would be helpful to understand what the current implementation is, its supporting factors, and the barriers that hotels may face.

Due to the topography of Saudi Arabia, especially regarding its water resources and climate, implementing environment management systems will become an important step to protect the environment (Alzubari, 1998). Green practices offer many benefits to hotels including increasing efficiency of resource consumption, reducing operation costs, and minimizing negative impacts to the natural environment (Bohdanowicz, 2005). Addressing these benefits to hoteliers may encourage them to implement green practices at their hotels.

There are several benefits from this study to hoteliers, to the Saudi Commission for Tourism and Antiquities, and to the tourism industry as a whole. Three main benefits of this study are to: (1) give a broad image regarding the implementation of green practices; (2) address the level of implementation in hotels; (3) understand what supporting factors and barriers are present when it comes to the implementation of green practices.
Purpose of Study

The study sought to explore the implementation of green practices in hotels in Riyadh, Saudi Arabia. Owners, executive level employees [supervisors, and upper level employees], and general managers were the target occupations for the study to represent their participating hotels. The four objectives to achieve this study were (1) to find out the extent of green practices in hotels; (2) to determine the current level of green practices implementation; (3) to address the supporting factors and barriers to implementing green practices, and (4) to find out the differences of implementation among hotels in terms of the programs’ characteristics. The following research questions were developed based on these objectives.

Research Questions

- **Research question 1:** What is the hotel managers’ current understanding of green practices in hotels in Riyadh, Saudi Arabia?
- **Research question 2:** To what extent have green practices been implemented in hotels in Riyadh, Saudi Arabia?
- **Research question 3:** What levels of green practices are currently implemented in hotels in Riyadh, Saudi Arabia?
- **Research question 4:** What are the supporting factors and barriers affecting the implementation of green practices in hotels?
- **Research question 5:** Are there any differences in the implementation of green practices related to hotel characteristics (ownership, and stars level)?

Definitions

**Sustainable tourism:** Tourism that meets the needs of current generations while maintaining available resources for future generations.
Green practices: Actions that are practiced to conserve or protect the natural environment.

Environment management system: “a set of management tools and principles that is intended to organization integrate environmental issues into the conduct of their daily business … designed to guide an organization in allocating resources, assigning responsibilities, and continually evaluating its practices, procedures, and processes in order to enhance environmental management.” (Gibson, 2005, p. 25)

Green hotels: Hotels that have implemented any level of green practices to conserve the natural environment.

Organization of the Thesis

This study is broken down into five chapters. The first chapter consists of the introduction, the statement of the problem, the theoretical framework, the contribution of the study, the purposes of study, the research questions, and the key terms used in the study. Chapter 2 includes the literature review and an introduction to the diffusion of innovation theory. Methodology, research design, and data collection are included in chapter 3. Analysis and results are presented in chapter 4. Chapter 5 provides a discussion and recommendations for future studies.
Figure 1-1. Map of the Middle East featuring Saudi Arabia among others (United Nation, 2015).
CHAPTER 2
Literature Review

Introduction:
This study illustrates environmental practices in hotels in Riyadh, Saudi Arabia. The literature review includes the following sections:

- Tourism and the environment
- Sustainable tourism
- Environment management in business
- Environment management in the accommodation sector
- Hospitality and tourism in Saudi Arabia
- Why go green
- Diffusion of innovation theory

Tourism and the Environment
Tourism is recognized as one of the largest industries in the world and continue to expand rapidly (UNWTO, 2006). The tourism industry represents 5% of global economic activity (Buckley, 2011). With an annual growth rate of 4.4%, the annual economic value of tourism surpassed US$1.5 trillion in 2014, and the number of international tourist arrivals is surpassed 1.135 billion in 2014 (UNWTO, 2014).

Many countries and regions try to take advantage of their resources to promote the destination for tourism purposes. International tourism is recognized as having positive impacts on the economy growth through different channels. First of all, tourism is a significant foreign exchange earner, allowing countries to pay for imported capital goods or basic inputs used in the
production process. Second, tourism plays an important role in spurring investments in new infrastructure and competition between local firms and firms in other tourist countries. Third, tourism encourages other economic industries either directly, and indirectly. Fourth, tourism contributes to generating employment and to increasing income (Andriotis, 2002; Croes, 2006; and Fagance, 1999).

The World Tourism Organization has defined tourism as the process of a person or a group of people travelling and living in a place different from their normal environment for not more than a year for leisure, trade, or any other purposes (Mathieson & Wall, 1982). People consider tourism as one of the global leisure activities. It can be international or domestic; with international tourism having both outgoing and incoming travelers, which have an effect on a country’s balance of payment. In many countries, the activity of tourism is the main source of income and has an impact on the economy of the host and source countries in a positive manner (Poon, 1993). In 2014, many countries invested a large amount of money to develop tourism such as United States, and Germany (WTTC, 2014).

In 1994, the United Nations identified three major types of tourism in the world. The first is domestic tourism; this involves residents of particular country travelling within their home country. The second type is inbound tourism; this involves non-residents travelling within the given country. The last is outbound tourism; this involves residents of a particular country travelling to another country (United Nations, 1994). The word tourism and travel are usually interchangeable words. In this context, travel or safari has the same meaning as tourism, but in this case it implies a more purposeful journey (Jennings, 2001).

Tourism brings a lot of money into the economy of a country in form of payments for goods and services required by the tourists during their visit. The income accounts for about 30%
of the global trade services, and 6% of the overall exports of goods and services. Tourism also creates employment opportunities to the service sector of a country’s economy that is associated with tourism (Shaw, 1994). For any country that involves itself in tourism, its service industries are among the beneficiaries of the tourism. The service industry which are beneficiaries of tourism include transportation services, cruise ships, airline, hospitality services, hotels and resorts, other types of accommodations, entertainment venues, casinos, and theaters (De Kadt, 1979).

Many researchers have emphasized that human beings should at all times safeguard the environment, whether man-made or natural. They should safeguard the environment because it is critical to life and its various components are used for many purposes, one of them being tourism. The tourism sector has many elements that depend on the environment for their success. Some of the changes to the environment that are useful to the general population are the construction of roads, resorts, tourism facilities, airports, hotels, and golf courses, and telecommunication (Buckley, 2011). Although some of the changes to the environment have positive impacts on the society, some of the impacts are negative to the environment. Some tourism activities result in the depletion of the environment. The environment as has been mentioned earlier encompasses all the natural systems in the world. This includes vegetation, animals, land, water bodies, and air, among others. People depend on the environment for survival. For instance, in most parts of the worlds, many people depend on vegetation and other natural sources as the main source of food for survival (Mäder, 1988). In addition, the water bodies are used as sources of water for domestic, industrial, and other uses. When it comes to air quality, manufacturing sector affect the environment negatively through its emissions. Generally, the environment should be kept clean and safe at all times for humans’ survival.
The impact of tourism on the environment is significant and this is increasingly acknowledged by tourism destinations, largely because most tourism destinations are dependent on the environment to sustain and revamp the tourism sector. The industry will always have a negative or positive impact on the environment in the process of tourism (Pigram, 1980).

Many countries depend on the environment for tourism, in this case, the environment encompasses the natural phenomena that tourists visit to view and see. For example, most tourists travel to view mountains, lakes, natural sceneries, and animals within the environment, among others. The tourism sector contributes directly to the conservation of the environment and the natural habitats. To this end, Williams (2003) suggests that every government should put in place stringent measures to ensure that its natural environment is conserved for the purpose of tourism. Conservation of the natural environment for tourism purposes includes ensuring cleanliness in the natural parks and reserves (Williams, 2003). It is the government responsibility to ensure that the people who enter attraction sites do not litter or deplete the environment in any way. Additionally, the government is in charge of infrastructures and roads in order to enhance the transportation of tourists from one destination to another. Infrastructure such as roads plays a significant role in the tourism sector because it is the roads that are being used to transport tourists to different destinations (Lumsdon, 1997).

As seen above, the tourism sector is highly dependent on the environment for success. But also, the environment is dependent on the tourism sector. To begin with, most governments and private park managers collect revenues in the form of entrance fees for major parks and attraction sites. The funds received provide the government with money and revenue required to manage other natural resources and other spending the government (Wong, 1993). In many countries, the revenue collected from tourist fees is the one used to run the operations for
touristic resources (UNEP, 2015). However, many countries use the fee to renovate and tourist attractions sites and the environment as a whole. This is a direct impact that tourism has on the environment. For example, tourism funds are used in conservation programs and activities that help in the running of game parks and game reserves. The fees can be used to pay personnel responsible employed in parks and other tourist attractions. These are just some of the beneficial effects of tourism on the environment (Chongbin, 1999).

However good tourism is to the economy, it has negative effects on the environment. Tourism can cause the same kinds of pollution like any other industry. Pollution comes in form of solid waste, noise, and air emissions, among others. Tourists are also involved in activities that deplete the environment. For instance, the cars and airplanes they travel in produce gases that pollute the environment. The cars they drive emit carbon dioxide gas which is a key component in the depletion of the ozone layer (Paravantis & Georgakellos, 2007). In addition, some of the cars the tourists travel in have loud music which pollutes the environment through noise pollution. Thirdly, while visiting parks and game reserves, the visitors are involved in littering and careless dumping (Yao-feng, 2005). These activities lead to the depletion of the environment.

In regions with a high number of tourists, waste disposal is a real problem and activities that lead to improper disposal may despoil natural ecosystems such as lakes and rivers, among others. In mountainous areas, tourism generates a great deal of waste. Tourists involved in expeditions sometimes leave their luggage and camping equipment behind (Kuniyal, 2005). An increased number of tourists lead to increased construction of hotels and other social amenities which tourists would require. First, construction of such buildings pollutes the environment.
Secondly, the emission of sewerages and other waste from the hotels to the environment end up polluting the environment (Chongbin, 1999).

The industry involves travel from one place to another using different methods of transportation including vehicles, trains, airplanes and cruiseships (Klint et al., 2012). As such, natural resources, which include fossil fuels and gas, are depleted since they are the main sources of energy to power the different methods of transportations (Prideaux et al., 2013). The extraction process of these resources contributes to air pollution and emission of greenhouse gases leading to the changes in climate (Saarinen et al., 2012). Furthermore, the tourism sector contributes to climate change through the release of carbon dioxide and other harmful gases (Hernandez & Ryan, 2011). Most of these emissions originate from the transport sector, which includes rail, car and air transport (Tranos & Davoudi, 2014). The accommodations sector also contributes to the level of emissions through the maintenance, air conditioning and heating of pools, restaurants and bars (Morrison & Pickering, 2013).

**Sustainable Tourism**

According to Butler (1993), sustainable tourism is defined as “tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and wellbeing of other activities and processes.” (p. 29). Also, the United Nation of World Tourism Organization (UNWTO) defined sustainable tourism as tourism that consider current and future social, economic, and environmental impacts and identify the needs of host communities, the industry, visitors, and the environment. Sustainability can be implemented in all forms of tourism and all destinations including mass tourism destinations. Acceptable balance among socio-
culture, economic, and environment must be done to ensure its long-term sustainability (UNWTO, 2005).

According to Blancas et al. (2010) tourism can be sustainable if tourists can impact positively on the environment, community and the economy when they visit a particular place. Tourism activities include activities such as transportation to various destinations, accommodation services, recreation and entertainment (Bramwell, 2011). Bramwell & Lane (2010) argue that due to the increased tourism activities, the respective players are called to develop a sustainable tourism. However, there has been debate on how the sustainability in tourism can be achieved to benefit both the society and the economy (Buckley, 2012). Further, Castellani & Sala (2010) explain that tourism is largely linked to travel, thus there is need to develop sustainable mobility. It therefore implies that the two common considerations to be made regarding tourism’s and travel's sustainability are the usage fossil fuels and its impact on the environment (Choi & Murray, 2010).

According to Edgell Sr (2013), tourism activity is a significant source of carbon dioxide CO₂ emissions. Travel transportation alone produces 72% of CO₂ emissions generated by the global tourism industry, 24% are produced by the accommodation sector, and 4% from other tourism activities. Out of total global carbon emissions, the aviation sector accounts for 5% (Getz & Timur, 2012). Therefore, the question of tourism sustainability has been raised in various debates. Hall & Williams (2013) assert that according to the International Air Transport Association (IATA), tourist passenger kilometers are expected to increase by 5% annually till 2050 (Hall & Williams, 2013). Further, Airbus and Boeing also project that the number of trips made by the tourists is expected to increase significantly (Lee, 2013). Therefore, the aviation activity and carbon emissions are issues to be taken into consideration for impacts on the climate.
 According to Gössling & Peeters (2007), by the year 2050, many other economic activities such as the manufacturing will have significantly reduced carbon emissions but aviation will still emit 40% of CO₂ (Gössling & Peeters, 2007). The primary reason the carbon emission is high in the air transport sector is the increased number of tourists wanting to cover many destinations (Scott, 2011). Therefore, transport sustainability is a critical current issue that the international tourism sector is viewed as unsustainable of which aviation is at the center.

**Pillars of a Sustainable Business Based On Social and Economic Aspects**

Tourism is one of the fastest growing industries in the world, and it is vital to protecting the tourist destinations to ensure tourism sustainability (Weaver, 2011). If unchecked, the continued increase in the tourism activities will stress the biological diversity of habitats and the traditional cultures, which form the basis for tourism (Weaver, 2012). Yasarata et al. (2010) argue that those tourists who are sensitive to sustainability in tourism aim at protecting tourist destinations. Sustainability-minded tourists can take steps to reducing the tourism activities’ impact on the environment in five main ways. Firstly, tourists are expected to familiarize themselves the cultural, political and economic activities of the society in which they visit. Understanding the community norms is vital in protecting the culture of the tourist destination. Secondly, the sustainable tourists are expected to respect the assumptions of the communities in which they visit. Thirdly, supporting the integrity of the local communities is vital in preserving the heritage of the community thus favoring tourism. Fourthly, the sustainable tourists are expected to support the local economy by purchasing the local products from the local businesses. Fifthly, the tourists are requested to associate themselves with the businesses that are environmental and cultural conscious to promote the conservation of the resources (Yasarata et al., 2010).
According to Bramwell (2011), the role of responsible tourism is linked to that of sustainable business. For instance, the tourism sector is expected to be more responsible as the number of activities within the area increase. It, therefore, implies that the pillars of sustainable tourism are similar to those of responsible businesses since both have an objective of achieving sustainable tourism development (Bramwell, 2011). The first pillar of responsible tourism activity is integrity. Tourism activities are expected to respect the culture of societies in which they operate. Secondly, social justice is another pillar of the sustainable tourism development. Lastly, economic development is a vital pillar of both sustainable and responsible tourism. However, Bramwell & Lane (2010) try to distinguish between the responsible tourism and the sustainable tourism. What differentiates responsible tourism from the sustainable tourism is that in the responsible tourism, individuals and firms are held liable for their actions. Therefore, businesses and individuals in the responsible tourism are accountable for the actions that violate the environmental conservation (Choi & Murray, 2010).

**Sustainability of Tourism in the Developing Countries**

Edgell Sr (2013) explains that in the past 15 years, tourism activity has increased in developing nations as many untouched places are being discovered. Therefore, the third world countries are experiencing a rapid expansion in tourism activities. It, therefore, implies that the environmental impact will increase in such countries due to increased tourism travel. For instance, the developing countries that have experienced an increase in tourism activities are the coastal regions of Kenya and Tanzania, which are both in the East Africa. Studies indicate that the developing countries experiencing increased tourism activity are having challenges of sustainable tourism.
As tourism activities are expanding in developing countries, there is a problem of displacement and resettling people. For instance, an example of a community affected by the arrival of first class tourism companies is the Maasai community in Kenya. To enable accessibility to various tourist destinations, the Maasai community was forced to abandon their ancestral homes to create room for tourist attraction sites. However, the critics of sustainable tourism argue that the imposers of sustainable development have an objective of maximizing their profits. There have not been clearly outlined structures on how people should be displaced and resettled (Getz & Timur, 2012). In most cases, people are replaced, and the resettlement is never carried out.

**How Sustainable Business can be Improved in the Developing Countries**

To promote sustainable tourism, collaboration should be done between the government, the tourists, and the people living close to those resources. For instance, Hall (2011) said that people living next to tourist resources are in a good position of protecting such resources than the government or the tourists visiting such sites. Therefore, for the governments to promote sustainable tourism and prevent the exploitation of the tourist resources, local people must be involved. Relocating people and resettling them elsewhere does not promote sustainable tourism. The act of relocating people from their ancestral homes and failing to resettle them is not viewed as economic development. The government together with the tourism industry are supposed to introduce programs that will engage the local communities is an example of ensuring a sustainable tourism. It is paramount to note that the local people stand to benefit from sustainable tourism, as their businesses will thrive and they will be more motivated to protect the local resources to ensure the continuity of the tourism activities. Similarly, the other best way of promoting sustainable tourism is by introducing legislation that will force aviation sectors to
focus more on greener sources of energy. As noted earlier, the aviation sector contributes over the 55% of carbon emissions (Hunter, 2012). The carbon emissions have a negative impact on the ecological life more the wildlife and the human beings who drive tourism. Without wildlife, there will be no tourism, making it imperative for sustainability to be prioritized in the tourism sector.

**Environment Management in Business**

In addition, many industry professionals have engaged in developing and promoting ecologically sustainable products and services while striving to strengthen their business commitment to sustainability (Earthshare 2012). Environmental management enable businesses to save money on long-term while gaining a competitive advantage by developing a positive image and reputation (Chen, 2008).

Sustainable development concept focuses on the harmonization of environmental, social and economic dimensions as a means of ensuring that strategy development occurs successfully. This is the current foundation of policy-making in businesses all over the world (Jelonek, 2013). However, businesses face the challenge of changes in consumption and production patterns as they aim at achieving sustainable development without altering future human and natural systems viability (Nicklas et al., 2013). Hence, businesses have to establish strategies that aim at processes and product improvement as they respond to environmental and consumer needs.

The best practice for the businesses is to have an effective environmental management practice that aims at the reduction of the negative impact on the environment (van der Wiele et al., 2011). Such endeavors ensure that the business benefits from productivity gains and cost savings, as well as an improved level of efficiency. This contributes in ensuring that a green business is achieved, which contributes in the attainment of the fastest and newest opportunity in
a business environment (Borges & Herreros, 2011). Irrespective of the business environment in which a person is operating, it is easy to minimize the impact on the environment by focusing on reduction, reuse, and recycling of waste. Furthermore, businesses have to focus on lowering their carbon footprint and aiming on utilizing sustainable means of energy (Park & Koh, 2015). This includes a reduction of the inputs expenditure and having a positive mind related to the customers.

Businesses also focus on environmental impact management (Wong, 2012). As such, in all the operations and projects, businesses manage impacts on the environmental and address the same on local communities. Such entails a review of the management material that includes greenhouse gas emissions protected and sensitive areas, wastes, and water (Islam et al., 2015). In addition, businesses examine the possibility of risks and formulate actions that need to be taken to mitigate risks that may emerge in the business environment (Pruden et al., 2013). It is the aim of the businesses to focus on issues related to reduction, reuse, and recycling of waste, as well as air emissions, which may contribute towards the depletion of the ozone layer.

Business projects often undergo screening processes where there is an examination on the environmental and social practices with an aim of investigating the possible impacts that the project may affect the environment (Gračan & Birin, 2013). Such includes risks to protected or sensitive species and areas, water availability and air quality. In addition, businesses focus on social aspects that include bribery and corruption, community safety and health and the local employment (Sampaio et al., 2012). It is the screening process that warrants conducting of the impact assessments to establish the measures that aid in project operations, construction, and design.
Moreover, businesses have timeframes for the review of the local improvement and environmental performance objectives (Manoliu & Croitoru, 2014). These include biodiversity impact reduction, prevention of pollution and reduction of the flaring. Such is because environmental impacts vary among different business activities and operations (Xiong & Feng, 2014). It is at this point, where businesses focus on complying with the established legal and statutory regulations on the management of the environment (Dadzie et al., 2015). In addition, businesses engage in corporate social responsibility where they sponsor charity work for caring of the environment. For example, businesses sponsor planting and maintenance of trees in institutions of learning or social places of gathering.

Policymaking on issues of environmental management is another area where businesses invest (Singal, 2014). As such, business management teams ensure that they participate in the formulation of policies related to environmental management. Such includes indicating the gains for engagement in environmental practices, which include collaboration in addressing a common environmental problem where the business is located (Hsin-Min, 2007). However, the collaboration aspect of businesses in policymaking is dependent on the type and nature of business, the purpose of the business and the expectations from the participation in the policymaking process.

As businesses focus on environmental management, they face several factors that include business green image, society awareness on the environment, regulation of the environment, company impact, environmental formalization, cost savings, employee training, demand in the market, commitment of the top management and the external communication, which is related to the key environmental issues (Santos Góes & Vianna, 2014). Hence, businesses formulate strategies for environmental management by considering the impact of these factors on the
adopted strategy and the impact on the environment (Alonso-Almeida & Llach, 2013). At some point, businesses need to adopt enterprise risk management (ERM) systems as a key strategy for determining the impact on the environment. This system gives businesses a chance of understanding the nature of the environment and the needs of the environment.

**Environment Management in the Accommodation Sector**

There have been growing efforts to green the hotel industry by reducing energy and water consumption, local/non-durable goods, and emissions released into the air, water, or soil by applying the International Hotels Environmental Initiatives (IHEI) 1993. That is, the greening of the hotel industry is the process of developing new ways of doing business that reduce environmental harm and make use of waste streams. A green hotel is an environmentally friendly hotel that implement green principles and programs such as water and energy savings and the reduction of solid waste and emissions to conserve the environment as well as to enhance the hotel's effectiveness such as cost saving. The term, "green" is alternatively called "eco-friendly", or "environmentally friendly" (Pizam, 2009).

Environmental management in hotels occurs when the hotels embrace the systems that focus on protecting and maintaining the environment with an aim of eradicating the negative impacts on the environment (Mensah & Blankson, 2013). As such, it becomes easy for the hotels to control their impact of services, products and activities on the natural environment (Atay et al., 2013). Environmental Management System (EMS) is the common strategy that hotels use to determine their goals for the environment, responsibilities, and policies. Such includes the means of auditing the effectiveness of the system in the delivery of its expected goals for the hotels (Karatepe & Demir, 2014). However, hotels do not have a common EMS because some have very detailed, and others have a light EMS, which indicates the variation in the degree of
integrity towards environmental management within the hotel industry (Vidal-Salazar et al., 2012).

Hoteliers are required to monitor energy, control, save and reduce atmospheric pollution as an important aspect to protecting the environment. Additionally, wastes management and recycling strategies are required for effective management of wastes (Albert & Beatty, 2014). Furthermore, a purchasing policy that focuses on the reduction of environmental consumption while promoting the development of social, ecological and local product flows will minimize the negative impacts to the environment (Doyle, Findlay & Young, 2012).

There has been a consistent demand for green hotels across the world. Though the number of people who would search out willingly for hotels that are environmental friendly is relatively low, environmental consciousness is on the rise creating an increased demand for green hotels (Bohdanowicz, 2006) (Millar & Baloglu, 2011). According to Manaktola & Jauhari (2007), marketing hotels as a green practice establishments can increase its competitiveness by positioning it differently among other hotels in the destination to attract more customers (Manaktola & Jauhari, 2007).

The ecological movement when combined with modern techniques and lifestyle practices can result in the formation of effective green practices for hotels. Creative technology could be used to save energy without harming a hotel's service and interior design. Natural materials could be used for building the hotel, the production of greenhouse gases could be reduced, and energy saving appliances could be utilized in the hotel. Eco programs, renewable energy concepts, and knowledge on local product utilization will help hotels design better green practices (Conrady, 2011). Zero – energy housing is a recent trend wherein passive housing standards like isolation for the walls, windows, floor, and roof help reduce energy consumed for heating the rooms.
Utilization of low energy LEDs and bulbs is another possibility for saving energy. Installing proper electronic equipment, replacing older equipment on time, and making adequate usage of daytime light will help hotels save energy. Printed cards kept in guest rooms requesting if linens and towels should be changed could be used to engage guests to actively participate in green practices (Bardi, 2010). Modern heating, ventilation, and air conditioning systems will enhance the efficiency of energy equipment in the hotel, as the heat coming out of the system could be used in heating laundry or swimming pools (Greenhotelier, 2004). To reduce water usage, water efficient showerheads could be installed and rainwater harvesting could be done (Sloan et al., 2009). Waste reduction is achievable through recycling. Sorting waste and replacing plastic supplies with glass bottles are some processes that will help hotels reduce waste handling costs and land filling (Label & Rajesh, 2010). Reduce, reuse and recycle is a concept that is highly relevant in the hotel industry. Green hotels also engage in the efficient production of energy, like using energy from windmills or solar panels (Conrady, 2011).

**Why to Go Green**

Studies show that hotels go green for a variety of reasons such as economic benefits, facing public scrutiny, improving investor relations (Gan, 2006 and Juholin, 2004). As mentioned earlier, the hospitality industry has negative impacts on the environment, however; the industry can minimize the negative impact by educating its staff and customers on its impact, implementing eco-friendly practices, and influencing related industries such as hotel suppliers. Such activities would benefit both the environment and the hotel industry positively since travel and tourism depend on environments (Bohdanowicz and Martinac, 2003).

According to a study by Bansal and Roth (2000), there are three main incentives for businesses to implement green practices that include competitiveness, legitimation, and
ecological responsibility. Competitiveness shows the role that green practices can play in improving profitability. Implementation of green practices can improve long-term profitability not only by lowering expenses but also by transferring these savings to customers. Legitimation means to apply environmental rules and regulations to avoid difficulties in some way. Legitimate businesses are lawful establishments, but a firm can be legitimate in this sense even if it is more reactive than proactive regarding sustainability. Nowadays, going green adds a value to the image, however; so there is likely considerable financial benefit to doing the right thing.

Tourism and Hospitality in Saudi Arabia

Tourism industry in Saudi Arabia has existed from ancient times since many people travel to the country for religious purposes. Tourism is the second largest source of income in Saudi Arabia after oil, result in US$ 13.8 billion annually. In terms of employment, the industry is the third largest source of employment in the country. The number of tourists have been growing gradually from 2004 with 755 million tourists to 1135 million in 2014. The revenue from the international travel and tourism to Saudi Arabia is predicted to reach US$ 63.7 billion by 2019. Religious tourism is the major tourism in the country (Khan & Alam, 2014)

Tourism has been developed as a tool for economic reform in Saudi Arabia since many of provinces within Saudi Arabia heavily depends on oil with limited alternative resources. Tourism can be one of alternative resources for regional development and reduce migration from rural areas to urban areas. Additionally, some of other reasons to develop tourism in the country are to increase investment, develop human resources, develop infrastructure, increase foreign exchange, and create new jobs for Saudi citizens (Deborah, 2010) (SCTA, 2012). As a result of tourism development, the industry will become an important source by contributing to national
economy positively from accommodation, transportation, and other activities that tourists may need.

Saudi Arabia offers a variety of products for different type of tourism such as religious resources, natural resources, culture and heritage resources (SCTA, 2015). The country is a destination for all Muslims around the world since the holy cities of Mecca and Madinah are located in the country. Many Muslims visit the country for religious purposes annually. According to El Hanandeh (2013), approximately 300 million people from around the world participate in religious tourism every year. Pilgrimage to Mecca, is one of the oldest annual religious tourism in the world. In 2011, the city of Mecca attracted 2.79 million people to practice their religion in 5 days each year (El Hanandeh, 2013).

In addition to holy sites, Saudi Arabia has much more resources to tourists, citizens, and residents by providing them a unique opportunity to explore the culture of the country. Tourists resources include but not limited to natural, historic, and heritage resources where. In terms of heritage, there are four heritage sites registered in the United Nations Educational, Scientific, and Culture Organization UNESCO in the country of Saudi Arabia and ten sites on the tentative list (UNESCO, 2015).

According to the Saudi Commission for Tourism and Antiquities (SCTA) (2012), the total number of hotels in Saudi Arabia is 1098 hotels. These hotels are categorized based on stars level. Due to religious tourism, Mecca, and Al Madinah Region host a large number of hotels to accommodate tourists. Riyadh, which is the capital city, has a variety of hotels regarding stars level and the city offer 67 hotels in total. There are 16 hotels categorize as five stars hotels and 13 as four stars hotel. In addition, there are 15 hotels categorize as three stars hotels and 19
hotels as two stars hotel. There are only four hotels categorize as one star or the minimum (SCTA, 2012).

When it comes to room occupancy, four star hotels were the highest in the country. In 2011, four star hotels had an occupancy rate rate of 65.5%, while one and two-star hotels had the lowest rates at 58.9%. The peak seasons were summer and fall (SCTA, 2014).

**Diffusion of Innovation Theory**

When people talk about innovation, they usually think about introduction of something new such as product, technology, and idea. Another innovation that appeared 1990s was environment management in the hospitality industry (Best, 2008). Environment management was an innovation that focused on conserving the environment. Businesses may conserve the environment by reduce consumption of resources, and use environmentally friendly products to minimize negative impacts to the environment (Le, Hollenhorst, Harris, McLaughlin & Shook, 2006). There are different reasons to implement environment management in business including conserving the environment, increase efficiency, cost reduction, competitive advantages, and social responsibility (Best, 2008).

Rogers (2003) has defined diffusion as “the process by which an innovation is communicated through certain channels over time among the members of a social system.” (p. 6). According to Strang and Soul (1998) diffusion is “the spread of something within a social system.” (p. 266). The Diffusion of Innovation Theory illustrate how over time an idea, product, behavior, service style, and process that spread among certain people or social system (Strang & Soul,1998). People may adopt or reject the Innovation. Adoption means that people do something different than they used to do previously such as new behavior, new product, and new purchase (Rogers, 2003).
There are many research studies appeared about Diffusion of Innovation theory after 1943. In 1943, Ryan and Gross investigated about the use of hybrid corn by farmers in Iowa. Their study was conducted since the Iowa Agriculture Experiment Station wanted to address why the hybrid corn seed was not quickly adopted among farmers. The administrators of Agriculture Experiment Station found the hybrid corn beneficial to farmers; however, some farmers took a while to use the seed in their farms. Ninety nine percent of the sampled farmers used the seed in thirteen years; however, the majority of them adopted the seed after 5 years of announcement. Information regarding hybrid corn seed was spread from farmer to the other, which confirm the interpersonal networks were crucial and the diffusion was a social process (Rogers, 2003).

There are different categories in terms of adopters including innovators, early adopters, early majority, late majority, and laggards. Each category has different characteristics than the other. There are five different categories of adoption of innovation. They are called ideal types which derive from observations of reality. The first one is based on innovators’ venturesomeness. They are the basic element of adoption chain of innovation and must be eager to try new ideas, and, at the same time, comply with some prerequisites. The second category is called early adopters. People who represent this category enjoy leadership. Their opinions and worries regarding innovation are more important to potential adopters than those of innovators. The third category is related with the early majority. It occupies a “unique position between the very early and the relatively late to adopt” (Rogers, 1962, p. 249). It may deliberate before the adoption of innovation. Being the fourth category, the late majority is related to adoption of new ideas and approaches adoption of innovation from the economic and social perspective. It may be quite skeptical regarding the innovation. The last category to adopt innovation in social system is
laggards. They represent resistance to innovation and tend to be suspicious about any changes (Rogers, 1962).

To sum it up, it is worth mentioning that diffusion of adoption of innovation is one of the most famous theories concerning the spread of innovation. Communication among peers is very important in terms of developing and adopting innovations. Diffusion is possible only through interaction within a social system. Rapidity of the adoption highly depends on the categories and factors influencing the process. Sahin (2006) stated that “Rogers’ diffusion of innovations theory is the most appropriate for investigating the adoption of technology in higher education and educational environments.” (p. 14).

Diffusion of Innovation theory has been used in different disciplines including tourism and hospitality industry. More than 5000 studies have used Rogers’ theory in various disciplines. For example, Alkahtani (2003) used the theory to investigate the computer technology adoption in Saudi Arabia. Additionally, Le, Hollenhorst, Harris, McLaughlin & Shook, (2006), used the theory to assess the environmental management in Vietnamese hotels. The theory has been used widely in developing countries.

**Gaps in the Research**

In the hotel field, Kirk (1998) tested the attitudes of hotel managers towards environmental management in Edinburgh. The study investigated if there was a relationship between hotels characteristics and the attitude toward environment management of participants. The result showed managers of large hotels and chain or consortium hotels more likely to see benefits from the environment management compared to small hotels. Deng and Burnett (2002) discussed the green practice such as energy, water use, and management in hotels in Hong Kong and it’s important to conserve the environment. In addition, Chan, (2008) illustrates the barriers
of implementing Environmental Management Standard (EMS) in hotels. The data collected by surveys and the paper ended up with internal and external factors that influenced hotels to meet EMS. When it comes to developing countries, it can be clearly seen that there is a lack of green practices in hotels, especially in Middle East. Recently, Qatar has taken action towards environment practices in the hospitality industry to minimize the negative impacts to the environment. According to Ayoub, Musharavati, Gabbar (2014), the country shows an interest to conserve energy especially in commercial buildings. The study compared the consumption of energy from 1999 to 2011 and showed the transition in terms of energy consumption. The study illustrated the practices that could minimize the consumption of energy. Due to topography of Arab gulf countries especially with water resources, they should apply water resource management and create policies to conserve water. Recycle water also another aspect of water conservation (Alzubari, 1998). Another study discussed the conflict about LEED certification with regional environmental problems even inside the US. The study said LEED standards can be vary between regions to another based on geographic location, and climate. One of the perquisites to be LEED certified is to have a bicycle rack to support guests and visitor to use bikes. However, it is very rare to use bicycles in desert climate such as Arab Gulf Countries (Abo Neama, 2012). According to Jafari & Scott (2010), tourism studies in Saudi Arabia are very limited (Jafari & Scott, 2010). During initial portions of this study, there are no additional studies found discussing green practices in hotels in Arab Gulf countries in general and in Saudi Arabia, specifically.
Figure 2-1. Adopters categorization of innovations (Rogers, 2003)

Figure 2-2. Innovation of Diffusion (Rogers, 2003)
CHAPTER 3

Methodology

Introduction

This chapter will address different steps including the location of the study, method, participants, data collection, instrument, and treatment of data.

This study adopted a quantitative method to assess green practices in hotels in Riyadh, Saudi Arabia. The quantitative approach involves statistical analysis and thus depends heavily on numerical findings in drawing conclusions (Veal, 2006). According to Walter (2010), a quantitative approach is an appropriate method for examining trends, attitudes, and perspectives of a certain group, and for making comparisons and connections (Creswell, 2005; Walter, 2010).

The study was conducted among different star level hotels in Riyadh, Saudi Arabia. As previously stated, Riyadh has a variety of hotels in terms of star level and the city offers 67 hotels in total. In addition, ownership varies such as, local, foreign and chain hotels. Traditionally, hotels are operated according to the European plan (EP), which is room rate only; however, some hotels offer daily breakfast for their guests (SCTA, 2014).

Profile of Participants

The target population for this study was general executive level employees, managers, and owners in hotels in Riyadh, Saudi Arabia. People in these positions are usually responsible for making decisions at their respective property, which make them the best group to be surveyed. Hotels were selected based on the list provided by the Saudi Commission for Tourism and Antiquities (SCTA). The SCTA is a government entity responsible for tourism and the hospitality industry in Saudi Arabia. The list consists of 67 hotels in Riyadh City (SCTA, 2011).
Simple random sample was used for this study. The size of the sample was 55 hotels. The list of hotels was given by SCTA. The list includes hotels in Riyadh noting their stars level, type of accommodation, and location. The 67 hotels on the list were numbered from 1 to 67. After that, the list was transferred to a software called The Hat to choose the sample randomly. This method of sample selection gives each hotel in the target population an equal opportunity of being selected.

Data Collection

The data were collected using a self-administered questionnaire. Data were collected from October 15 to November 1. This method of collecting data was chosen for three reasons. First of all, the study city is relatively small with most hotels located in one area which made it easy to cover the city. Secondly, according to SCTA, most of the hotels do not share email addresses publicly (SCTA, 2012). Thirdly, most of the hotels’ websites have only the hotel’s postal address and telephone number, which make it difficult to reach the participants by email.

Instrument

Data for this study were collected by a self-administered questionnaire. The questionnaire consists mainly of closed-ended questions using a Likert-type scale to measure responses. Questions were developed using previous studies and existing literature. The questionnaire was divided into four sections. Section one asked questions related to hotel characteristics including ownership, star level, and hotel age. The questions in section two were used to determine the hoteliers’ current understanding of green practices and the current level of implementation at their hotels. The third section measured the supporting factors to the implementation of green practices in hotels. Respondents were asked to indicate their agreement with several statements.
using a five point Likert-type scale. The final section measured the barriers to implementing green practices using the Likert-type scale as well.

The questionnaire was designed for owners and managers to determine the current level of green practices at their establishments. In addition, the survey was created to identify the supporting factors and barriers regarding the implementation of green practices. Hotel characteristics such as star level, ownership, and age of hotel were also determined.

Hotel Characteristics

This section identified hotel characteristics. Questions assessed hotel age, stars level and ownership.

Environmental Management

This section addressed the current understanding of green practices from the perspective of owners and managers at participating hotels. In addition, the current levels of green practices implementation were identified. Respondents were asked to choose only one level that described their implementation. The options were basic practices, environmental management, environment management system, and green certification. Questions in this section were modified from American Hotel & Lodging Association, 2015; Best, 2008; and Gössling, 2010.

Supporting Factors

This section measured the supporting factors to implementing green practices. According to the literature, there were several reasons to apply these practices in hotels such as reducing cost, and efficiency. Some of the items that were used to evaluate the supporting factors were adopted from Best, 2008 and Bramwell & Alletorp, 2001. To evaluate these items, a five point
Likert type scale was used where 1= strongly disagree; 2=Disagree; 3=Neither disagree or agree; 4=Agree; 5=Strongly agree.

**Barriers**

In this section, barriers to implementing green practices were measured. Based on previous studies, major barriers were cost, technical factors, and complexity. Items were adopted from Best, 2008; Bramwell & Alletorp, 2001; and Yusof & Jamaludin 2014. To measure these items, a five point Likert type scale was used where 1= strongly disagree; 2=Disagree; 3=Neither disagree or agree; 4=Agree; 5=Strongly agree.

**Treatment of Data**

The data from the completed questionnaires were transferred to the Statistical Package for the Social Sciences (SPSS) version 20 for analysis.

- **Research question 1:** What is the hotel managers’ current understanding of green practices in hotels in Riyadh, Saudi Arabia?

  The frequency of familiarity with green practices was calculated to determine the current understanding of green practices from the respondents’ perspective.

- **Research question 2:** To what extent have green practices been implemented in hotels in Riyadh?

  To measure the extent of green practices’ implementation, frequency was calculated to determine the number of hotels that had green practices in place. Using the year in which green practices were first adopted, the S shaped (diffusion) curve was plotted.

- **Research question 3:** What levels of green practices are currently implemented in hotels in Riyadh, Saudi Arabia?
Respondents selected one of four levels of environmental management listed: (1) environmental best practices, (2) environmental management, (3) environmental management system, (4) green certification. Frequency was calculated to determine the levels currently implemented.

- **Research question 4:** What are the supporting factors and barriers affecting the implementation of green practices in hotels?

Supporting factors and barriers were measured by using five point Likert type scales. Frequencies of the supporting factors and barriers were calculated.

- **Research question 5:** Are there any differences in the implementation of green practices in terms of hotel characteristics?

To determine if there were differences in implementation among hotels based on characteristics, logistic regression was identified as the most appropriate analysis to be used. Stars rating and ownership would be regressed on the variable ‘green practices applied at hotel.'
CHAPTER 4

Results

Introduction

This chapter presents the data collected from the participants. Results of the data analyses, as well as the characteristics of the participants and their hotels were also included.

Profile of Participants and Participating Hotels

The research was conducted in a sample of hotels in Riyadh, Saudi Arabia. Out of 55 questionnaires distributed, 36 valid ones were returned, for a response rate of 65.4%. Respondents representing these hotels were largely general managers (62.9%). There were also executive level employees (22.9%), owners who were also general managers (8.6%), and owners (5.7%) (Table 1).

When it comes to hotel categories, 38.9% \((n=36)\) of the sample classified their hotels as 5-stars, 36.1% as 4-stars, 16.7% as 3-stars hotels, and 8.3% as 2-stars hotels. No participants reported a 1-star hotel. When the participants were asked about the type of ownership, the majority (58.3%, \(n = 36\)) reported that their hotels were locally owned. Fifteen (41.7%) categorized themselves as chain hotels. There were no hotels reported as foreign hotels (Table 2).

Results of Research Questions

- **Research question 1**: What is the hotel managers’ current understanding of green practices in hotels in Riyadh, Saudi Arabia?

  Frequency was calculated to illustrate managers’ current understanding of green practices. Understanding of green practices was measured using information regarding familiarity with the term “green practices”. Frequency was performed for this question, with the results indicating
that the majority of the sample is familiar with the term “green practices” 97.2% while only one participant was not familiar with the term.

- **Research question 2:** To what extent has the green practices been implemented in hotels in Riyadh?

Based on the result of the survey, green practices existed at the majority of hotels. The extent was measured by asking questions regarding the implementation of green practices. Thirty-five of the thirty-six hotels (97.2%) reported having implemented green practices at their hotels. The result showed the green practices spread among the majority of participating hotels. The s-shaped diffusion curve illustrates the growth of implementation of green practices (Figure 4-1).

When it comes to carbon-offset programs, the majority of participants 97.2% had none in place. Approximately 92% had no plans or goals to reduce greenhouse gases, while only 1 hotel calculated its carbon footprint. Some 94.4% of hotels made no efforts to reduce their carbon emissions. Additionally, 94% of participants did not use renewable energy sources at their hotels. The majority of participating hotels were purchasing local food and products from local vendors (Table 3).

The majority of participating hotels began to implement green practices after 2002. There were four levels of green practices implemented. Twenty-eight (77.8%) participants represented hotels that had implemented environmental best practices, which include recycling, water actions, energy conservation actions, and linen/towel reuse programs. Participants who reported that their hotels applied environmental management programs numbered six (16.7%) and only two (5.6%) hotels had implemented an environmental management system. There was only one hotel reported as green certified (Table 5).
- **Research question 3**: What levels of green practices are currently implemented in hotels in Riyadh, Saudi Arabia?

  Frequency was calculated for this question. Current level of implementation was assessed through a series of questions identifying the implementation of a variety of green practices (Table 5). The results show the majority of hotels had implemented some level of green practices. There were 28 hotels (77.8%, n=36) that had implemented environmental best practices, which include recycling, water saving, energy saving, and linen/towel reuse program. Hotels that had implemented environmental management programs comprised 16.7% of the sample and 5.6% had implemented an environmental management system. There was only one hotel with green certification (Table 5).

- **Research question 4**: What are the supporting factors and barriers affecting the development of green practices in hotels?

  This section addresses the supporting factors to implementing green practices in hotels. There were five factors measured using a 5-point Likert-type scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Based on the participants’ responses the strongest supporting factors of green practices in participating hotels was funding with 22.2%. In addition to these factors, government assistance 11.1% and technical assistance 13.9% were also cited as supportive factors (Table 6).

  This section addresses the barriers to implementing green practices in hotels. There were 10 factors assessed using a 5-point Likert-type scale that ranged from 1 (strongly disagree) to 5 (strongly agree). There were three barriers that participants strongly agreed were barriers to
Implementing green practices. The top barriers to the implementation of green practices were the complication of implementation (94.4%, n=36), lack of tools (94.4%, n=36), and cost (91.7%, n=36). Other barriers were lack of information (27.8%, n=36), and lack of capital (13.9%, n=36). Employee resistance and corporate resistance were not considered barriers to the implementation of green practices (Table 7).

- **Research question 5:** Are there any differences in the implementation of green practices related to hotel characteristics? (age of hotel, ownership, and stars level)

For purposes of analysis, the predictor variables were age of hotel (in years), type of ownership (local, foreign, or chain), and stars level. The outcome variable was measured by the single question “Have you ever applied green practices at your hotel?” with answer choices of “yes” or “no”. The overwhelming majority (97.2%, n=36) of the sample reported “yes” to this question. Since there was very little variation in the response the logistic regression analysis could not be performed.
Table 1

Profile of Respondents

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
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<tr>
<td>General Manager</td>
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</tr>
<tr>
<td>Combined Owner-General Manager</td>
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<td>8.30</td>
</tr>
<tr>
<td>Executive Level Employee</td>
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<td>22.20</td>
</tr>
<tr>
<td>Other</td>
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</tr>
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</table>

\[ n = 36 \]

Table 2

Characteristics of Hotels

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<thead>
<tr>
<th>Category</th>
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</thead>
<tbody>
<tr>
<td>Five stars</td>
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<td>38.9</td>
</tr>
<tr>
<td>Four stars</td>
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<td>36.1</td>
</tr>
<tr>
<td>Three stars</td>
<td>6</td>
<td>16.7</td>
</tr>
<tr>
<td>Two stars</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Local Ownership</td>
<td>21</td>
<td>58.3</td>
</tr>
<tr>
<td>Chain Hotel</td>
<td>15</td>
<td>41.7</td>
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</tbody>
</table>

\[ n = 36 \]
Table 3  
*Implementation of Green Practices*

<table>
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<tr>
<th></th>
<th>n</th>
<th>%</th>
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<td></td>
</tr>
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<td>2.</td>
</tr>
<tr>
<td>No</td>
<td>35</td>
<td>97.2</td>
</tr>
<tr>
<td>Plans/goals to reduce greenhouse gasses</td>
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<td></td>
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<td>Yes</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>No</td>
<td>33</td>
<td>91.7</td>
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<tr>
<td>Calculate carbon footprints</td>
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<tr>
<td>Yes</td>
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</tr>
<tr>
<td>No</td>
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</tr>
<tr>
<td>Use renewable energy</td>
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<td></td>
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<tr>
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</tr>
<tr>
<td>No</td>
<td>34</td>
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<td>Reduce carbon emissions</td>
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</tr>
<tr>
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<td>34</td>
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<td>Buy products locally</td>
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</tr>
<tr>
<td>Often</td>
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<tr>
<td>Not very often</td>
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<td>5.6</td>
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<td>Buy from local vendors</td>
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Table 4

*Year of Green Practices Implementation*

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<td>9.1</td>
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<td>2004</td>
<td>4</td>
<td>11.1</td>
<td>12.1</td>
<td>21.2</td>
</tr>
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<td>2005</td>
<td>3</td>
<td>8.3</td>
<td>9.1</td>
<td>30.3</td>
</tr>
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<td>2006</td>
<td>2</td>
<td>5.6</td>
<td>6.1</td>
<td>36.4</td>
</tr>
<tr>
<td>2007</td>
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<td>19.4</td>
<td>21.2</td>
<td>57.6</td>
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<td>2008</td>
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<td>6.1</td>
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<td>2011</td>
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<td>2.8</td>
<td>3.0</td>
<td>81.8</td>
</tr>
<tr>
<td>2012</td>
<td>2</td>
<td>5.6</td>
<td>6.1</td>
<td>87.9</td>
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<tr>
<td>2014</td>
<td>3</td>
<td>8.3</td>
<td>9.1</td>
<td>97.0</td>
</tr>
<tr>
<td>2015</td>
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<td>2.8</td>
<td>3.0</td>
<td>100.0</td>
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<td></td>
<td>Total</td>
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<td>91.7</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td>100.0</td>
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</tbody>
</table>

$n = 36$
Table 5

*Levels of Green Practices Implemented*

<table>
<thead>
<tr>
<th>Environmental Best Practices</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuse towels</td>
<td>26</td>
<td>72.2</td>
</tr>
<tr>
<td>Reuse linens</td>
<td>21</td>
<td>58.3</td>
</tr>
<tr>
<td>Recycling</td>
<td>18</td>
<td>50</td>
</tr>
<tr>
<td>Low-flow shower head</td>
<td>7</td>
<td>19.4</td>
</tr>
<tr>
<td>Low consumption toilet</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Energy efficient appliances/equipment</td>
<td>27</td>
<td>75</td>
</tr>
<tr>
<td>Energy saving bulbs</td>
<td>30</td>
<td>83.3</td>
</tr>
<tr>
<td>Training programs</td>
<td>8</td>
<td>22.2</td>
</tr>
<tr>
<td>Engages guests in green practices</td>
<td>10</td>
<td>27.8</td>
</tr>
<tr>
<td>Recycling copy/print paper</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Environmental committee</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>Digital thermostats</td>
<td>11</td>
<td>30.6</td>
</tr>
<tr>
<td>Recycling for hazardous materials</td>
<td>1</td>
<td>2.8</td>
</tr>
<tr>
<td>Composting system</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Environmental policy and planned actions</td>
<td>5</td>
<td>13.9</td>
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<tr>
<td>Environmental policy and comprehensive program</td>
<td>2</td>
<td>5.6</td>
</tr>
<tr>
<td>Green certified</td>
<td>1</td>
<td>2.8</td>
</tr>
</tbody>
</table>

\[n = 36\]
### Table 6

**Supporting Factors**

<table>
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<tr>
<th>Questionnaire statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Incentives</td>
<td>66.7</td>
<td>13.9</td>
<td>8.3</td>
<td>0</td>
<td>11.1</td>
</tr>
<tr>
<td>In-house Training</td>
<td>13.9</td>
<td>36.1</td>
<td>38.9</td>
<td>11.1</td>
<td>0</td>
</tr>
<tr>
<td>External Training</td>
<td>72.2</td>
<td>13.9</td>
<td>8.3</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Funding</td>
<td>5.6</td>
<td>22.2</td>
<td>50</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>77.8</td>
<td>5.6</td>
<td>0</td>
<td>2.8</td>
<td>13.9</td>
</tr>
</tbody>
</table>

*Note: SD=Strongly disagree; D=Disagree; N=Neither disagree or agree; A=Agree; SA=Strongly agree*

### Table 7

**Barriers**

<table>
<thead>
<tr>
<th>Questionnaire statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity</td>
<td>0</td>
<td>2.8</td>
<td>0</td>
<td>2.8</td>
<td>94.4</td>
</tr>
<tr>
<td>Lack of Tools</td>
<td>2.8</td>
<td>0</td>
<td>2.8</td>
<td>0</td>
<td>94.4</td>
</tr>
<tr>
<td>Green Practices Not Necessary</td>
<td>33.3</td>
<td>41.7</td>
<td>19.4</td>
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<td>0</td>
</tr>
<tr>
<td>Employee Resistant</td>
<td>83.3</td>
<td>8.3</td>
<td>8.3</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Lack of Information</td>
<td>0</td>
<td>2.8</td>
<td>25</td>
<td>44.4</td>
<td>27.8</td>
</tr>
<tr>
<td>Benefits of Green Practices not Seen</td>
<td>19.4</td>
<td>61.1</td>
<td>13.9</td>
<td>5.6</td>
<td>0</td>
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<tr>
<td>Cost</td>
<td>0</td>
<td>2.8</td>
<td>2.6</td>
<td>0</td>
<td>91.7</td>
</tr>
<tr>
<td>Lack of Time</td>
<td>0</td>
<td>5.6</td>
<td>94.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Corporation Resistant</td>
<td>88.9</td>
<td>8.3</td>
<td>0</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td>Lack of Capital</td>
<td>0</td>
<td>2.8</td>
<td>44.4</td>
<td>38.9</td>
<td>13.9</td>
</tr>
</tbody>
</table>

*Note: SD=Strongly disagree; D=Disagree; N=Neither disagree or agree; A=Agree; SA=Strongly agree*
Figure 4-1 Green practice implementation in hotels in Riyadh, Saudi Arabia.
CHAPTER 5
Discussion

Introduction

The purpose of this study was to explore the implementation of green practices in hotels in Riyadh, Saudi Arabia. Additionally, the study sought to assess the extent to which green practices had spread among hotels. The study also addressed the supporting factors and barriers to the implementation of green practices. The Diffusion of Innovation Theory was the underlying theory for this study. In the sections that follow a summary of the results, discussion of the findings, implications, recommendations, limitations of the study, and suggestions for future research will be presented.

Summary of Results

There were 36 valid responses out of 55 questionnaires distributed, which gives a response rate of 65.4%. Respondents representing these hotels were largely general managers (62.9%), executive level employees, owners & general managers, and owners. Approximately 39% of the hotels were classified as 5-stars and 36% as 4-stars. There were also 3-stars and 2-stars hotels represented in the sample. The majority (58.3%) of hotels were locally owned, while some 42% were chain hotels. There were no foreign owned hotels.

The majority of participants (97.2%) indicated that their hotel did not have a carbon-offset program in place, while there were only three hotels with plans or goals to reduce the greenhouse gases. Additionally, 94% of participants did not use renewable energy sources at their hotels.

Approximately 78% of hotels in the sample had implemented environmental best practices. A small number (16.7%) had environmental management programs in place, two had implemented an environmental management system, and one was green certified.
Five items measured the factors supporting the implementation of green practices. The strongest supporting factor was funding with 22.2%. In addition to funding, government incentives with 11.1%, and technical assistance with 13.9% were reported as supporting factors. When it comes to barriers, there were ten items measured using a five point Likert-type scale. There three top barriers highly chosen by the majority of participants were the complication of implementation (94.4%), lack of tools (94.4%), and cost (91.7%).

Understanding and Implementation of Green Practices

Based on the result, the majority of participants were familiar with green practices. Such occurred because the issue of climate change has taken a different global perspective where the hotel industry is involved in developing measures that minimize the negative impacts of climate change. As such, the hotel industry is focusing on using renewable energy resources, and reduce consumption of resources, which aim at cutting down the cost of energy that is used in this industry. Public awareness of climate change and the need to adopt green practices has taken place successfully around the world.

In Saudi Arabia, the government has spared no efforts to address global environmental issues such as climate change. Saudi Arabia ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994 (UNDP, 2015). Riyadh hotels in Saudi Arabia have changed their focus to the implementation of the green practices. The situation emerges from the public awareness and government support and encouragement to engagement in green practices. These hotels have also realized the benefits associated with the adoption of the green practices including environmental and economic benefits. As such, the results indicate a 97.2% implementation of green practices among the participating hotels. This is a good rate for the implementation of the green practices, which has the potential of triggering growth in the hotel
industry. Notably however, most respondents indicated that their properties had implemented the most basic green practices.

The current green practices, which the hotels in Riyadh have started include recycling, reuse, and conservation of energy. However, these practices have not embraced an effective environmental management system. Among the participating hotels, it was only 5.6% that had an existing environmental management system and only one hotel that was green certified. Such is a clear indication of the lack of understanding of the essence of environmental management among these hotels.

The results of the study indicated most hotels had implemented a green practice. Some 78% had implemented environmental best practices that involve water saving, recycling, energy saving, and reuse program. However, the hotels in Riyadh can be seen to have a very low level of implementing green practices. Such is because these hotels have not yet come to the reality of the need of having green practices as a key strategy for conserving the environment and success of their business activities as well. It is also clear that these hotels understand green practices concept, but they lack the awareness of how to implement green practices for the purposes of achieving the desired success level.

**Carbon Management**

The tourism and hospitality industry is one of biggest contributors to the emission of greenhouse gases in the world (Gössling, 2009). According to Cheung (2013), carbon reduction can benefit hotels in different ways including economic and environmental benefits. Many hotels around the world tend to reduce its consumption of resources to reduce its emission (Chan, Li, Mak & Liu, 2013). Unfortunately, the hotels in Riyadh have poor carbon management. The
results of the study indicated that 97.2 % of the participants did not have any carbon-offset programs. Such is a clear indication of a higher rate of greenhouse gases emission within this region. These hotels are also not able to account for their carbon footprint, and they do not have any existing measures, which are directed towards the reduction of the carbon emissions. The situation creates an urgent need for the education of this population on the issue of carbon emissions and how to minimize the greenhouse gases in the country. It is also clear that these hotels have not embraced the concept of renewable energy successfully. Hence, measures should be adopted, which ensures that the hotels have the potential of accessing alternative energy sources, which contribute to the reduction of carbon emission to the environment. In addition to the result of this study, Erdogan, Baris (2007), found that 88% of hotels in Ankara have not yet implemented solar energy to reduce the consumption of resources.

It was so unfortunate to establish that majority of the hotels that were participating purchased products and food materials from local vendors. Such is a good move since it contributes to the growth of the local economy and reduce emission to the environment.

Based on the findings, carbon offset program was not implemented in the majority of hotels. There might be different reasons affect the carbon offset program to be implemented. Lack of awareness and lack of information about carbon-offset program might affect the implementation negatively. Therefore, government is required to take action and create plans to minimize the emission of greenhouse gases generated by the tourism industry to conserve the environment by educating the workers in this sector and collaborating with the private sector. According to Taylor, Peacock, Banfill & Shao, (2010), the government of United Kingdom created new policies to reduce 60% of emissions by 2050. The new policies focus on residential and commercial buildings since it contribute to 40% of emission in the United Kingdom.
Supporting Factors for Implementing Green Practices

The supporting factors consisted of five items. Funding was the strongest supporting factor for implementing green practices. Hotels can get funds through government and nonprofit organization that concern about the environment. In addition to funding, technical assistance was reported as supporting factor. When it comes to the implementation of green practices, some hotel need specialists and assistance to help them with these practices. Bramwell & Alletorp (2001) also found technical assistance one of the most supporting factor to adopt green practices in Danish hotels.

In addition to funding and technical assistance, government incentives in house training were supporting factors. Government incentives can play an important role to implement the practices. Incentives can be made in different ways such as tax reduction, funds, and recognition from SCTA.

Barriers to Implementing Green Practices

Barriers consisted of ten items. The strongest barriers that chosen by the majority of participants were the complication of implementation 94.4%, lack of tools 94.4%, and cost 91.7%. The hotels in Riyadh often face a significant challenges and barriers when it comes to the implementation process. Such is because of the complexity of the entire process of green practices implementation. The situation emerges because of the lack of the resources, which are vital in the implementation of the green practices. This finding is similar to that reported by Yusof & Jamaludin (2014) who also found that the complication of implementation and lack of tools were major barriers to implementing green practices in Malaysian hotels and resorts.
The majority of hotels reported the implementation of green practices is costly. The implementation may cost a large amount of money at the beginning however, it will save money on long term. Consistent with the findings of this study, Best, 2008 and Bramwell & Alletorp, 2001 also found that cost was a major barrier of implementing green practices in hotels.

**Implications**

The findings of this study can benefit the academic field and add knowledge to industry. The Saudi Commission for Tourism and Antiquities (SCTA) will be gain a better understanding of the current green practices implemented in hotels in Riyadh, Saudi Arabia. Additionally, the SCTA will become aware of the extent of green practices implementation in hotels. Based on the results, the number of hotels implementing green practices has been growing since 2002 and nearly all hotels have undertaken green practices.

The study addressed four different level of green practices implementation including environmental best practices, environmental program, environment management system, and green certification. The majority of the sample implemented environment best practices such as energy saving bulbs, water saving, recycling, and energy efficient appliances and equipment. Since the majority of the participants implemented basic green practices, the SCTA can collaborate with hotels to help them implement more advanced green practices. Since the SCTA is the responsible entity for the tourism and hospitality industry in Saudi Arabia, the SCTA can work closely with hotels to increase the environmental awareness and to provide hoteliers with the best practices to implement these changes to maximize their benefits.

Given that the tourism and hospitality industry is one of biggest contributors to the emission of greenhouse gases, carbon offset programs are an important tool to minimize the
negative impacts to the environment (Gössling, 2009). This requires actions and plans by governments and tourism organizations to minimize the emission of greenhouse gases that are generated by the tourism industry. In this study, only one hotel had implemented a carbon-offset program in the city of Riyadh. With this information the SCTA can work with hotels to implement such programs.

The study can also benefit policy makers in the country of Saudi Arabia. The study investigated the supporting factors and barriers to implementing green practices. Therefore, policy makers will understand the barriers that affect green practices implementation. Hotels face a variety of barriers though there were a few items that were overwhelmingly popular. Based on the findings of the study, complication of implementation, lack of tools, and cost were most often cited as barriers. Policy makers can develop new policies to encourage non-adopters to adopt green practices and encourage adopters to implement advanced practices or move from one level to another.

The hospitality industry also will benefit from the study. This study addressed the barriers that hotels faced when they want to apply green practices. The top three barriers were complication of implementation, lack of tools, and cost. This finding of the study gives other hotels who did not participate in the study more knowledge about the barriers of implementing green practices that they might encounter in becoming green hotels. The hotels can prepare beforehand to overcome the barriers and implement green practices successfully.

**Recommendations**

The following recommendations were developed based on the findings of this research.

- Hotels should implement green practices gradually.
- Hotels should improve their practices and implement more appropriate advanced green practices over the time.
- Hotels should get a membership in a green organization.
- Hotels should participate in green conferences and meetings
- The Chamber of Commerce should collaborate with hotels by providing training sessions and workshops to hotels.
- Collaboration between hotels and other public sectors is needed to conserve the environment and conserve resources as well (e.g. energy, water)
- The government and nonprofit entities should offer incentives and rewards to hotels that adopt green practices.
- There should be free consultation from the SCTA and Chamber of Commerce to help hotels implement green practices effectively.

Delimitation

This study targeted hotels located in Riyadh, Saudi Arabia. This was intentional to control the study. However, other parts of Saudi Arabia may have different types of implementations of green practices.

The study was restricted to hotels only. Participating hotels were different in terms of their characteristics. Hotels represented a variety of star levels, and types of ownership. However, other types of accommodation may have different green practices in place such as condominiums and resorts.

Limitation

Although this study gave important implications to the industry, some limitation needs to be addressed. The period of collecting data was short. The data were collected between October 15 to November 1, 2015. Even though the time of data collection was two weeks approximately, the response rate was acceptable.

Future Work

Since this study was a quantitative study, qualitative methods are highly recommended to get in-depth information regarding green practices implementation. Using qualitative methods
may give additional information that was not elicited by the quantitative method used for this study.

The study was collected in Riyadh, Saudi Arabia. Riyadh only represents 67 hotels out of 1097 hotels in Saudi Arabia. For future studies, it is highly recommended to extend the study to cover a wider range of hotels in different areas. Since the holy cities of Makkah and Almadinah use different hotel systems, it is also important to assess environment management in these cities.

Additionally, this study was primarily focused on hotels. This research can be extended to cover different types of accommodation such as condominiums, villas, chalets, and resorts which represent 72% of total accommodations in Saudi Arabia (MAS, 2015). Covering different type of accommodations will give diverse perspectives in terms of green practices implementation.
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Doyle, W., Findlay, S., & Young, J. D. (2012). Workplace Learning Issues of Hotel Employees:


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APPENDIX

Green practices in hotels in Riyadh, Saudi Arabia

1- In which year did your hotel open? ________

2- Please select, are you (Check one only)
   □ General manager
   □ Owner
   □ Owner and general manager
   □ Executive level employee,
   □ other, please indicate __________

3- Please select, how many stars is your hotel?
   □ Five stars
   □ Four stars
   □ Three stars
   □ Two stars
   □ One star

4- Select the type of your hotel ownership from the following options: (Check one only)
   □ Local ownership
   □ Foreign
   □ Chain hotel

5- Are you familiar with the term ‘green practices’?
   □ Yes  □ No

6- Is your hotel a member or has been ever a member of any green organizations?
   □ Yes □ No
7- Have you ever applied green practices at your hotel? (operation, management levels)
   □ Yes □ No

8- If yes, in what year did your hotel begin green practices? ____________

9- Do you have carbon-offset program?
   □ Yes □ No

10- Do you have a plan and goals in place to reduce greenhouse gases?
    □ Yes □ No

11- Do you calculate your carbon footprints?
    □ Yes □ No

12- How often do you buy your products locally? (Check one only)
    □ Often
    □ Sometimes
    □ Not very often
    □ Never

13- Do you buy your food from local vendors?
    □ Yes □ No

14- Do you use renewable energy? (for example, solar, wind energy)
    □ Yes □ No

15- Does your hotel participate in projects that reduce carbon emissions? (for example, renewable energy production, planting trees)
    □ Yes □ No

16- From the following options, please select the description that is the most applicable to green practices at your hotel. (Check one only).
    □ Environmental best practices.

Which of the following best practices have been implemented at your hotel? (check all that apply)

*Reuse towels program* □
Reuse linens program □
Recycling program □
Low-flow showerheads (2.5 gallon per minute or less) □
Low consumption toilets in all guestrooms (1.6-gallon toilets or less) □
Energy efficiency appliances and equipment □
Energy saving bulbs □
Training programs for employees regarding green practices □
The hotel engages guests in green practices program □
Recycling copy/print papers □
Environmental committee to develop and monitor green plan □
Digital thermostats in all guestrooms and throughout the hotel □
Recycling program for hazardous materials □
Composing system □

□ An environmental policy and planned actions through the property to reduce consumption of resources.
□ Environmental policy and a comprehensive program to reduce consumption of resources and waste. Program consists of objectives, monitor performance, target, and action plan. All employee participate in this program. Documentation of all environmental and social initiatives.
□ The hotel is green certified.

17- Are there any other initiatives?
□ Yes □ No

18- If Yes please indicate________________________

69
19- Is your hotel green certified? if yes please check

□ ISO14000
□ Green key global
□ Green globe
□ Other, please list_________________

20- To what extent would you agree that the following points supported your hotel to implement green practices? 1=strongly disagree; 2=disagree; 3=neither agree nor disagree; 4=agree; 5= strongly agree (N/A= not applicable)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N/A</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Government incentives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>In house training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>External training</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Technical assistance from external agencies and organizations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21- Did you receive any additional support to implement green practices at your hotel?

□ Yes □ No

22- If yes please indicate___________________

23- To what extent would you agree that the following points were barriers to implement green practices at your hotel? 1=strongly disagree; 2=disagree; 3=neither agree nor disagree; 4=agree; 5= strongly agree (N/A= not applicable)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Create new policies and plans are complicated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Lack of tools (technology)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Green practices are not necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Employee resistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Lack of information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Benefits of green practices are not visible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Green practices is costly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Lack of time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Corporate resistance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Lack of capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
24- Are there additional barriers to implement green practices at your hotel?
    □ Yes □ No
25- If yes, please indicate _______________________

Additional comments:
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

Thank you so much

For more information on this survey, please contact Abdulrahman Alhelal at Abdulrahman.alhelal.690@my.csun.edu, Tel. (352) 870-1965 or Dr. Mechelle, Best at Mechelle.best@csun.edu, Tel. (818) 677-3202 - ext 3858.

For questions about your rights as a research participant, please contact Research and Sponsored Projects, 18111 Nordhoff Street, California State University, Northridge, Northridge, CA 91330-8232, or phone 818-677-2901.