



RESEARCH PAPER

**Tourists' Willingness to Pay for Green Attributes in the Hotel Industry of KP**

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PAPER INFO	ABSTRACT
<b>Received:</b> June 11, 2021	This study is based on the tourists' willingness to pay for green attributes in the hotel industry of KP. A survey was conducted through questionnaire wherein contingent valuation method was adopted. The findings of the survey revealed that customers are willing to pay for provision of green practices in hotels. Their mean willingness to pay is Rs.1519.6 which is approximately US\$ 9.93. The willingness to pay for sustainable practices depends upon the education of the respondents, their income level, length of stay in a hotel and rent per night. The regression analysis is done through multiple regression models. In addition, to model the number of visits a tourist has to make within a year is done with the help of Poisson regression model. The set of explanatory variables include gender, education levels, rent per night paid by a tourist, maximum willingness to pay for green attributes in a hotel, age of the respondent, status of the respondent, number of days a tourist is willing to stay in a hotel, visitor status and monthly income of the respondent. The results show that except gender and visitor status rest of the variables bears a significant positive relationship with the number of visits a customer has to make within a year.
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**Introduction**

The current path of environmental degradation is experiencing a change in the perception of peoples' attitude towards itself (Kang et al., 2012). Thereby consumers and producers are adapting to the new trends in bringing green revolution in different industries/sectors of the economies all over the world. Hotel industry is no exception to it and data shows that *environmental Sustainability* is one of the key concerns of hoteliers around the globe (White, 2010).

Instead of urging for short term financial benefits, keeping in view the notion of sustainability, implementation of the environmental friendly technologies can transform the hotel industry into a sustainable industry. This not only increases environmental

friendliness but in long term it also reduces the cost and increases the returns. Thus the industry has the potential to *save million dollars* by adapting green practices (Ryan, 2002).

Regardless of the fact that going green will increase the returns, many hoteliers still believe in the traditional approach and are hesitant to invest in the new environmental friendly technologies. One of the reasons for this are the higher initial investments with lesser returns in the short-run. Another reason is that sometimes these benefits may not be tangible in nature such as a firm reputation (Bird et al., 2007). In order to do away with such concerns, one of the mechanisms that have been in practice is charging an extra amount or premium for the provision of environmental friendly technologies. However, willingness of the premium depends on the customers' perception and approach towards sustainability.

Studies on customers' willing to pay an additional amount have produced mix results. Some customers believe in payment of an additional amount (Masau and Prideaux, 2003), others perceive it as the obligation of the hotel (Gustin and weaver, 1996). The unsettled question is the motivation behind the conduct of this study.

Traditionally the primary function of a hotel doesn't consider the provision of green practices as its main component but the adaptation of such practices may deliver intangible paybacks to the consumers (Manaktola and Jauhari, 2007). Such practices may fulfill a guest's *psychological needs* (Christy et al., 1996; Sen and Bhattacharya, 2001). Such contentment may eventually stimulate guests' willingness for premium in response to green practices.

Although there is increase attention to the adaptation of green practices in hotel industry and substantial effect of guests' willingness to pay such practices, while a plausible theoretical background also explain this relationship, yet the empirical evidence related to the concern of guests environmental priorities ultimately leading to their willingness to pay has been rarely considered. Therefore, the goal of this study is to see how the level of environmental obligation of hotel customers affects their willingness to pay a premium to support ecologically sustainable efforts.

## **Literature Review**

Literature shows that firm green initiatives are positively associated with the customers' perception of corporate social responsibility thus influencing their purchasing behaviour (Fort and Lamont, 1998; Mason, 2000; Simon, 1995). On the contrary, some studies suggest a difference in customers' perceptions and their actual purchasing behaviour (Boulstridge and Carrigan, 2000; carrigan and Attalla, 2001; Manaktola and Jauhari, 2007). In fact, this relationship is more intricate which depends upon factors such as customers' characteristics, company's drive for fulfillment of CSRs, and quality of a product.

Generally individuals try to associate themselves with such organization which are relatively unique, continuing and are capable of increasing self-esteem (Bhattacharya and Sen, 2004). In similar manner individuals fulfill their environmental responsibilities by associating themselves with such firms whom they feel are fulfilling such

characteristics. Therefore, social identity theory provide basis for such relationship wherein a company's identity revealed by environmental friendly practices is comparatively *enduring* (Bhattacharya and Sen 2004), unique (Manaktola and Jauhari, 2007), and increases self-esteem (Christy et al., 1996; Sen and Bhattacharya, 2001). thus individuals who prefer environmental responsiveness will prefer such organizations which care for green practices. this will likely increase the valuation of such organizations which ultimately tend to increase individuals willingness to pay for such practices (Robertson and Barling, 2013). Another theory that support the relationship between environmental concerns and individuals willingness to pay for environmental friendly practices is the means-end theory (Gutman, 1982). According to the theory, individuals buy products (means) in order to fulfill their goals (ends) (Wilhelms et al., 2017). An individual who is caring for environmental friendly practices (end) will more likely opt for such products (means) which are more environmental friendly thus fulfilling his self-esteem.

Majority of the research work support the relationship between individuals' environmental concerns and their willingness to pay for green attributes. Chen (2015) observed a positive association between hotels green initiatives and guests' purchasing intentions in the U.S.

Dutta et al. (2008) compared U.S. and Indian customers in the restaurant industry in connection to customers' concerns about environmental issues and their willingness to pay for green practices. the findings showed that US customers were comparatively more willing to pay for environmentally friendly practices than Indians while Indian customers were more concerned about health issues. Another study conducted by Creyer (1997), conducted a survey on 280 customers. The results revealed that primary factor concerning the purchasing behaviour of customers is a firm's; ethics. Thus customers prefer to pay more in order to compensate the ethical behaviour of a firm. Simon (1995), referring to a study conducted by Roper Starch Worldwide in 1993 stated that majority of the respondents has positive attitude with such organizations which care for customers' concerns. Moreover, customers' willingness to pay increases in case of such firms which care for customers concerns.

In contrast it has also been observed in certain situations where individuals' positive response doesn't increase his/her willingness to pay. Certain other factors such as knowledge, opportunity to engage depends on the individuals purchasing behaviour than just environmental concerns. Sometime such relationship is also affected by consumer effectiveness and perceived availability (Vermeir and Verbeke 2006). Likewise, Becker-Olsen et al., (2006) argued on the basis of attribution theory that sometimes an individual may care for environmental concerns but when he/she feel that such initiative is only in practice in order to generate profits he/she may lose interest and attribute this to more profits than bringing sustainability. Therefore, willingness to pay in this case may bear a negative relationship with environmental concerns.

Many times although customers care for sustainable practices but they are less likely to pay higher prices. Manaktola and Jauhari (2007) found that while the customers have positive attitude towards environmental concerns they were reluctant to higher prices for such practices. Bhattacharya and Sen (2004) an individual CRS can in certain situations may lead to indifference in the payment. In situations where customers believe

that the greening efforts don't bring any change in the quality their decision may negatively affect their willingness to pay.

**Material and Methods**

A survey is conducted from a total of 458 respondents who were staying or stayed in the recent time in a hotel in Khyber-Pukhtunkhwa. The respondents were selected through convenient sampling method. As the questionnaire is based on stated preference, therefore, contingent valuation method is applied for estimating the respondents' willingness to pay for green attributes in the hotel industry. In the case of stated preference, Contingent value method is usually used by the researchers to measure consumers' willingness to pay. The willingness to pay for such sustainable practices depends upon the education of the respondents, their income level, length of stay in a hotel and rent per night. The regression analysis is done through multiple regression model. In addition, to model the number of visits a tourist has to make within a year is done with the help of Poisson regression model. the multiple regression model is used to estimate or forecast the amount, a customer willing to pay, for the green services in the hotel industry. This is because the nature of response variable i-e amount to be paid is continuous. To model the number of trips per year by customer, Poisson regression modeling is used because the response variable is a count in nature and for such variable is best forecasted by Poisson regression model.

The multiple regression model is

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots + \beta_k X_{ki}$$

While the Poisson Regression model, therefore, is:

$$\log_e(\mu_i) = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots + \beta_k X_{ki}$$

Take the exponential of both side

$$\mu_i = \exp(\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \dots + \beta_k X_{ki})$$

**Results & Discussion**

The survey is conducted from a total of 458 respondents. Among these, the number of male respondents was more than female respondents. One of the reasons for the less number of female respondents was the social barriers. It was very easy to collect data from male respondents while the surveyor faced difficulties in interacting and filling the questionnaires from female respondents.

**Table 1**  
**Descriptive Statistics**

<b>Sample Characteristics (N= 458)</b>	<b>Frequencies</b>	<b>Percentage</b>
<b>Gender</b>		
<b>Male</b>	312	68.1
<b>Female</b>	146	31.9

<b>Education</b>		
<b>High school or less</b>	36	7.9
<b>Bachelor Degree</b>	93	20.3
<b>Master Degree or higher</b>	329	71.8
<b>Status/Profile</b>		
<b>Student</b>	68	14.8
<b>Employed</b>	41	9.0
<b>Self-employed</b>	85	18.6
<b>Other</b>	264	57.6
<b>No of days stayed</b>		
<b>02</b>	63	13.8
<b>03</b>	103	22.5
<b>04</b>	54	11.8
<b>05 or more</b>	238	52.0
<b>Visitor Status</b>		
<b>First time visitor</b>	275	60.0
<b>Return Visitor</b>	183	40.0

There is more difference between the upper and lower limit because few of the hotels such as Pearl Continental hotel and Serena hotel which are branches of international chains were charging highest among rest of the hotels. The minimum amount respondents were willing to pay for provision of environmental attributes in a hotel is Rs.500 per night which is approximately US\$ 3.2. The maximum amount for the green attributes was Rs.5000 per night which is equivalent to US\$ 32.66. The mean value for maximum willingness to pay is Rs.1519.65, equivalent to US\$ 9.93. This means that on average a tourist is willing to pay premium (additional amount) of Rs.1519.65 for the provision of environmental friendly attributes in a hotel he/she is staying. The results are in line with the findings of Dutta et al. (2008), Gustin and Weaver (1996).

**Table 2**  
**Continuous Variables information**

<b>Variables</b>	<b>N=</b>	<b>Unit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
	<b>458</b>					
<b>Number of Visits</b>		Days	1	7	1.96	1.215
		Rupees per night	1500	35000	6782.75	5972.038
<b>Rent</b>		Premium in rupees	500	5000	1519.65	759.842
<b>MWTP</b>		Rupees	40	360	136.76	51.022
<b>Monthly Income</b>		Year	16	68	36.76	13.302

**Results of the Multiple Regression Model**

The results of the multiple regression model wherein maximum willingness to pay has been taken as a response variable are presented in table 3.

**Table 3**  
**Estimated Coefficients**

	<b>Coefficients</b>	<b>t</b>	<b>Significance</b>
(Constant)	720.499	3.388	.001

Gender	84.152	1.205	.229
Age	5.073	2.048	.041
No of days	-46.280	-2.557	.011
Visit Status	-24.526	-.377	.706
Education	59.209	2.113	.035
Income	1.314	2.169	.031
Rent	.059	10.832	.000

A more recent study by Dolnicar (2010), proposed that Pro-environmental behaviour is predicted by both socio-demographic and psychological influences. This analysis, in particular, revealed that Tourists' environmentally friendly behaviour is motivated by their income and moral responsibility while on holiday. Another recent research by Mehmetoglu (2010) found that, Gender, household income, political preference, environmental interest, and personal environmental norms were all linked to environmentally friendly behaviour in a holiday setting. Keeping in view the related literature factors a number of variables are taken as responsible for willingness to pay for environmental attributes in a hotel. The variables are presented in the above table. Age of the respondent, number of days to be stayed, education of the respondent, monthly income of the respondent and rent to be paid for stay in a hotel are statistically significant at 5 percent. Age bears a positive significant relationship with a respondent's willingness to pay for attributes in a hotel. Different age groups have varying level of relationship with environmental awareness. Our results shows that people with older age tends to pay more for the green attributes than the younger ones. Wiernik et al, (2013); Zulfakar et al., (2021); Han et al., (2009) ended up the with same relationship in their analysis. According to the authors older people tend to be more cautious about green practices.

Number of days of a stay in hotel bears a negative and statistically significant relationship with the response variable. This negative relationship is logical as with increased number of days for stay the cost in the shape of rent etc is also going to increase which will ultimately affect the income of an individual. Thus more stay means increasing cost and thus less money to be spent on green attributes. Santos et al., (2015) Rodriguez et al., (2018) is also of the view that direct cost reduce the length of stay. Yadav and Pathak (2017) believe that a higher price is the main factor when opting for sustainable hotels. Therefore we can conclude that willingness to pay for environmental attributes decreases with increase in the length of the stay due to the increase in the cost.

The results indicate that higher the education level the more will be the environmental awareness The result is in line with the findings of Chia-Jung and Pei-Chun (2014); Sanaullah et al., (2020). According to the literature education plays a positive role in the bringing environmental awareness. In general with higher level of education individuals become more aware about the environmental issues and their related problems.

A per the results an additional increase in income the willingness to pay also escalates. It has also been observed from the literature that income is positively related to higher willingness to pay for environmental friendly attributes. Our finding is supported by several studies such as Kang et al., (2012); Namkung and Jang (2017); Qin and Song

(2019); Manaktola & Jauhari (2007). According to the before mentioned studies consumers with higher income are willing to pay a higher premium for environmentally friendly products. The same statement is also supported by Abas et al., (2021); Shao et al., (2018); Xie and Zhao (2018). According to them individuals with higher income are likely to care more about environment. Manaktola and Jauhari (2007) while investigating the lodging industry in India also observed that a high number of individuals are willing to offset the burden of the environmental friendly hotels by paying more in comparison to those whose income level is less.

Rent per night in a hotel is having a positive relationship with the response variable. The results indicate that with an increase in rent the willingness to pay will also increase. The coefficient value shows that the relationship is positive but has a very meager effect. As discussed earlier rent is a direct cost to consumer and higher cost means lesser premium for green attributes. But in this case increasing rent leads to more premium for green attributes. One of the reason that was observed during the survey was generally the hotels which were more sustainable and providing environmental friendly services were charging higher rents in comparison to those which didn't. This might be the reason for this positive relationship. Individuals who prefer to pay more opted for higher rented hotels due to the provision of sustainable services.

Gender of the respondent indicates a positive but insignificant relationship. Literature also shows that gender is one of the determinants of the environmental awareness. Several studies observed that that women are more environmental cautious than males (Papavasileiou et al., 2020; Trelohan, M. (2021); Andole et al., (2020).

### **Results of the Poisson Model**

**Table 4**  
**Estimated Coefficients**

<i>Parameter</i>	<b>Coefficient</b>	<b>Exp(B)</b>	<b>Significance</b>
Gender (Male)	0.149	1.161	.074
Education (High school or less)	0.299	1.349	0.032
Education (Intermediate )	0.54	1.056	0.626
Education (Bachelor)	0.241	1.273	0.010
Rent	3.033E-005	1.000	0.000
Maximum Willingness to Pay	9.839E-005	1.000	0.023
Age	-0.005	.995	0.048
Status (Student)	0.008	1.008	0.938
Status (Employed)	0.270	1.310	0.017
Status (Self-employed)	-0.206	0.813	0.051
Number of days (02)	-0.087	0.917	0.478
Number of days (03)	0.235	1.265	0.004
Number of days (04)	0.007	1.007	0.956
Visitor status (first time visitor)	0.082	1.086	0.248
Income	0.001	1.001	0.039

To model the number of visits a tourist has to make within a year is done with the help of Poisson regression model. The dependent variable is the total number of visits a tourist has to make within a year. The set of explanatory variables include gender, education levels, rent per night paid by a tourist, maximum willingness to pay for green attributes in a hotel, age of the respondent, status of the respondent, number of days a tourist is willing to stay in a hotel, visitor status i-e either respondent is a first time visitor or a return visitor and last is the monthly income of the respondent.

Education level has been categorized in to four different levels i-e high school or less, intermediate, Bachelors and Master degree or above. The model has taken Master degree or above as a redundant variable and the results indicates that all the education levels has a positive relationship to the number of visits.

The coefficient of maximum willingness to pay for environmental attributes is statistically significant. coefficient shows that the relationship with numbers of visits is positive but bears a very meagre impact on the dependent variable.

Rent is also highly significant with a negative relationship with the dependent variable. This relationship clearly justifies the law of demand. As the prices i-e is the rent per night increase that the demand decreases.

Employment status of the respondent is categorized in four different level i-e students, employed, self-employed and others. All of their coefficients are statistically significant. Age of the respondent is also having a negative relationship with the number of visits one has to make. Its coefficient is statistically significant.

The coefficients for number of days in relationship number of visits is statistically significant at below 5 percent with the exception those who are staying for four days. Those respondents who are staying for two days bears a negative relationship while their odds ratio explains that as their number of days changes from 5 or more their number of visits has to reduce by 0.503 times. Income is also positively associated with number of visits.

## **Conclusion**

The study revealed some interesting insights from the hotels industry in KP. It has been observed that concerns for environmental awareness are increasing. Tourists are willing to pay additional amount as a premium for provision of green practices. Tourists' willingness to pay a premium depends on multiple factors such as income, rent, length of the stay etc.

As the hotel industry in KP is far behind the provision sustainable practices. Yet due to the increasing demand a number of hoteliers are adopting the environmental friendly practices. The government is required to promote the greening efforts through strict implementation of laws. It also needs to encourage the hoteliers who are making efforts for bringing the sustainability to the industry.





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