

Willingness to Pay for Tourism Services: A Case Study from Harappa, Sahiwal

Sarfraz Hussain^{1,*}, Farahat Alam²

¹Department of Commerce, Government Graduate College Liaquat Road Sahiwal, Punjab, Pakistan. ²Department of Economics, Government Graduate College Liaquat Road Sahiwal, Punjab, Pakistan. shussain3@graduate.utm.my¹, farhatalam454@gmail.com²,

Abstract: According to the conclusions of the research, the presence of frequent visitors is critical to the sustained development of nations in both the economic and social spheres. This survey of visitors who visited the Harappa Museum in Sahiwal questioned 120 locals to discover whether or not they were willing to pay for tourist services. The results of the survey were presented in a poll. The research takes into account a wide range of demographic aspects, including a person's age, gender, educational level, pay, amount of time spent commuting, total cost, number of people living in a home, and overall degree of contentment. The findings point to the necessity of efficient management and administration in order to mitigate the unfavourable effects of tourism and, at the same time, increase the number of tourists who visit and the number of employment possibilities available to locals. According to the findings of the study, vacationers are willing to pay more for upgraded facilities and services. Additionally, the study found that vacationers' spending not only led to an increase in the local economy but also improved other aspects of day-to-day living.

Keywords: Tourism Services; Willingness to Pay; Harappa Museum; Local Tourism, Vacationers; Historic Sites; Visitors' Tastes; Upgraded Facilities and Services.

Received on: 02/04/2023, Revised on: 16/06/2023, Accepted on: 13/07/2023, Published on: 25/07/2023

Cited by: S. Hussain and F. Alam, "Willingness to Pay for Tourism Services: A Case Study from Harappa, Sahiwal," *FMDB Transactions on Sustainable Management Letters.*, vol. 1, no. 3, pp. 105-113, 2023.

Copyright © 2023 S. Hussain and F. Alam, licensed to Fernando Martins De Bulhão (FMDB) Publishing Company. This is an open access article distributed under <u>CC BY-NC-SA 4.0</u>, which allows unlimited use, distribution, and reproduction in any medium with proper attribution.

1. Introduction

A tourist's willingness to pay (WTP) for a particular product or service associated with their trip is their maximum willingness to pay (MWTP). For tourism-related enterprises and places, comprehending WTP is crucial because it enables them to establish lucrative and appealing pricing to travellers. The following variables might affect visitors' willingness to pay for travel-related services:

Service quality: Travelers are prepared to pay extra for top-notch tourist services that meet their demands and expectations. Quality-related metrics include cleanliness, comfort, safety, and the degree of individualized service.

The destination's attractiveness: Tourists are more willing to pay a premium for services in well-known and alluring locations, such as beaches, historical monuments, or cultural hubs. This results from their willingness to spend money on unique and unforgettable experiences.

^{*}Corresponding author.

Personal preferences: Individual interests and preferences may impact tourists' spending readiness. Travelers seeking adventure, for instance, could be more prepared to spend extra on sports like rock climbing or bungee jumping. In contrast, travellers seeking culture would be more interested in guided tours of museums or historic sites.

Economic factors: Things like currency rates, inflation, and income levels might impact tourists' willingness to spend. For instance, owing to the perceived value and favorable exchange rates, visitors from high-income nations may be ready to pay more for tourism services in underdeveloped nations.

Competition: The rivalry in the tourism industry might impact travellers' willingness to spend. Tourists could be less likely to pay a premium price for a particular service if other identical tourism services are offered.

In general, implementing efficient pricing strategies and maximizing income for tourism firms and destinations depend on knowing visitors' willingness to pay for travel-related services.

Harappa is an important archaeological site and a well-liked vacation spot in Pakistan's Punjab province's Sahiwal district. The Bronze Age location draws visitors from around the globe and provides a look into the historic Indus Valley civilization [3]. For Harappa's tourism business to grow sustainably, it is crucial to comprehend visitors' willingness to pay for services. Tourism service providers and policymakers can create effective pricing strategies and policies that can help promote tourism growth while protecting the environment and preserving the region's cultural heritage by better understanding the factors affecting tourists' willingness to pay for various tourism services.

In Harappa, Sahiwal, this case study investigates the elements that affect visitors' willingness to pay for tourism services. The research aims to determine the most popular tourist services and the elements that affect visitors' willingness to pay for these services via a survey of visitors to the site. The research will also examine how visitors' tastes, economic conditions, and competitiveness impact how much they are prepared to pay for local tourism services.

Overall, this case study offers significant insights into the Harappa, Sahiwal, and tourist industries and may assist in informing the creation of efficient pricing methods and regulations that can support long-term tourism growth in the area.

2. Literature Review

Many nations' economies owe a substantial amount of their overall growth and progress to the tourism industry, which also can bring significant advantages for the communities and companies directly involved [13]. However, to guarantee that tourism is sustainable and that all stakeholders profit from it, it is essential to understand the elements that impact tourists' willingness to pay for the services the tourism industry provides. Gender is a component that should not be overlooked. Studies have indicated that gender may affect travel behavior and choices, with women often placing a higher priority on cultural experiences and safety than they do on adventurous activities [8]. Because of this, their willingness to pay for certain tourist services may be affected.

Age is another critical issue since visitors of younger ages may have different interests and priorities than those of older ages. For instance, younger tourists may have a greater interest in exciting activities and nightlife, while senior visitors may have a greater interest in cultural events and opportunities for leisure [15].

Education and income levels are two more factors that might affect tourists' readiness to pay. Tourists with greater levels of Education and wealth may be more prepared to pay a premium for better-quality services and experiences [6].

According to Genc and Temizkan [10], visitors may be readier to pay for a unique and attractive location farther away. Still, they may be less willing to pay for a comparable destination closer to home. It may be explained by the fact that visitors may be prepared to pay more for a unique and desirable destination that is further away.

Last but not least, a traveller's level of contentment with their vacation may affect their propensity to pay for various tourismrelated services. This is because contented vacationers are more inclined to share their positive impressions of their trip with others and to come back [12].

Understanding the extent to which tourists are ready to pay for a destination's various services is essential to the long-term growth of the tourism industry in that location. Tourism operators and policymakers can establish strategies to enhance the quality of tourist services and experiences by gaining knowledge of the elements that impact visitors' willingness to pay. These tactics may also be used to promote tourism's economic and social advantages for local communities.

Tourism and travel have a critical monetary impact on both the global and local levels. Many countries worldwide have cultural heritage and receive ample revenue from it [19]. Rich countries are frequently better placed to benefit from tourism than least developing countries. Large-scale tourism benefits the host country through the world's old civilizations, beautiful landscapes, the world's highest mountains, and various religious and cultural sites [20]. Tourist attractions contribute to society in several ways, including by providing public goods and natural resources. Tourism is the world's primary service sector because it directly hires 90 million people worldwide. Tourism also indirectly supports an additional 157 million jobs, which can result in significant cost savings and significant environmental, social, and economic advantages.

Tourism is critical in achieving the broader goals of a faster economic recovery [2]; [11]. Visitors to recreational areas can benefit from various ecological functions and recreational opportunities. Tour areas also help to build national reserves by producing significant foreign exchange revenues. Tourism services are designed to improve the quality of a region by allowing people to relax and enjoy themselves. Tourism services can aid in the restoration of people's physical, mental, and emotional health by allowing them to relax and unwind from the stress of getting things done [21].

Pakistan was ranked in the top 25 percent of tourist endpoints worldwide [7]. Pakistan is working to boost its tourism sector and nature-based tourism in the case of underdeveloped countries. One of the developing countries in South Asia in terms of biodiversity [22]. It included the 5000-year-old Indus Valley civilization cities of Mohenjo Daro and Harappa and the major tourist destinations of Swat, Lahore, Khyber Pass, Peshawar, Karachi, and Rawalpindi [14]. The government's budget for managing Pakistan's tourist places is exceptionally restricted. Human settlement within parks, forest fires, soil erosion, pollution, local encroachment, and other anthropogenic actions by humans within recreational grounds are all dangers to Pakistan's recreational areas. In 2015, travel and tourism contributed US\$ 328.5 million to Pakistan's GDP, US\$ 7.7 billion in 2016, and is expected to contribute US\$ 1 trillion to the Pakistani economy by 2025. Tourism grows as the country's security improves; in just two years, it has expanded by more than 300 percent [1].

In terms of raising funds for recreational site management, the question of the museum entry fee is essential. Museum entry fees are frequently deficient in developing countries and are not usually charged [17]. The atmosphere in these countries is highly fragile, and the delicate balance between human and physical variables is quickly upset [7]. For visiting recreational locations, there is only a small fee. The Pakistani government has taken a keen interest in the proper protection and expansion of tourism in recent years. Various economic factors influence tourism in transportation, communication, Education, health, and business [16]. Easy access to a recreational area is usually open to the general population. It's usually about a free or low-cost entrance fee that any tourist can accept [9].

User fees are an effective method for tourism to gain public benefits quickly. These kinds of activities may reduce the number of people attending recreational areas. The lack of guiding information for an efficient price strategy is linked to the locations where continuous ecological deterioration occurs. Appropriate policies could improve prices [5].

3. Research Gap

The desire to pay for tourist services is a subject that has received a lot of scholarly attention. However, specific unresolved research gaps in this field need attention. There may be a study vacuum regarding the elements that affect travellers' willingness to pay for various tourism services. For instance, it would be interesting to investigate how elements like the perception of value, the image of the site, and the quality of the service impact travellers' willingness to pay for cultural heritage trips in Sahiwal and Harappa. Another unmet research need is the influence of social and cultural norms on travellers' willingness to pay for tourism services. For instance, investigating how cultural differences between visitors and locals influence the desire to pay for particular tourism services might be helpful.

The influence of the COVID-19 epidemic on travellers' willingness to pay for tourism services in Harappa and Sahiwal is another study area that needs to be explored. Examining how changes in travel restrictions, safety precautions, and risk perceptions have impacted visitors' willingness to pay for various tourism services is one way to do this. In general, these gaps in the literature provide intriguing directions for additional investigation into the propensity to pay for tourist services in Harappa and Sahiwal. There could be other research gaps in the context of a case study from Harappa and Sahiwal that might be investigated. For instance:

There can be a misunderstanding about the various tourist services offered in Harappa and Sahiwal and how much they cost. Research might examine what tourism services are offered locally, such as tours of historical places, celebrations of local culture, or leisure pursuits, and how much visitors are ready to pay. There can be a misunderstanding about the reasons for and tastes of visitors who go to Sahiwal and Harappa. What kinds of experiences visitors seek and how these characteristics affect their willingness to pay for tourism services might all be the subject of research.

There can be a misunderstanding of how the locals in Sahiwal and Harappa see the tourist sector and their place there. Research might look at how local people feel about tourist development and how it can affect their desire to work in the sector by how they see the associated services and costs.

Overall, these possible study gaps show how critical it is to comprehend the unique context of Harappa and Sahiwal to formulate relevant research questions on visitors' willingness to pay for local tourism services.

3.1. Questions of Study

Understanding the variables that affect visitors' desire to pay for various tourism services in the area is the goal of the case study on willingness to pay for tourism services in Harappa, Sahiwal. The following research issues will be investigated in this study:

- What are the top tourism services visitors in Harappa, Sahiwal, seek?
- What aspects of tourism in Harappa, Sahiwal, affect visitors' willingness to pay for services?
- How do visitors' willingness to pay for tourism services in Harappa, Sahiwal depend on their preferences, economic circumstances, and competition?
- How does visitors' willingness to pay affect tourism service providers and decision-makers in Sahiwal's Harappa?

The case study aims to give insights into the Harappa and Sahiwal tourist industries and assist tourism service providers and policymakers in creating efficient pricing strategies and regulations that may support sustainable tourism growth.

4. Research Methods

A survey of visitors to the archaeological site is used as the research technique for the case study on the readiness to pay for tourism services at Harappa, Sahiwal. A standardized questionnaire will be used to perform the survey, and visitors will be given it when they enter or leave the location.

4.1. The questionnaire will cover the following subjects:

Tourists will be asked for demographic data, including their age, gender, country, and level of Education. Tourists will be asked which tourist services, such as guided tours, transportation, lodging, and food and beverage services, they have used or are interested in utilizing. The maximum price a traveller is prepared to pay for each tourist service they have used or are considering utilizing will be elicited from them. Tourists will be asked to list the variables that affect their willingness to pay for tourist services, such as service quality, destination allure, individual preferences, economic variables, and competitiveness.

The survey will be given to a sample of visitors to Harappa, Sahiwal, who will be there during the busiest travel period, generally from November to March. Each visitor will have an equal chance of being chosen for the survey since the sample will be chosen using a systematic random sampling approach. The most popular tourist services and the elements influencing travellers' willingness to pay for them will be determined through statistical approaches, such as descriptive statistics and regression analysis, which will be used to analyze the data obtained from the survey. The results will be given in a report that will provide perceptions of the Harappa and Sahiwal tourist industries and guide the creation of efficient pricing plans and regulations for the area.

Univariate Analysis consists of descriptive analysis and frequency tables. Descriptive Analysis offered an overview of respondents' socioeconomic characteristics, and analytical techniques were used to assess respondents' WTP and tourist impact. The proportions' validity is determined by investigating the aspect association and using the Chi-Square difference test [18]. The factor correlation must be less than 0.80, representing the discriminant validity of the scale [4]. In logistic regression analysis, the outcome is frequently recorded as 0 or 1, with 1 indicating the presence of the desired outcome and 0 indicating the absence of the desired outcome. The estimation of the visitor's willingness to pay was obtained by using these variables.

Variables	Descriptive	Type of Variable
Y	Willingness to pay	Dependent Variable (Y)
Gender	1 for Males, 2 for female	Explanatory
Age	Age of visitors (years)	Explanatory
Income	Income of visitors (Rs/monthly)	Explanatory
Education	Education of visitors	Explanatory
Distance	Distance from destination	Explanatory
Total cost	The total cost of the visit (Rs)	Explanatory
Household size	Household size	Explanatory
Disturbance term		εί

Table 1: Respective descriptive statistics, and variable types

The table 1 lists the variables used in the research, their respective descriptive statistics, and variable types. The dependent variable in this research is the participant's willingness to pay as a percentage of the overall cost of the tourist service. It is assessed as a continuous variable from 0 to 1 on a scale. The following explanatory factors are a part of the study: A binary variable called "Gender" is coded as 1 for men and 2 for women. Age is a continuous variable that measures the individuals' age in years. "Income" is a continuous variable representing the participants' monthly rupee income. "Education" is a categorical variable that may be classified as "None," "Primary," "Secondary," "University," or "Others," depending on the participants' degree of Education. "Distance" is a continuous variable that measures how far participants' houses are from the tourist service site in kilometers. A continuous variable called "total cost" denotes the entire cost of the travel service in Indian rupees. "Household size" is a continuous variable that describes the size of each participant's household.

The regression model also incorporates the disturbance term, represented by ε_i . The random error term in the model, represented by this variable, compensates for any fluctuation in the dependent variable that the explanatory factors cannot explain.

The final bid for willingness to pay = f (gender, age, income, Education, distance, total cost, and Household size)

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6 + \beta 7X7 + \varepsilon i$$

Where Y is the Final bid (dependent variable), β is the Coefficient to be determined. Independent variables like gender, age, income, Education, distance, total cost, and Household size.

5. Research Findings

Table 2 shows the descriptive Analysis of the study, which shows the mean, standard deviation, and the total number of visitors selected for a response.

Variables	Total	Mean	Std. Deviation
Willingness to pay	120	0.575	0.49642
Gender	120	1.5	0.5021
Age	120	2.0083	0.87443
Level of Education	120	3.2417	0.95262
Household size	120	2.05	0.84863
Income	120	2.9	1.02408
Total cost	120	3.0083	1.19168
Distance	120	2.0333	1.20874

Table 2: Descriptive Analysis

Descriptive statistics are included in the table for each of the study's variables. The participants' average willingness to pay for the tourist service was 57.5%, or 0.575, which is the mean for willingness to pay. The standard deviation for this measure is 0.49642, which indicates that there was a considerable amount of variation in participants' willingness to pay. The gender variable's mean value of 1.5 indicates that the sample population is equally split between men and females. The mean value for the age variable is 2.0083, corresponding to an average age of around 20. The mean value for the education level variable is 3.2417, which shows that most individuals have a university degree. The household size variable's mean value of 2.05

indicates that participants often lived in households with two persons. With a mean of 2.9, the income variable may be read as having a median income among the participants.

The total cost variable's mean value is 3.0083, which shows that the overall cost of the tourist service was somewhat more significant than the willingness to pay. The distance variable's mean is 2.0333, indicating that the participants' houses and the site of the tourist service are close together. These descriptive statistics briefly overview each research variable's central tendency and variability. They may provide context for understanding the characteristics of the sample group and aid in interpreting the findings that have been given.

Table 3 shows that Male and female respondents are 50.0 and 50.0 percent, respectively. Male visitors usually came with friends, colleagues, and family as well. But on the other hand, female visitors came only from households.

Gender	Frequency	Percent
Male	60	50.0
Female	60	50.0

Table 3: Distribution of respondents according to their gender

Table 3 shows the frequency and percentage distribution of gender in the sample population. Males and females comprise equally half of the sample's 120 participants, distributed evenly between the sexes. This equal distribution of the sexes may help to ensure that biases based on gender do not affect the sample's willingness to pay for tourist services. The data showed that the gender variable had a statistically significant link with a desire to pay, with women demonstrating a greater readiness level than males. In light of this study, the region's tourist service providers may need to modify their marketing plans and service packages to better appeal to women.

Table 4 shows the level of Education of the visitors. 6.7 percent of the visitors are non-educated. 13.3 percent of the visitors fall in primary Education. 31.7 percent of the visitors fall into secondary Education. 45.8 percent of the visitors fall into university education. The overall majority of the visitors were educated.

Level of Education	Frequency	Percent
None	8	6.7
Primary	16	13.3
Secondary	38	31.7
University	55	45.8
Others	3	2.5
Total	120	100.0

Table 4: Distribution of respondents according to their level of Education

According to the study, 46.7 percent of the visitors agreed to raise the entry fees, and 53.3 percent agreed to raise govt. Budget for museum improvement. Mostly suggested that raising the govt. Budget for better services.

The table shows the sample population's level of Education's frequency and percentage distribution. Of the 120 people that comprised the whole sample, 45.8% held a university degree. With 31.7% of the sample having finished secondary school, this level of Education was the next most prevalent. Only a tiny number (6.7%) of the sample had no formal education, and 13.3% had finished their primary school. The remaining 2.5% of the sample had "Other" education levels. According to the sample's distribution of education levels, most people have at least a secondary education. The negative correlation for Education in the data shows that people with greater levels of Education may be less inclined to pay for tourist services, which may have repercussions for the desire to pay for such services. However, it is crucial to remember that the sample sizes for each educational level may be rather tiny, necessitating more studies to reach firm conclusions.

Variables	Coefficient	Std. Error	Sig.
Gender	0.777	0.424	0.046*
Age	0.509	0.275	0.064**
Household size	0.271	0.252	0.281
Education	-0.445	0.234	0.057**

Table 5: Results of Binary Logistic Regression

Wages	-0.081	0.213	0.041*
Distance	0.152	0.170	0.371
Total cost	0.360	0.154	0.020*
Intercept	-1.671	1.538	0.277
Sample Size			120
R ²			0.307
Percent predicted correctly			95.5

Significant at 5% level = * and Significant at 10% level = **

Table 5 shows that most coefficients have the same signs as the expected ones. The regression model's results are linear. The Coefficient shows a positive association with willingness to pay in the context of gender. As a result, the study's number of male and female visitors are the same but responded differently regarding the dependent variable. It is a statistically significant variable at 5 percent. The willingness to pay has a positive relationship with the age coefficient. The willingness to pay the visitor increases, and the opportunity for visitation also increases. This variable is statistically significant at 10 percent. The Household size coefficient has a positive relationship with willingness to pay. So, as the size of the family increases, the probability of willingness to pay also increases. It is statistically insignificant.

Education has a negative relationship with willingness to pay. So, as the visitor's Education increases, the probability of willingness to pay decreases; it is statistically significant at 10 percent. The wage coefficient has a negative relationship with willingness to pay. As wage increases, people want to invest, so the willingness to pay for tours at the local level decreases. It is statistically significant at 5 percent. The distance coefficient has a positive relationship with willingness to pay. The visitor's willingness to pay increases as the distance between the house and the destination rises because they are desperate to see the oldest civilization. It is statistically insignificant. Visitors' total cost has a positive relationship with willingness to pay, which shows that if cost increases, visitors' willingness to pay increases because it is a luxury service sector. So, in the modern era, people want quality, perfection, and a sophisticated environment for visiting and staying. It is statistically significant at 5 percent.

The model's correct prediction percentage is 95.5. The value of R^2 is 0.307. It is an overall significant value of the model. It means that the model is significant by 30 percent. According to the data, several factors substantially impact consumers' willingness to pay for tourist services. According to their coefficients and levels of significance, gender, Education, earnings, total cost, and age, all exhibit a statistically significant link with a willingness to pay.

According to the gender coefficient, women could be more likely to pay for travel-related services than men. Higher educated people could be less inclined to pay for tourist services, according to the negative Coefficient for Education. According to the wage coefficient, higher earners may be less likely to pay for tourist services. It may be because those who earn more money may have more alternatives for leisure activities or may be more cost-conscious.

According to the Coefficient for the total cost, consumer willingness to pay grows along with the overall cost of the tourist service. It is to be anticipated since tourists may believe that services that cost more are of better quality or worth. The model's overall predictive strength is modest, with an R-squared value of 0.307 and a percent correctly predicted of 95.5. However, the 120-person sample size can be seen as too small to make firm conclusions. Therefore, the findings should be evaluated with care.

Future studies should look at other factors connected to this context's desire to pay for tourist services and possibly moderate or mediate other factors' impacts. To better understand the variables impacting willingness to pay for tourist services, the findings might also be compared with those of comparative research conducted in other settings.

6. Results and Discussion

Most of the visitors were youthful with a higher education level; on the other hand, the responders were educated and mature, and most of the visitors acquired their knowledge from the internet. In the case of a better environment in the visitor's destination, most visitors were willing to pay more for a visit. More than 60% of the visitors were willing to pay more; they would pay more for their vacation if the money went to museum preservation and improvements. A minority of the visitors were not ready to increase entry fees because Pakistan is a developing country, so the visitors do not have enough to pay more. The large family spent more because they came in considerable strength. The findings also revealed that while tourism had a favorable impact on the economy and socio-cultural aspects, it had a negative impact owing to rubbish, overcrowding, and site degradation. The funds raised should be utilized to preserve and protect the site and improve public amenities such as bathrooms, a canteen, a small shop, a filtration plant, etc.

The funding could also be allocated to educate the general public about the necessity of environmental preservation. Protecting and preserving tour sites is not solely the authority's responsibility; it necessitates strategic collaboration between the authority

and the general public. Most tourists obtain information via websites; it is advised that the tourism department's official websites be appealing and updated regularly. Only adequately licensed restaurants and food vendors will be permitted to operate. Private companies and tourism organizations should begin providing appropriate bus transportation to recreational destinations. Pakistan must promote domestic tourism and take steps to provide safety, security, improved hygienic infrastructure, and adequate lodging for both domestic and international visitors.

The potential for this research to influence the growth of the tourist industry in Harappa, Sahiwal, is what makes it so important. Tourism's economic and social benefits may be enhanced if business owners have a better idea of how much customers are prepared to spend on various services. Research like this may also educate politicians and local authorities on the necessity of controlling and regulating tourism to lessen its adverse effects and maximize its positive ones. In sum, the research has the potential to aid in the long-term growth of tourism in Harappa, Sahiwal, and other comparable locations.

7. Conclusion

In conclusion, despite the large number of studies conducted on the subject of tourists' willingness to pay for services, some research gaps still need to be addressed. This is the case even though the issue of tourists' willingness to pay for services has been well-researched. There is a lack of knowledge of the elements that impact visitors' desire to pay for different tourism services, the role that cultural and social norms play in tourists' willingness to pay, and the repercussions that this lack of awareness has on tourists' willingness to pay for various tourism services. These knowledge gaps are included in the categories of those that have been mentioned in the previous paragraphs. Additional research gaps in the context of a case study from Harappa and Sahiwal could include investigating the specific types of tourism services that are offered in the region, gaining an understanding of the motivations and preferences of visitors, and looking into the perspectives of the local community on the development of tourism. All of these would be important areas of inquiry. These are all essential topics of investigation, wouldn't you say? It is possible that filling up these study gaps might result in the discovery of helpful information on the elements that impact the tourists' willingness to pay for tourism services. This information may be useful in developing policies and initiatives that benefit the tourist sector.

Acknowledgment: Support and Guidance rendered by my supervisor, Engr. Dauda Baba Abdu Zubairu and the External Examiner, Engr. Prof. Folorunsho Aberuagba is appreciated.

Data Availability Statement: The Study collects literature data for Aspen Plus adsorption software experiments to generate plots relevant to interpreting the result. The corresponding author may be notified to provide data from this work.

Funding Statement: No funding was received to conduct the research.

Conflicts of Interest Statement: Authors collectively produce this work where they all agree with the work's points, issues, and findings.

Ethics and Consent Statement: This work is a draft of the corresponding author's B.Eng. Degree Project. Supervisors and examiners mentioned in the acknowledgment approve the work before awarding a Bachelor's Degree to the candidate. Authors of the work unanimously consent to make this publication available to all interested people for reading, teaching, and learning.

References

- 1. A. Ahmed, Dawn.com. [Online]. Available: https://www.dawn.com/news/1325829, 2017. [Accessed: 09-July-2023].
- 2. J. Aramberri, "Domestic tourism in Asia some ruffle and flourish for a neglected relation," Tourism Recreation Res., vol. 29, no. 2, pp. 1–11, 2004.
- 3. W. Belcher, "Ethnoarchaeological Studies of Riverine Fisheries and Butchery in Pakistani Punjab," in Animals in Archaeology: Integrating Landscapes, India, 2023.
- 4. A. Bhattacherjee, "Individual trust in online firms: Scale development and initial test," Journal of management information systems, vol. 19, pp. 211–241, 2002.
- 5. L. C. Chase, D. R. Lee, W. D. Schulze, and D. J. Anderson, "Ecotourism demand and differential pricing of National Park access in Costa Rica," Land Econ., vol. 74, no. 4, p. 466, 1998.
- 6. L. T. O. Cheung and C. Y. Jim, "Expectations and willingness-to-pay for ecotourism services in Hong Kong's conservation areas," Int. J. Sustainable Dev. World Ecol., vol. 21, no. 2, pp. 149–159, 2014.
- 7. O. Claveria and A. Poluzzi, "Positioning and clustering the world's top tourist destinations using dimensionality reduction techniques for categorical data," Journal of Destination Marketing and Management, vol. 6, pp. 22–32, 2017.

- 8. Y. Fan, "Household structure and gender differences in travel time: spouse/partner presence, parenthood, and breadwinner status," Transportation (Amst.), vol. 44, no. 2, pp. 271–291, 2017.
- 9. M. A. Freeman, "The measurement of environment and resource values: Theory and methods," Resources for the Future, vol. 8, pp. 129–139, 1993.
- 10. S. G. Genc and S. P. Temizkan, "Destination aesthetics: An empirical study of aesthetic judgment and aesthetic distance among tourists in Turkey," European Journal of Tourism Research, vol. 33, pp. 3308–3308, 2023.
- 11. R. Chanda and S. Gopalan, "Understanding India's regional initiatives with East and Southeast Asia," Asia. Pac. Econ. Lit., vol. 23, no. 1, pp. 66–78, 2009.
- 12. M. Jaapar, G. Musa, S. Moghavvemi, and R. Saub, "Dental tourism: Examining tourist profiles, motivation and satisfaction," Tour. Manag., vol. 61, pp. 538–552, 2017.
- 13. J. Jafari and N. Scott, "Muslim world and its tourisms," Ann. Tour. Res., vol. 44, pp. 1–19, 2014.
- 14. P. Jenner and C. Smith, "The Tourism industry and the environment," Special Report Economist Intelligence Unit, 1992.
- 15. M. J. Keeling, S. Moore, B. S. Penman, and E. M. Hill, "The impacts of SARS-CoV-2 vaccine dose separation and targeting on the COVID-19 epidemic in England," Nat. Commun., vol. 14, no. 1, p. 740, 2023.
- I. S. Khasanov, "Research methodology of the tourism and hospitality sector in republic tatarstan as transaction type of economic activity," Procedia Econ. Finance, vol. 24, pp. 313–317, 2015.
- 17. D. Miller, "Ideology and the harappan civilization," J. Anthropol. Archaeol., vol. 4, no. 1, pp. 34-71, 1985.
- G. E. Prussia, J. S. Anderson, and C. C. Manz, "Self-leadership and performance outcomes: the mediating influence of self-efficacy," J. Organ. Behav., vol. 19, no. 5, pp. 523–538, 1998.
- 19. N. Sharma and J. Punjab, "Tourism led growth hypothesis: empirical evidence from India," African Journal of Hospitality, Tourism and Leisure, vol. 72, pp. 1–11, 2018.
- 20. A. Vujko and T. Gajić, "The government policy impacts on economic development of tourism," Agricultural Esconomics, vol. 6, pp. 13–22, 2014.
- R. G. Walsh, L. D. Sanders, and J. B. Loomis, "Measuring the economic benefits of proposed wild and scenic rivers," in National River Recreation Symposium Proceedings, vol. 4, US Forest Service, National Park Service, and Bureau of Land Management Baton Rouge, 1984, pp. 260–271.
- 22. "In collaboration with The United Nations Environment Programme and The United Nations Development Programme," World Resources Institute, 1996.