



Impact of green practices on hotel guests' satisfaction: The role of perceived motives, attributes, and service outcomes

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Abstract

Research on guest satisfaction with green practices in hotels has generated mixed results; some studies have shown a positive relationship with green practices and others have shown a negative relationship. To reconcile these two opposing views, the mediating effects of perceived motives, and perceived attributes was examined as potential psychological mechanisms explaining guests' reactions to green practices hotels. Besides, the moderating role of service outcomes in influencing guests' reactions to green initiatives was investigated. Results indicate that when service delivery is successful, guest satisfaction is higher for green practices. However, the advantage for green hotels vanishes when guests experience service failures. Furthermore, results show that guest satisfaction with green hotels is enhanced when a firm engages in green practices for public-serving (vs. self-serving) motives. In addition, the results indicate that green practices are accepted by guests if they are implemented in attributes that guests consider "extras" in the service rather than in the "core" attributes. Overall, the results show that perceived motives and attributes mediate the relationship between green practices and guest satisfaction, and perceived service outcomes moderate the relationship between green practices and guest satisfaction.

Keywords: Green practices, perceived service outcomes, perceived motives, perceived attributes, guest satisfaction.

1. Introduction

In recent years, the hospitality industry has become increasingly involved in corporate social responsibility (CSR). Many hotels have implemented numerous green practices to serve local communities, improve employees' well-being, and conserve the environment (Bohdanowicz and Piotr, 2008; Lee et.al.,2012;

Moise et.al, 2020). Often the desired outcome of hotel's CSR strategy is being viewed as a green hotel. By participating in green certification programs, such as LEED (Leadership in Energy and Environmental Design), hotels intend to promote and practice energy efficiency, conservation, and waste management, while at the same time providing hotel guests with a sustainable, clean, and healthy product or service" (Millar and Baloglu, 2011; Ding et al., 2020).

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However, the impact of implementing green practices on guest satisfaction is unclear. One literature stream shows that green practices lead to higher guest satisfaction (Luo et al., 2006; Punitha et al., 2018; Witek and Kuźniar, 2021) and return intentions (Berezan et al., 2013; Worsfold et al., 2016). On the other hand, Robinot and Giannelloni (2010) and Carbon Trust (2011) have suggested that hotels should not inform guests about their green practices, because guests doubt their efficiency and therefore, lower their assessments.

Wu (2021) also recently found that no booking benefit is gained by going green; while green programs might attract guests who support such initiatives, other guests might worry that their comfort will be sacrificed at hotels that cut back on resources. Therefore, sponsoring a green image while avoiding accusations of “green washing” is a crucial challenge faced by hotels with environmental programs (Butler et al., 2014; Hsiao et al., 2018).

The present research attempts to shed light on this paradox by introducing the concepts of perceived motives and attributes, which are critical to understanding how guests perceive green practices in hotels. This research proposes that these two dimensions are the underlying mechanisms explaining guest satisfaction in the context of two service outcomes at hotels: successful service delivery and service failure.

According to attribution theory (Kelley, 1967), guests are likely to make implications about a firm’s motives for implementing green practices. Previous research has discovered two primary types of motives: self-serving (e.g., to increase profits, sales, or the profile of a specific brand) and public-serving (e.g., to assist with community development or raise awareness for a specific cause) (Becker-Olsen et al., 2006; Ellen et al., 2006; Vlachos et al., 2009). These two motives significantly influence consumers’ attitudes, purchase intentions, and word of mouth (Becker-Olsen et al., 2006; Kang et al., 2012; Vlachos et al., 2009). In this study, we propose that perceived firm motive will moderate the relationship between service outcomes and guest

satisfaction in green hotels. Therefore, the objectives of this research are: (1) Validate those green practices in hotel has a moderating effect on guest satisfaction. (2) Investigate that perceived service attributes and perceived service outcomes have mediating effects and are considered as potential psychological mechanisms explaining guests’ reactions to green practices in hotels. (3) Examine the moderating role of hotel’s motives in influencing guests’ reactions to green initiatives. (4) Identify the attributes of green practices that are more favorable to guest that could result in guest satisfaction. This research makes several contributions to the CSR and hospitality literature. First, we build on prior research by comparing guest satisfaction levels for two different service outcomes. Second, we suggest that the psychological mechanism underlying the effect of a green hotel on satisfaction is perceived motives and attributes. The findings of this research will allow hotel managers who are implementing green initiatives into practice comprehend the effect of perceived service outcomes, attitudes, and hotel motive on guest satisfaction. In the following sections, we present relevant theoretical background and develop our hypotheses. We then describe our experimental designs, data analysis techniques and results. Finally, we discuss conclusions, implications, and limitations of the study.

2. Theoretical Background

2.1 Green practices

Hotels that apply the sustainability concept usually follow some environmentally friendly practices referred to as “green practices” (Sloan et al., 2009b; M Millar and Baloglu, 2011; Berezan et al., 2013a; Shairullizan et al., 2013; Lita et al., 2014; Tilikidou, et al., 2014; Bruns-Smith et al., 2015; Yang et al., 2018; Olya et al., 2019). It is considered “green” because doing so lessens its negative effects on the environment, like in recycling or making eco-friendly purchases. “Green thinking” aims to add value by reducing waste and conserving resources. (Ball and Taleb, 2011; Wang, 2012; Bruns-Smith et al., 2015; Comm and Mathaisel, 2000; Verma and Chandra, 2016). Hence, hotel

accommodation applying green practices are referred to as “green hotels” (Butler, 2008; Blair et al., 2012; Butler et al., 2014; Rahman et al., 2015; Olya et al., 2019; Abdou et al., 2020).

Moreover, green hotels could also be referred to as Eco lodge. The term Eco lodge is defined by the International Ecotourism society (TIES) as “an industry label used to identify “a nature-dependent tourist lodge that meets the philosophy of ecotourism” (Sloan et al., 2009b; Kleinrichert et al., 2012; Thorsson, 2018; Wang, Ma and Yu, 2021).

According to many studies green practices are divided into three main categories; water conservation, energy conservation and waste management (Sloan et al., 2009a; Wang, 2012; Berezan et al., 2013b; Slevitch et al., 2013; Tilikidou et al., 2014; Nimri et al., 2017; Thorsson, 2018; Yang, Mao and Tang, 2018; Afsar et al., 2020; Bashir et al., 2020). Utilizing low-flow faucets and showerheads, recycling towels and sheets, and replacing central air conditioning with personal air conditioning are all ways to conserve energy and water, respectively.

2.2 Guest Satisfaction in hotels

“Guest satisfaction is the holy grail of success for business in the guest service industry” (Cadotte and Turgeon, 1988. p.23). Many research state that every successful business strives to maintain a high level of guest satisfaction by providing a value-added transaction to its clientele through excellent guest experience (Cadotte and Turgeon, 1988; David Gilbert, 1998; Gupta et al., 2007; Crotts et al., 2009; Berezan et al., 2013a; Yu et al., 2017b; Moise et al., 2018; Punitha et al., 2018; Thorsson, 2018). Guest satisfaction is critical for hotels’ business survival (Ren et al., 2016). As a result, the guest expects to be treated with respect and assistance throughout encounters that lead to the fulfilment of their desire and a pleasant outcome (Rahman et al, 2012a; Liu and Mattila, 2016; Punitha et al., 2018). CSR has a major impact on guest satisfaction,

according to numerous studies. (Luo et. al., 2006; Butler, 2008; Hong Chung and Parker, 2010; Cometa, 2012; Kleinrichert et al., 2012). However, Robinot and Giannelloni (2010) claim that hotels shouldn't disclose their green initiatives to guests since they might question the efficacy of such initiatives.

Moreover, guest satisfaction is driven by the social service scape (interactions with staff) and the physical service scape (building, landscape, and interior facilities) in a hotel (Parasuraman et al., 1988; Bitner, 1992; Chikita, 2012; Punitha et al., 2018). Green practises may fulfil guests' psychological or emotional needs even though core aspects of hospitality services, like offering a bed for the night, represent practical performance. (Grove et al., 1996; Kang, 2011; Lee et al., 2012). According to Moise et. al., (2018) When guests act socially responsible and enhance the welfare of society, they may feel sensations of well-being and moral fulfilment, such as when they purchase green products or services. Similarly, people who contribute to the greater good by protecting the environment report higher life satisfaction and happiness (Mohanty and Deshmukh, 1999; Bruns-Smith et al., 2015; Gumaste and Gauri, 2019).

Therefore, Green practices are a major influence in guests' assessments of hotels (Graci and Dodds, 2008; Azevedo et.al., 2011b; Wang, 2012; Tilikidou et.al,2014; Kim et.al.,2016; Yi et.al., 2018). Finally, according to Chikita (2012) Guests are more satisfied with green (vs. non-green) hotels when they receive successful service, and guest satisfaction is increased when green hotels implement green initiatives for public-serving rather than self-serving purposes (e.g., promoting community development) (e.g. increasing hotel profits). As a result, studies examining green practices and guest satisfaction provide conflicting results, and this study will either confirm or reject some

of those results. Since being green might have additive effects on guest satisfaction, such as making people feel more socially responsible, green initiatives may increase consumers' positive emotions (Hu et al., 2011; Sen and Bhattacharya, 2001) when they experience satisfactory service. However, in cases involving service failure, these benefits are greatly diminished because the positive effect of CSR on guest satisfaction occurs only when environmental initiatives are unrelated to a hotel's core service (Eisingerich et al., 2011). Therefore, this study proposes that:

H1: There is a positive relationship between green practices and guest satisfaction.

2.3 Perceived Service outcomes

Perceived service quality is the result of individual interaction between a service provider and a guest, during which the guest assesses quality and expresses satisfaction or discontent (Ostrom and Iacobucci, 1995; Manaktola and Jauhari, 2007b; Dominici and Guzzo, 2010b; Chang and Chen, 2011a). Regardless of whether a hotel is environmentally friendly or not, the primary determinant of customer satisfaction is service quality (Lu and Stepchenkova, 2012; Yu, Li and Jai, 2017a; Muniandy et al., 2019). Since being green may have positive additive impacts on consumer satisfaction, such as helping consumers feel more socially responsible, it is possible that green initiatives will make guests feel better when they receive excellent service (Reid, Johnston and Patiar, 2017; Milanes-Montero, Stone and Perez-Calderon, 2018). However, in instances of service failure, these advantages are significantly reduced because green practices only have a favourable impact on guest satisfaction when they are independent to a hotel's core offering. (Ostrom and Iacobucci, 1995; Eisingerich et al., 2011; Le, 2016).

Furthermore, Gao and Mattila (2014) add in their study that when guests experience service success, their satisfaction is higher for green (vs non-green) hotels, when green practices are viewed positively by guests, they contribute only weakly to an improvement in satisfaction; nevertheless, when these practices are viewed negatively by guests, they result in significant dissatisfaction. Green practices are an essential part of the service at hotels. If guests perceive lack of them, they will feel dissatisfied (E. Robinot and Giannelloni, 2010a; Law and Yip, 2010b; Lita et al., 2014; Amballoor, 2015). In the current study, service outcomes are represented as a moderator of the relationship between green practices and guest satisfaction, to determine to what extent service delivery success or failure will have an impact on guest level of satisfaction in a hotel.

Therefore, this study proposes that:

H2: Service outcome moderates the relationship between green practices and guests' perception.

2.4 Perceived motives

According to the theory of attribution, guests are prone to draw conclusions about a hotel's motives for participating in corporate social responsibility (CSR) (Kirk, 1995; Rahman, Reynolds and Svaren, 2012a; Wendy Gao and Lai, 2015; Yi et al., 2018). Previous studies have identified two primary types of motives: self-serving motives, e.g., to enhance profits, sales or the image of a certain brand, and public-serving motives, e.g., to contribute to community development or raise awareness for a specific cause. (Becker-Olsen et al., 2006; Ellen et al., 2006; Vlachos et al., 2009; Zupan and Milfelner, 2014; Wang et al., 2019). "These two motives strongly affect guests' perceptions, attitudes, intention to make a purchase, and word-of-mouth" (Becker-Olsen et al., 2006, p.10).

Moreover, according to Yi et al. (2018) perceived hotel motives (self-serving versus public serving) has significant impact on guests' perceptions of

green practices. On the other hand, Gao and Mattila (2014) suggest that green hotel projects should be undertaken for the benefit of the public rather than for personal gain, as this will increase guest satisfaction (e.g. increasing hotel profits). For instance, Marriott vowed to donate \$2 million to help safeguard a Brazilian rainforest reserve. Additionally, 5% of the room revenue from the meeting business was given to a foundation that supports sustainability. These initiatives show Marriott's dedication to environmentally friendly business practises. On the other hand, Pekovic (2021) identifies another categorization of guests' motives, the researcher divides guests' self-centred (i.e., strategic and egocentric) and other centred (i.e., driven by hotel's ideals and stakeholders) motives in their attributions of CSR.

The study showed that while guests viewed egoistic initiatives adversely, strategic and values-driven CSR efforts are viewed positively. (Chang and Chen, 2011a; Cometa, 2012). Furthermore, some studies demonstrate perceived hotel motives influence on guests' reactions among different areas (Gao and Mattila, 2014; Pekovic, 2021; Wijekoon and Sabri, 2021; Yousaf et al., 2021). Additionally, Blair, S., Chernev (2012) finds that the positive impacts of social goodwill are diminished when a self-interest motive is considered. Self-serving motivations have a negative impact on how people perceive others' warmth and competence (Yousaf et al., 2021). Finally, (Lee et.al., 2012) investigate hotels' perceived motives impact on guests' willingness to pay more for green practices.

According to Pekovic (2021), hotels that deliver high levels of service quality mitigate the negative consequences of self-serving motive attributions. Therefore, when guests receive excellent services, they are less concerned with the incentives which are underlying green practices (Grove et al., 1996; Ball and Taleb, 2011; Chun and Giebelhausen, 2012). In other words, when guests obtain gratifying services, for unfavourable green attributions, they are more likely to engage in corrective processing. (Vlachos et al., 2009; Afsar et al., 2020). Oppositely, when a service fails, guests' attributional processes are heightened (Gao and Mattila, 2014). In fact, compared to public-serving motives, self-serving

motives produce more negative views. (Luo et. al., 2006; Eisingerich et. al., 2011; Gao and Mattila, 2014). This argument is based on the fact that green practises are not a primary component of a hotel's range of services., and that service quality is more directly important to guests than green practices (Kasim, 2004; Eisingerich et. al., 2011; Kang, 2011; Pekovic, 2021; Yousaf et al., 2021).

According to (Yousaf et al., 2021) self-serving motives relates to satisfaction of lower-order physiological needs, meanwhile public serving motives reflects satisfaction of higher-order self-improvement needs. Therefore, green hotels that are thought to have self-serving goals suffer especially when they perform poorly on key criteria; on the other hand, when acceptable service is provided, compensatory processing results in smaller variances in customer satisfaction. (Gao and Mattila, 2014; Pekovic, 2021). Therefore, this study proposes that:

H3: Perceived motives mediate the relationship between green practices and guests' satisfaction.

2.5 Perceived service attributes

Generally, guests choose products based on which combination of product attributes best meets their needs, as determined by value, cost, and previous satisfaction (Berezan et al., 2013b; Jamaludin and Yusof, 2013b; Sharma, 2014; Punitha et al., 2018; Ding et al., 2020). Product attributes that are measured might either be core attributes that provide guests with the fundamental benefits they seek, or auxiliary or peripheral attributes that provide additional benefits and are crucial for added value and differentiation. (Lu and Stepchenkova, 2012; Berezan et al., 2013b; Lee et al., 2014; Wang et al., 2019). Many scholars have differentiated the service encounter into two elements, the core and secondary (Miller et. al., 1973; Rahman et. al., 2012a; Wendy et. al., 2015; Sotiriadis, 2017; Bashir et al., 2020). The core attributes involve functional performance and non-essential attributes that support core attributes (Miller et.al., 1973; Wendy et.al., 2015; Olya et.al., 2019). The hospitality product consists of both essential aspects, such as functional performance, and non-essential attributes, such as environmental

performance, which offer secondary benefits from the guest's perspective. Additionally, Environmental performance can relate to a product's overall performance or a feature, such as water disposal or the use of alternative energy sources, and can assist in differentiating products. (Namkung, 2013; Lee et.al., 2016; Leung et.al, 2017; Moise et.al, 2020). Evidence demonstrates that green practices have a favorable impact only in cases where hotel performance is acceptable (Kasim, 2004; Robinot and Giannelloni, 2010b; Lee et al., 2014; Wang et al., 2019).

Additionally, Manatola and Jauhari (2007) prove that green practices are nonessential attributes delivering secondary benefits to guests. Several studies consider green practices as "basic" attribute rather than an "extra" attribute by guests (Robinot and Giannelloni, 2010; M Millar and Baloglu, 2011; Slevitch et al., 2013; Phillips et al., 2017; Pekovic, 2021). Furthermore, Lu and Stepchenkova (2012) explore the nature of guest satisfaction in green hotels and looks at a total of 26 hotel characteristics, such as services, pricing, and accessibility. According to their analysis, there are four categories for green hotel attributes: "satisfiers," "dissatisfiers," "essentials," and "neutrals." Environmentally friendly is classified as a "essential" green attribute, suggesting that it can both positively and negatively affect guest satisfaction. Although a high level of "environmentally friendly " is beneficial, a minimum level is necessary.

However, several authors have different point of view (Lee et al., 2014; Punitha et.al., 2015; Yang et.al., 2018). As Lu and Stepchenkova (2012) ignore the variations between green practices and treat them as a single dimension of hotel attributes, but in fact, each green practices may have a unique influence on guest satisfaction. Kasim (2004) find oud travelers to Penang Island in Malaysia were aware of environmental issues and care about the environment, but they did not base their hotel decision on a hotel's environmental policy. Indeed, guests are willing to accept room attributes that were green and are willing to accept a hotel with water saving attributes, recycling bins, fire-safety attributes, energy saving attributes, and information

on local ecotourism attractions (Azilah Kasim, 2004; Michelle Millar and Baloglu, 2011). In this study green attributes are presented as a mediator between green practices and guest satisfaction, to measure which ones are the most accepted by guests and which ones are the least accepted and could interfere with guest's overall experience and cause dissatisfaction. Therefore, this study proposes:

H4: Guest perception of green attributes mediates the relationship between green practices and guest satisfaction.

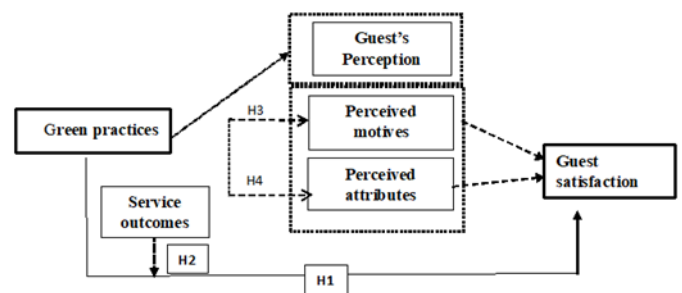


Fig. 1: A conceptual model of the study:

3. Methods

The questionnaire comprises five sections: The first section consists of four demographic questions that includes age, gender, educational level, and marital status and three filter questions about the hotel they have stayed in that applied green practices. The second section consists of two hypothetical scenarios to measure the moderator factor of service outcome, taken from (Gao and Mattila, 2014). The first scenario represents a hypothetical service success scenario followed by four statements "Please determine to what degree do you consider that Hotel XYZ is competent, capable, warm and friendly ". The second hypothetical scenario represents service failure followed by the same four statements to capture how service success or failure gave an effect and how guests perceive the green practices and affect their acceptance to these practices.

The third section consists of two hypothetical scenario-based experiment about perceived motives taken from (Gao and Mattila, 2014)

that measure public motives and private motives ,it depicts how perceived motives can mediate the relationship between green practices and guest practices, The first scenario represents private motive of the hotel to contribute in green practices followed by four statements “ Please determine to what extent do you perceive the motives of this hotel for participation in the green program is considered self- interested (motivated by one’s personal interest), Environmentally-interested (concerned with protecting and preserving the natural environment), Profit-motivated, (drive to undertake activities that will yield net economic gain), Socially-motivated (drive to undertake social activities and to improve one’s image).

The second hypothetical scenario represents public motives of hotels to participate in green practices followed by the same four statements where guests can rate their level of agreement or disagreement on the Likert scale. The Fourth section includes 12 statements that measure green attributes and how guests perceived them, this section is adapted from (Michelle Millar and Baloglu, 2011). Finally, the Fifth section measures guests’ satisfaction in regard to green practices in hotels, this section consists of 10 statements that represent the most common green practices applied in most hotels.

To achieve the aims and objectives of this study, a convenience sampling method is used, and 800 questionnaires were collected online. An electronic self-administered structured surveys were distributed among the sample of online consumer panels grouped together in a social media platform “Facebook”, in a group called “Nomads”. This group is selected as the population of the study because it gathers members with the same interest in travel and tourism. Participants in this group share their experience, reviews and advice regarding travel and accommodation. The Facebook group includes almost 80,000 members that are living in Egypt, this means 800 respondents are

needed to answer this study with a confidence level of 95% according to (Singh, 2006).

4. Results

4.1 Descriptive data analysis

Table (1) displays the characteristics of the sample. It includes the respondents’ gender, age, marital status, and educational level. It also demonstrates whether the respondents stayed in a hotel that applies green practices or not, the category of hotels the respondent’s most likely stays at and their average stay in a hotel. The total number of respondents is 800 respondents. When measuring the respondent’s gender, it is found that the majority are females by 62% percent and 38% are males. When measuring the respondent’s age, it is found that most respondents are from the age group 26-45 by 72% following is the age group 18-25 by 24% and the age group 46-65 are only 4%. When measuring the respondent’s marital status, the majority are married with 52%, following are single 46% and 2% are divorced. When measuring the respondent’s education level, the majority are with a bachelor's degree 48%, following with higher education 30% and currently at university 22%.

Table 1 Demographic Data

Items	Frequency	Percent
Gender		
Female	248	62.0
Male	152	38.0
Age		
18-25	96	24.0
26-45	288	72.0
46-65	16	4.0
Marital status		
Divorced	8	2.0
Married	208	52.0
Single	184	46.0
Education level		
Bachelor's degree	192	48.0
Postgraduate studies	120	30.0
University student	88	22.0

Table (2) shows respondents are asked some filter questions considering their stay at hotels,

they are asked if they ever stayed at a hotel that applies green practices 60% said yes, 20% said No and 20% said I don't know. When respondents are asked what the average category is of hotels, they usually stay in 70% said 5 stars 24% said 4 stars, 4% said others and 2% said 3 stars. When respondents are asked how long is their average stay 40% said 3 days, 40% said 5 days, 18% said 1 week and 2% said 3 weeks.

Table 2 Descriptive statistics

Have you stayed in Hotels that apply environmentally friendly/green practices before?		
Don't know	80	20.0
No	80	20.0
Yes	240	60.0
In which of the following categories of hotel would you normally choose to stay?		
3 Stars	8	2.0
4 Stars	96	24.0
5 Stars	280	70.0
Other	16	4.0
How long is your average stay in a hotel		
1 week	72	18.0
3 days	160	40.0
3 weeks	8	2.0
5 days	160	40.0

4.2 Testing hypothesis

The relationship between the study's variables is measured using the correlation coefficient in SPSS to test the hypotheses. The correlation coefficient is used in this study to measure the variables listed in Table (3). It employs a Pearson correlation analysis. the first hypothesis the correlation between service outcomes and guest satisfaction has two dimensions the correlation between Scenario A and guest satisfaction is strong, positive but not significant (R= .213 and p > 0.01), However the correlation between Scenario B and guest satisfaction is strong, positive, and significant (R= .173 and p < 0.01). In the second hypothesis, the results indicate that the correlation between guests' perception and guest satisfaction is strong, positive, and significant (R= .386 and p < 0.01). Concerning the two aspects of guests' motivations, it was found that the correlation between perceived

motives in scenario A and guest satisfaction is strong, positive, and significant (R= .305 and p < 0.01). However, the correlation between perceived motives in scenario B and guest satisfaction is strong, positive but not significant (R= .297 and p > 0.01). The correlation between perceived attributes and guest satisfaction is strong, positive, and significant (R= .336 and p < 0.01). As for the third hypothesis, the correlation between guest satisfaction and green practices there's a significant positive relation (R= .102 and p < 0.05).

Table 3 Correlation analysis

		Guest Satisfaction	Green Practices
Service Outcomes A	Pearson Correlation	.173**	-.064
	Sig. (2-tailed)	.001	.200
	N	400	400
Service Outcomes B	Pearson Correlation	.213**	.275**
	Sig. (2-tailed)	.000	.000
	N	400	400
Guest's perception	Pearson Correlation	.386**	.220**
	Sig. (2-tailed)	.000	.000
	N	400	400
Perceived Motives A	Pearson Correlation	.297**	.328**
	Sig. (2-tailed)	.000	.000
	N	400	400
Perceived Motives B	Pearson Correlation	.305**	.018
	Sig. (2-tailed)	.000	.716
	N	400	400
Perceived Attributes	Pearson Correlation	.336**	.143**
	Sig. (2-tailed)	.000	.004
	N	400	400
Guest Satisfaction	Pearson Correlation		.102*
	Sig. (2-tailed)		.041
	N		400
**. Correlation is significant at the 0.01 level (2-tailed).			
*. Correlation is significant at the 0.05 level (2-tailed).			

Finally, Table (4) shows the results of the regression test of the third hypothesis which revealed that there is a strong positive relationship between green and guest satisfaction, and that green practices is the independent variable that affected guest satisfaction both strongly and positively. The

findings support hypothesis three which is stated as follows:

H3. There is a positive relationship between green practices and guest satisfaction.

Table 4 regression coefficient H (3)

Model Summary ^b							
Model	R	R Square	Adjusted R Square	B	Beta	Sig.	Hypothesis 3
Green practices	.102 ^a	.010	.008	.132	.102	.000 ^b	Supported

From the above results we can conclude that, green practices correlate and influence significantly guest satisfaction (R= .102, sig .000), since R Square=.010, then 10% of the variance in guest satisfaction could be predicted by green practices. As used here a significant model as the ANOVA was significant with p-value=0.000<0.05. The green practices influence guest satisfaction as it's significant (p-value=0.000<0.05). The findings demonstrate a strong correlation between green practices and guest satisfaction, demonstrating that green practices have a significant and positive impact on guest satisfaction. Changes in green practices of 1 unit will result in changes in guest satisfaction of .132 ($\beta = .132$) units.

The results of the reliability test below Cronbach's Alpha .900 which shows that the results of the questionnaire are highly reliable.

Table 5 Correlation analysis

Reliability Statistics	
Cronbach's Alpha	No. of Items
.900	38

4.3 Testing Mediation

One technique for identifying and defining the process by which the independent variable influences the independent variables is mediation. In other words, mediation is viewed as a third variable that has a significant impact on determining how the dependent and independent connect. (Baron & Kenny, 1986) Sobel test is used to measure the mediators. The

present study hypothesised that guest perception mediates the relationship between variables. Hypothesis 2 is stated as follows:

H2. Guest's perception mediates the relationship between green practices and guests' satisfaction.

H3. Perceived motives mediate the relationship between green practices and guests' satisfaction.

H4. Guest perception of green attributes mediates the relationship between green practices and guest satisfaction.

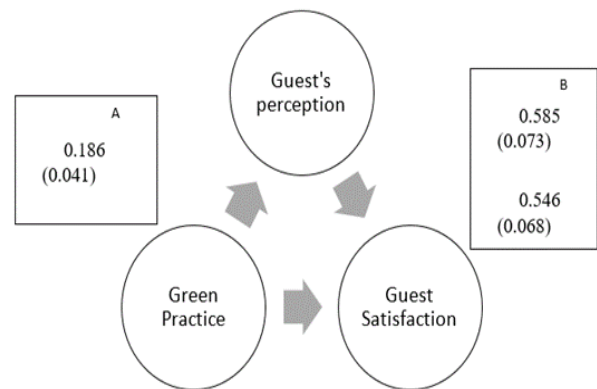


Fig. 2: Sobel test to measure the mediator:

4.4 Testing Moderation

In this study, hypothesis two is stated as follows:

H2: Service outcomes moderates the relationship between green practices and guest satisfaction.

Using Hayes' PROCESS macro for SPSS, a basic moderator analysis was carried out to examine this link. When service is successful, it functions as a mediator between green practices and guest satisfaction, according to the model summary, where R-sq. equals 0.346, whereas R-sq. =.281 indicates a direct association between green practices and guest satisfaction. As a result, a change in R- sq equals 0.07 was determined to be statistically significant in the interaction between green practices and visitor satisfaction (b=0.65, P< 0.05). Since both findings are positive, it implies that the service outcomes also have a positive effect. So, the second hypothesis is accepted. This indicates that the relationship between green practices

and guest satisfaction is enhanced in the case of successful service acting as a moderator.

Table 6 Moderation Model Summary

Model	R	R-Sq	MSE	F	Df 1	Df 2	P
1	.588	.346	.3473	123.2188	3.0000	698.0000	.0000

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128.369	3	42.790	123.219	.000
	Residual	242.391	698	.347		
	Total	370.76	701			

a. Dependent Variable: Guest Satisfaction

b. Predictors: (Constant), Service Outcomes A, Green Practice

5. Discussion

In the present study, the first hypothesis “Service outcome moderates the relationship between green practices and guests’ perception” is supported. The findings demonstrate that modifications of 1 unit in service outcomes A will result in changes of .273 ($\beta = .273$) units in guest satisfaction which indicated that they are highly correlated and that service outcomes have a significant and positive effect on guest satisfaction. According to these results, the first hypothesis was supported, confirming that service outcomes indeed act as a moderator in the relationship between green practices and guest satisfaction, and that service outcomes have a positive and significant relationship. These results emphasise the importance of having a successful service outcome on guests’ satisfaction with green practices in the hotel.

the result of this hypothesis confirms that service success or failure directly affect the relationship between green practices and guest satisfaction. When service is perceived as successful by guests, they are generally more satisfied with green practices implemented in the hotel, however, when guests perceive service as a failure, they are dissatisfied by green practices implemented in the hotel regardless of how effective it is, because service is a core quality to guests when staying in a hotel.

The second hypothesis presented “Guest’s perception mediates the relationship between green practices and guests’ satisfaction” is supported. According to the findings, a change of 1 unit in guest perception will result in a change of .186 ($\beta = .186$) units in guest satisfaction. It proved that they are strongly related, and that guest satisfaction is significantly and positively impacted by guest perception. These results highlight that guest perception indeed mediates the relationship between guest satisfaction and green practices thus it is very important to consider their perception when evaluating the impact of green practices, and it is essential to make sure guests have a positive perception as it may affect their overall level of satisfaction.

Hypothesis 2.1 “Perceived motives mediate the relationship between green practices and guests’ satisfaction” is supported. The results indicate that guests’ perceived motives influence guest satisfaction as it’s significant ($p\text{-value}=0.000<0.05$). The findings demonstrate that changes in perceived motives of guests by 1 unit will result in changes in guest satisfaction of .024 ($\beta = .024$) units, demonstrating their strong correlation and the importance of perceived motives in determining guest satisfaction. The results confirm that the hotels’ motives in implementing green practices, whether public motives or private motives can impact how guests perceive green practices.

Corresponding with prior research on firm motives for green practices (Vlachos et al., 2009; Blair et al., 2012) discover that guest satisfaction with the implementation of green practices in hotels is influenced by perceived motives. In other words, regardless of the quality of the service, guest satisfaction was stronger when they believed that the hotel was using green techniques to benefit the community rather than increase profits (self-serving).

Hypothesis H2. “Guest perception of green attributes mediates the relationship between green practices and guest satisfaction” is supported. The results confirm that perceived attributes influence guest satisfaction as it’s

significant ($p\text{-value}=0.000<0.05$). Results show that the changes of 1 unit in perceived attributes will cause a change of .144 ($\beta = .144$) units in guest satisfaction which indicates that they are highly correlated and that perceived attributes have a significant and positive effect on guest satisfaction. The results highlight the importance of perceived green attributes and its role as a mediator between green practices and guest satisfaction. And confirms that the results of this study are consistent with (Robinot and Giannelloni, 2010b) study which states that hotel service attributes related to environmental improvement and/or preservation are generally considered “basic” rather than “plus”.

Hence, Green attributes contribute to satisfaction in reverse direction than expected: they are unlikely to contribute significantly to satisfaction if they are evaluated favourably (logic of "plus" attributes); yet, if they are evaluated unfavourably (logic of "basic" attributes) they will reduce satisfaction). However, (Robinot and Giannelloni, 2010) also add that from a managerial point of view, this raises the question of whether these attributes should be communicated directly to guests., they also suggest that it would be preferable not to inform guests about green measures in order to limit the risk of being unfavourably evaluated on these attributes.

Hypothesis 3 “There is a positive relationship between green practices and guest satisfaction” is supported. Findings indicate that the green practices influence guest satisfaction as it’s significant ($p\text{-value}=0.000<0.05$). Results show that the changes of 1 unit in green practices will cause a change of .132 ($\beta = .132$) units in guest satisfaction which indicated that they are highly correlated and that green practices have a significant and positive effect on guest satisfaction.

The findings of this study is consistent with the findings of (Yu et al., 2017a) which examines guests’ experiences at green hotels and the impact of green experience on customer satisfaction. According to the results of their investigation, guests have both positive and negative experiences at green hotels. The three topics that are covered about green practises the

most are energy, purchasing, and education and innovation. Guest satisfaction with hotels is highly influenced by certain green experiences, such as "guest training," "energy," "water," "buying," and "education and innovation." When compared to basic green practices, advanced green practices are likely to have stronger effects on guest satisfaction. Finally, the outcomes of the current hypothesis are consistent with those of other studies. (Manaktola and Jauhari, 2007; Gao and Mattila, 2014; Shamsuddin et al., 2014; Bruns-Smith et al., 2015; Yu, 2017; Thorsson, 2018; Afsar et al., 2020) as they find out that green practices have an impact on guest satisfaction. To conclude, studies confirm there is a strong, significant, and positive relationship between green practices and guest satisfaction. These results emphasise the importance of implementing green practices cautiously and effectively as it has a direct effect on guest satisfaction, which is the main goal for any hotel to achieve.

6. Managerial Implications

The findings of hypothesis 2 indicate that both perceived motives and attributes are critical for eliciting guest satisfaction. Although service excellence is a primary goal for any service business, hospitality operators might want to pay attention to guest’s perceptions of motives and attributes elicited by their CSR initiatives. Our results suggest that managers of green hotels should not only focus on service excellence but also educate their guests about the hotel’s green programs and how those initiatives contribute to the environment. In such communication efforts, it is important to highlight both the warmth (genuine care for the environment) and the competence aspect (investment in the latest eco-friendly technology) of the hotel’s CSR initiatives. One good example of such initiatives is provided by the InterContinental Hotels Group (IHG). IHG updates their ‘Corporate Responsibility Report’ every year to educate and inspire associates and guests about their innovative conservation initiatives. The report explains how IHG drives environmental sustainability through their online environmental tool, IHG Green Engage,

which signals the high level of IHG's competence and care for the environment. Our results indicate that enhanced perceptions of warmth and competence are likely to increase guest satisfaction which turn has a positive impact on loyalty behaviours. However, it is important to note that green initiatives do not act as a buffer in case of service failures. The findings of Study 2 suggest that hospitality managers need to be careful when communicating firm motives. If consumers attribute the firm's CSR initiatives to self-serving motives, their satisfaction will decrease, particularly in the case of service failures. Conversely, when consumers perceive a public-serving motive, their satisfaction will be enhanced by CSR initiatives as long as service quality is high. Therefore, it is very important for green hotel managers to ensure that consumers perceive the hotel's CSR initiatives as society-serving rather than self-serving. For example, Marriott has committed \$2 million to help protect a rainforest reserve in Brazil. Moreover, five percent of the room revenues generated from the meeting business were donated to a foundation focusing on sustainability. These programs demonstrate Marriott's commitment to society-serving CSR initiatives. In sum, the findings of this research indicate that hotel managers should strategically integrate CSR into their competitive positioning because such efforts reinforce perceptions of motives and attributes. Moreover, it is important to deliver CSR messages in a manner that highlights the firm's intention to help the society by engaging in eco-friendly initiatives. By doing so, guest satisfaction toward green practices in hotels can be improved.

7. Limitations and future research

There are a few limitations with this study that could be remedied in further studies. First, lack of previous studies on CSR history and practices in Egypt. Therefore, most of the literature review was collected from data published outside Egypt. Second, this research is applied to 4- and 5-star hotels only. Furthermore, the hotel category (budget/mid-range/luxury) was not well defined in the

manipulations. Guests who patronise different categories of hotels have varying social statuses, self-perceptions, and levels of environmental consciousness (Namkung, 2013), which may influence their perceptions. Therefore, further research needs to be investigated in different categories and types of accommodation. Third, this study has been made available online because the researcher experienced trouble travelling to other locations due to geographical obstacles, travel distance, costs, and the pandemic.

Fourth, the hypothetical scenario-based experiments may need to be verified with more empirical research. For instance, there may be more than just self-serving and public-serving motivations for a hotel's adoption of green initiatives; Other opportunities are those motivated by ego, stakeholders, values, or strategies. (Ellen et al., 2006; Vlachos et al., 2009). Finally, adding service recovery incidents could alter how guests perceive service outcomes and characteristics, which would boost their satisfaction.

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