

Environmental Sustainability and Tourism: Parameters of Tourist Satisfaction at Petra Heritage Site in Jordan

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Abstract

The purpose of this research is to investigate the effect of (Employment quality, economic viability, local prosperity) on tourist satisfaction in Petra, with environmental sustainability serving as a moderator. Using a questionnaire-based survey, data were collected from a sample of tourists visiting Petra, and structural equation modeling (SEM) was used to analyze the data.

The results show that economic viability, employment quality, and local prosperity have a significant positive effect on tourist satisfaction. However, environmental sustainability was found to have no significant direct effect on tourist satisfaction, but it moderated the relationship between economic viability and tourist satisfaction and between local prosperity and (tourist satisfaction). The findings highlight the importance of economic sustainability and suggest that environmental sustainability should be considered as a moderating variable in the relationship between economic sustainability and (tourist satisfaction). The study provides insights that can be useful for policymakers and tourism stakeholders in designing and implementing sustainable tourism strategies in Petra.

Keywords: Petra, Economic Viability, Employment Quality, Local Prosperity and Tourist Satisfaction, Environmental Sustainability

Introduction

Those involved in the process of generating tourism are fully aware of the tight tie that exists between tourism and heritage. Previous research has provided an explanation of what is now known as heritage tourism. (Santa & Tiatco, 2019) as a niche market of the tourism industry that relies primarily on local heritage resources, such as historical sites, landmarks, galleries, religious locations, royal residences, and related locations. Heritage-based tourism is a crucial tool to reduce poverty in emerging nations (Nair et al, 2015). being one of the longest and fastest expanding sectors of the tourism business (Ottaviani et al, 2023) and a very profitable specialty market (Timothy & Nyaupane, 2009). Heritage-based tourism is an important decision to ensure community benefit without compromising inter-generational equality and the viability of heritage tourism growth due to the social, ethnic, and psychological behaviors of heritage visitors (Lenao, 2019).

It is possible to emphasize a few noteworthy features for visitors to historic sites. They have higher incomes than typical visitors, are better educated, spend more money, travel to parties, and remain longer (Napitupulu, Pramono, & Saragih, 2021). If heritage-based tourism is not handled sustainably, the consequences could be devastating for a particular location and its residents. Depending on how it is applied and managed, it is either a blessing or a curse (Jawabreh, et al. 2023; Ottaviani et al., 2023). To put it another way, legacy tourism is a double-edged weapon whose outcomes depend on how the sector is run and observed (Sun & Drakeman, 2022). Past studies, in particular, show that if this tourist sector is managed ethically, it could contribute to the management and protection of historical places as well as the general growth of the local community (Dodds, Ali & Galaski, 2018). It increases the funding that many groups and individuals, including governments, NGOs, visitors, locals, and the commercial sector, put into protection. (Jahmani, et al. 2023; Saleh, Jawabreh, Emad Al Dein, & Ali, 2023) Additionally, it prevents the hasty management of precious cultural assets. However, the relationship between historical tourism and sustainability is still largely untapped (Yawer, Bakr & Fathi, 2023), and scholars motivated by the idea of sustainable tourism must give it the attention it deserves (Alhaj et al., 2023; Demeter, Fechner & Dolnicar, 2023).

This serves as one of the investigation's motivating factors. Heritage tourism must ensure that visitors have a memorable experience and should offer a fair degree of visitor satisfaction. In addition, it should encourage sustainable tourism practices among them in order to increase their receptivity to sustainability problems (Rastegar & Ruhanen, 2021). To maintain anything is to keep it going without letting it stop for a long time. Practicing sustainability means making plans to keep limited resources like those in the environment and infrastructure intact for future generations (Al-Hussein, et al. 2023; Al-Rawashdeh, Jawabreh, & Ali, 2023; Gharaibeh, et al, 2022). Otherwise, its viability would be seriously in doubt. Vacationers' post-visit reaction is called "tourist satisfaction (Alananzeh et al., 2023; Arisman, Hurriyati, & Disman, 2023; Saleh et al., 2023). It is an indication that an objective has been achieved (Jawabreh, et al, 2023).

Satisfied visitors exchange good feelings with individuals whom they encounter, providing free marketing capable of encouraging a continuous journey to attraction locations (Huete, Alcocer & López Ruiz, 2020). Traveler happiness plays a crucial role in ensuring the long-term viability of tourism destinations (Hussain, 2021). However, there is very little research on the connection between visitor happiness and the growth of sustainable historical tourism (Basak, Bose, et al, 2021). Another compelling reason for the current inquiry was to address this problem in the Petra context, where no similar study had been conducted prior to this. By investigating the connection between sustainable heritage-based tourism and visitor happiness in Petra, this research aimed to close this divide. This study aims to investigate the structural relationship between visitor satisfaction and sustainable tourism (Employment quality, economic viability, local prosperity) in Petra, Jordan, with environmental sustainability functioning as a moderator.

Theoretical Framework

To understand how these two critical aspects interact and shape the future of tourism

destinations, it is essential to have a theoretical framework that explores the confluence of environmental sustainability and tourism satisfaction in the context of heritage tourism. Its major emphasis is on the importance of environmental sustainability in heritage tourism (Jawabreh, et al. 2023). According to this concept, protecting natural environments, cultural heritage, and regional customs is not only the right thing to do but also essential to the long-term success and popularity of tourist hotspots. It claims that heritage preservation and the ongoing attraction of these sites depend on responsible tourism practices including lowering visitors' carbon footprints, protecting natural resources, and involving local people (Ottaviani et al., 2023). It also draws attention to the multifaceted nature of the efforts made to strike a balance between heritage preservation and visitor satisfaction, including those made by local communities, government entities, and visitors themselves.

However, the concept of tourism satisfaction is also investigated within the theoretical framework of heritage travel. It stresses the importance of how cultural and natural heritage exchanges contribute to the overall happiness and contentment of tourists. Having happy visitors is good for business, but it's also a means to an end: promoting sustainability efforts. When tourists have genuine, life-changing encounters with heritage sites, they grow to deeply value such places and work to ensure their preservation. Because of the importance of informing the public about the value of these places, this framework recognizes the importance of education and participation in affecting visitor behavior. The theoretical framework stresses the significance of incorporating sustainability principles into destination management, balancing commercial interests with those of environmental and cultural preservation to ensure the continued success of heritage tourist hotspots.

Literature Review

Heritage tourism has been described in various (Ottaviani et al., 2023; Timothy & Nyaupane, 2009). Heritage tourism is a specialized segment of the travel and tourism business based primarily on various relics, such as historical structures (Yawer et al., 2023), according to Huete Alcocer and López Ruiz (2020), it is described as the motivation to tour local cultural places, landmarks, museums, churches, and historical sites. This tourism section is a wide notion that refers to visits to historical and ancient sites, parks, and museums in order to take in the distinctive local culture and history, according to Jeaheng and Han (2020). this is one of the largest and fastest expanding specialty industries. one. The tourism sector is seen as a crucial tool, particularly in emerging nations, to eradicate poverty and guarantee sustainable local community development (Khan, et al,2020). But as the need to manage our diminishing cultural legacy resources approaches, heritage tourism is growing at the same time (Chatkaewnapanon & Lee, 2022).

Legacy tourism is a lucrative industry since its customers often stay away from home longer and spend more money than the typical visitor (Wang, Yang & Li, 2021). The reasons why historical travel is a lucrative specialized industry are supported by previous studies (Demeter et al., 2023). Heritage tourists are regarded as more well-educated, mature, influenced by women, worldly, responsible, generous with their money, staying longer, requiring high-quality services, and captivated by a unique and authentic culture than normal visitors (Santa & Tiatco, 2019). legacy travelers in general tend to be more settled (aged) than average travelers, are frequently retired, are more likely to have advanced education and higher annual pay, participate in more physical activity, and are more likely to remain in hotels and inns (Oklevik, et al, 2020).

historical tourism affects environmental sustainability (Shabalala & Ezeuduji, 2021), as well as discrepancies and conflicts (Ottaviani et al., 2023). Despite frequent enquiries on sustainable tourism, the heritage tourism industry has not received enough reviews from specialists who are passionate about the notion (Rasoolimanesh, et al, 2022). Despite evidence that heritage tourism plays an important role in preserving historic, social, and natural sites, it nevertheless faces challenges (Edgell Sr, 2019), Its expansion might be harmful to the environment and human culture. It might speed up the deterioration of historical sites and prevent the numerous advantages of safeguarding cultural treasures (Wei, Liu, & Park, 2021).

Many individuals feel that historical tourism has both positive and negative effects (Sun & Drakeman, 2022). Thus, the benefits of increased tourism to historic sites depend on how that development is managed and regulated (Jahmani et al, 2023; Jawabreh et al, 2023; Shabalala & Ezeuduji, 2021). On the one hand, with proper oversight, it may greatly benefit local communities and ensure the survival of historic sites for future generations (Rasoolimanesh et al., 2022). Sun and Drakeman (2022) argue that carefully planned heritage tourism could benefit the local economy, attract more tourists, and encourage protection.

Previous studies have shown that the clear distinction between pre-use desire and post-use saw performance is indicative of satisfaction. Happiness, in the context of tourism, stands for the importance of both expectations and experiences (Napitupulu et al., 2021). When visitors' expectations are exceeded by the actual performances, they are happy, but when their expectations are greater than the actual performances, they are disappointed (Chatkaewnapanon & Lee, 2022).

Shorelines have been the primary study area for tourism satisfaction studies (Meidina, Brahmantyo, & Mariati, 2022; Sandhubaya, Hidayatullah, & Roedjinandari, 2021), national parks, and Nature-based attractions (Cheng et al., 2022), and only a small number of studies have been done on heritage sites (Timothy & Nyaupane, 2009).

Visitors play a significant part in advancing sustainability (Chatkaewnapanon & Lee, 2022). Therefore, it is essential for tourism managers to comprehend sightseers' perspectives beyond market segmentation, enjoyment, and purchasing patterns. Financial, ecological, and social sustainability all depend on satisfied visitors (Sandhubaya et al., 2021). As stated in Chatkaewnapanon and Lee (2022), the amount of money tourists spend is a major factor in determining the tourism industry's longevity; visitors' environmental literacy is also likely to affect a destination's ecological sustainability; and tourists' engagement with the host/local community significantly affects the social sustainability of tourism development projects.

Research Methods

This research examines the moderating influence that environmental sustainability plays in the link between tourist satisfaction and economic sustainable tourism in Petra using a quantitative methodology. As a convenience sample, a questionnaire was prepared and sent to five hundred travelers who had been to Petra any time during the year 2022 between the months of January and December. There was a total of 261 completed surveys that were sent back, which represents a response percentage of 52.2%.

The questionnaire was designed to test four different dimensions: economic viability, employment quality, (environmental sustainability), and local prosperity. On a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), each of the questions was phrased based on previously conducted research.

When looking at the data, we used a method called (PLS-SEM 4). The study consisted of looking for mistakes in the measurement model, going through the structural model, and double-checking the assumptions.

In a nutshell, this research used a quantitative research methodology, collected data from a convenience sample consisting of 261 visitors who had previously been to Petra via the use of a survey questionnaire, and analyzed the data through the application of the PLS-SEM approach.

Table 1: Survey Questions

Items
Employment quality
During my vacation to Petra, I observed a high level of politeness and helpfulness exhibited by the local personnel and employees.
The degree to which the personnel and employees of Petra created an environment that fostered a sense of welcome and appreciation towards me as a visitor.
The impact of local employment options on the overall experience of citizens in Petra.
The state of cleanliness and maintenance of the facilities and attractions in Petra.

The level of satisfaction I experienced regarding the local tour guides' knowledge and ability in imparting information pertaining to the historical and cultural value of Petra.
Economic viability
The issue at hand is to the cost-effectiveness of commodities and amenities in the region of Petra.
I concur with the assertion that my journey to Petra was economically viable, considering the expenses associated with transportation, lodging, and recreational pursuits.
This study examines the impact of my visit to Petra on the local economy, focusing on the many economic activities I engaged in, including purchasing souvenirs, dining at local restaurants, and utilizing local transportation services.
The present analysis pertains to the level of pleasure derived from the value for money experienced by the individual throughout their vacation to Petra. This assessment encompasses a comprehensive evaluation of the whole experience and attractions encountered.
Local prosperity
The present study aims to assess the holistic economic welfare of the local people residing in the region of Petra.
I concur with the assertion that my visit to Petra has a good impact on the socio-economic development of the local population.
During my stay to Petra, I actively engaged with and supported local businesses, including stores, marketplaces, and restaurants.
This essay underscores the significance attributed to the tourist sector in Petra, with a specific focus on its potential to generate employment opportunities and foster economic advancement within the local population.
Tourist Satisfaction
How content is you with your visit to Petra overall?
Please evaluate your satisfaction with the accessibility of Petra's major attractions and landmarks.
How content is you with the information and signage provided to visitors to help them navigate Petra?
Evaluate the accessibility of Petra's amenities such as restrooms, dining options, and seating areas.
To what extent did your experience at Petra as a heritage site meet your expectations?
Environmental sustainability
Evaluate the efforts made to preserve and protect Petra's natural environment and historical monuments.
How essential is it for you that your trip to Petra has minimal environmental impact?
In what way do you consider Petra's management and infrastructure promote sustainable tourism?
Indicate your level of agreement with the following statement: "I am willing to support eco-friendly initiatives, even if they require changes to my tourist behavior."
How familiar are you with Petra's eco-friendly practices and initiatives, such as refuse recycling and energy conservation?

Hypotheses of The Study

- H1: Economic viability has a significant influence on tourist satisfaction in Petra.
- H2: Employment quality has a significant influence on tourist satisfaction in Petra.
- H3: Environmental sustainability has a significant influence on tourist satisfaction in Petra.
- H4: local prosperity has a significant influence on tourist satisfaction in Petra.
- H5: Environmental sustainability has a considerable moderating influence on the link between economic viability and tourist satisfaction.
- H6: Environmental sustainability has a considerable moderating influence on the association between employment quality and tourist satisfaction.
- H7: Environmental sustainability has a considerable moderating influence on the connection between local prosperity and tourist satisfaction.

Research Framework

The present study aims to analyses or scrutinize the given subject matter. This study examines the impact of employment quality, economic viability, local prosperity on tourist

satisfaction at Petra Heritage Site in Jordan. Additionally, the study considers environmental sustainability as a moderator variable.

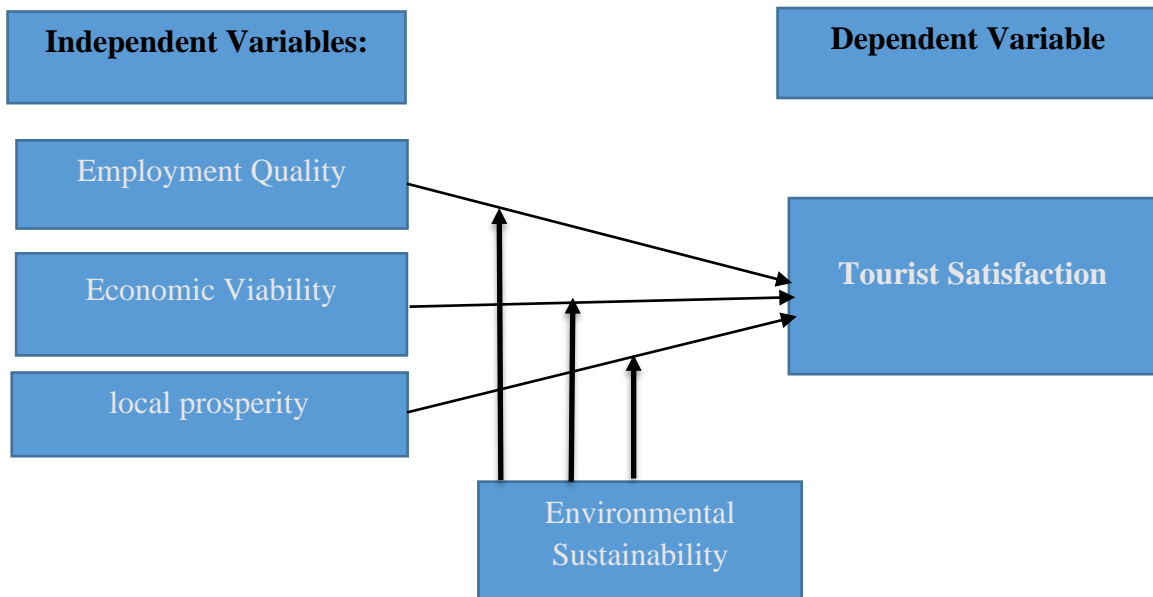


Fig1: Frame work of the study

Petra, the Arab Nabatean capital, is one of the world's most famous ancient ruins and Jordan's most popular tourist attraction. Tourists from all over the world visit in significant numbers. It's located 262 kilometers south of Amman. It is a mix of ancient monuments from several civilizations as well as a whole city carved out of pink rock. The study of Nabataean monumental architecture is divided into two categories: a homogeneous set of rock-cut tombs geographically related to Petra and Hegra (Medain Saleh), and a number of structures, mostly religious, spread throughout a broad region (Tholbecq et al, 2007). Petra is a one-of-a-kind example of the oldest Arab civilization (the Nabataean civilization), and it is one of the New Seven Wonders of the World, as well as a witness to one of the most rich and creative ancient Arab civilizations. Johann Ludwig Burckhardt conducted an expedition to the Levant, Egypt, and Arabia for the British Royal Geographical Society. Due to the delay in disclosing Petra to the world, many scholars and orientalists regard it as the "lost city," and the English poet Bergen described it as the wondrous eastern metropolis, The Pink City, unlike any other (Fig. 1).



Fig. 1: (left) Petra's most famous structure is Al Khazneh (Arabic for Treasury, a temple with an ornate, Greek-style facade (Right) The siq, the narrow slot-canyon

Source: Authors, 2021)

The Nabataean kingdom grew and pushed its borders South to the Arabian Peninsula northwest, where the city of Mada'in Saleh is located. The Nabataeans extended their rule over the Red Sea coast, the eastern Sinai Peninsula, and Syria's Hauran Plain area, all the way up to Damascus. Several kingdoms surrounded the Nabataean monarchy and its capital, Petra. And civilizations such as the Pharaonic civilization in the West, the Palmyra civilization in the North, and the Mesopotamian civilization in the East meant that the Nabataean Kingdom was smack dab in the middle of the ancient world's civilizations, serving as a focal point of convergence and continuity for various global civilizations. (Jawabreh et al,2023). The Nabataeans were famous for their water engineering and water collection abilities, and they had monopolized the concept since ancient times. The Nabataeans constructed irrigation systems, rainwater collection systems, and springs. They improved the construction of rock dams and reservoirs (Fig. 2). They also built canals across long distances as well as agricultural terraces on hills to cultivate the soil. Petra is continuously under siege from the weather because of the erosive nature of sandstone, and that's before the 600,000 visitors that visit each year arrive. Furthermore, wind and rain exacerbate the location's fragility, while continual footfall accelerates the natural erosion process.



Fig. 2: Map of the city center of Petra, Jordan

Source:with modification of the authors, Kanellopoulos and Akasheh, 2001)

Petra had over 1.42 million visitors at the beginning of December 2019, with 34 recognized hotels and 12 unclassified hotels totaling 2,346 rooms and 3,9300 seating capacity. It has the greatest concentration of tourism-related employment in Jordan (1,572 employees), as indicated in Table 1. Tourists are becoming more aware of environmental, socio-economic, and cultural issues (Khan et al., 2020). According to the aforementioned writers, tourists who support and profit from sustainable tourism are aware of the possible negative consequences of this activity and try to protect tourist locations. Despite the recognition of travelers as crucial drivers of sustainable tourism development, little attention has been devoted to the viewpoints

they have on the issue of tourism expansion in general and sustainable tourism expansion in particular (Napitupulu et al., 2021).

Instead, the significance of tourists in green tourism has gone unnoticed. According to Han (2021), research on sustainable tourism may be partially to blame for overlooking visitors' understanding of sustainability problems. Travelers, according to the aforementioned writers, were individuals who didn't care about their ability to live. Visitors, according to Saleh et al. (2023), may detect things that inhabitants cannot, and they may have different viewpoints on how tourism is progressing. While the perspective of visitors is still being researched, several earlier studies have looked at citizen satisfaction in connection to components of sustainable tourism (Shabalala & Ezeuduji, 2021).

Analysis and Discussion

There are two parts to the PLS structural equation: the measurement model and the structure model. Structural model explains the path coefficients between and among the latent variables, whereas the measurement model explains the reliability and validity of the conceptual model. We're now in between these two phases of the study. The measuring framework for this research is shown in Fig. 3.

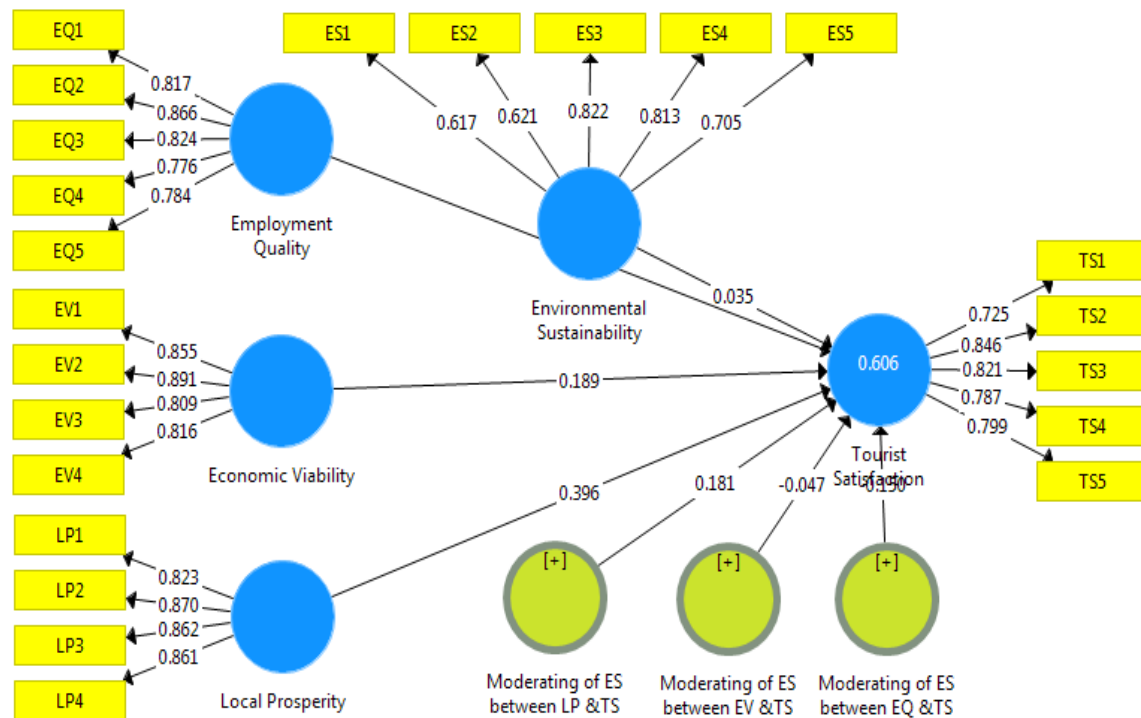


Fig. 3: Measuring model
Source: Author calculation by Smart PLS 4

Table 2: Outer Loadings
Source: Authors calculations by Smart PLS4

	Economic viability	Employment quality	environmental sustainability	Local prosperity	Tourist satisfaction
EQ.1		0.817			
EQ.2		0.866			
EQ.3		0.824			

EQ.4		0.776			
EQ.5		0.784			
ES.1			0.617		
ES.2			0.621		
ES.3			0.822		
ES.4			0.813		
ES.5			0.705		
EV1	0.855				
EV2	0.891				
EV3	0.809				
EV4	0.816				
LP1				0.823	
LP2				0.870	
LP3				0.862	
LP4				0.861	
TS1					0.725
TS2					0.846
TS3					0.821
TS4					0.787
TS5					0.799

According to Hair Jr et al, (2020), outer loadings in PLS-SEM refer to the relationship between the latent construct and its measured indicators. In SmartPLS software, the path diagram displays the factor loadings of each indicator on its respective construct. The outer loading values for each indicator can be interpreted as the strength of the relationship between the indicator and its construct and should ideally be above 0.7. To test the significance of the outer loadings, bootstrapping techniques can be used to estimate the standard error and test for significance, with p-values less than 0.05 indicating a strong relationship between the indicator and its construct. Overall, evaluating outer loadings in SmartPLS can help ensure the validity and reliability of the measured indicators (Hair Jr, Howard, & Nitzl, 2020). It is clear from the table that all are above .7, so they are accepted.

Construct Reliability and Validity

So long as we use table (3) as our guide. Cronbach's Alpha and a reliability composite were used to measure the consistency of the study's four independent variables. Cronbach's Alpha scores of 0.864, 0.872, 0.764, and 0.877 for economic viability, employment quality, and environmental sustainability, and 0.877, 0.877, and 0.877 for local prosperity, respectively, indicate high reliability. The overall reliability coefficients of the four variables were 0.908, 0.907, 0.842, and 0.915, all of which are rather high and provide strong evidence that the variables are valid and trustworthy measures of the concepts they purport to measure (Hair Jr et al., 2020).

Table 3: The Composite Reliability and Cronbach's Alpha:

	Cronbach's Alpha:	rho-A	C R	AVE
economic viability	0.864	0.869	0.908	0.711
employment quality	0.872	0.873	0.907	0.663
environmental sustainability	0.764	0.777	0.842	0.520
local prosperity	0.877	0.889	0.915	0.730

Moderating of environmental sustainability between employment quality & tourist satisfaction	1.000	1.000	1.000	1.000
Moderating of environmental sustainability between Economic vitality & tourist satisfaction	1.000	1.000	1.000	1.000
Moderating of environmental sustainability between local prosperity & tourist satisfaction	1.000	1.000	1.000	1.000
tourist satisfaction	0.855	0.860	0.896	0.634

Model for Structural by Smart PLS:

A structural equation model is a method of statistical analysis that uses a system of "constructs" and "paths" to describe the complicated interactions between many variables. (Hair Jr et al., 2020). Economic vitality, employment quality, environmental sustainability, local prosperity, and tourist satisfaction were all investigated via a structural equation model. The model examined both the direct and indirect relationships between these factors by representing them as latent components. (Jahmani et al., 2023).

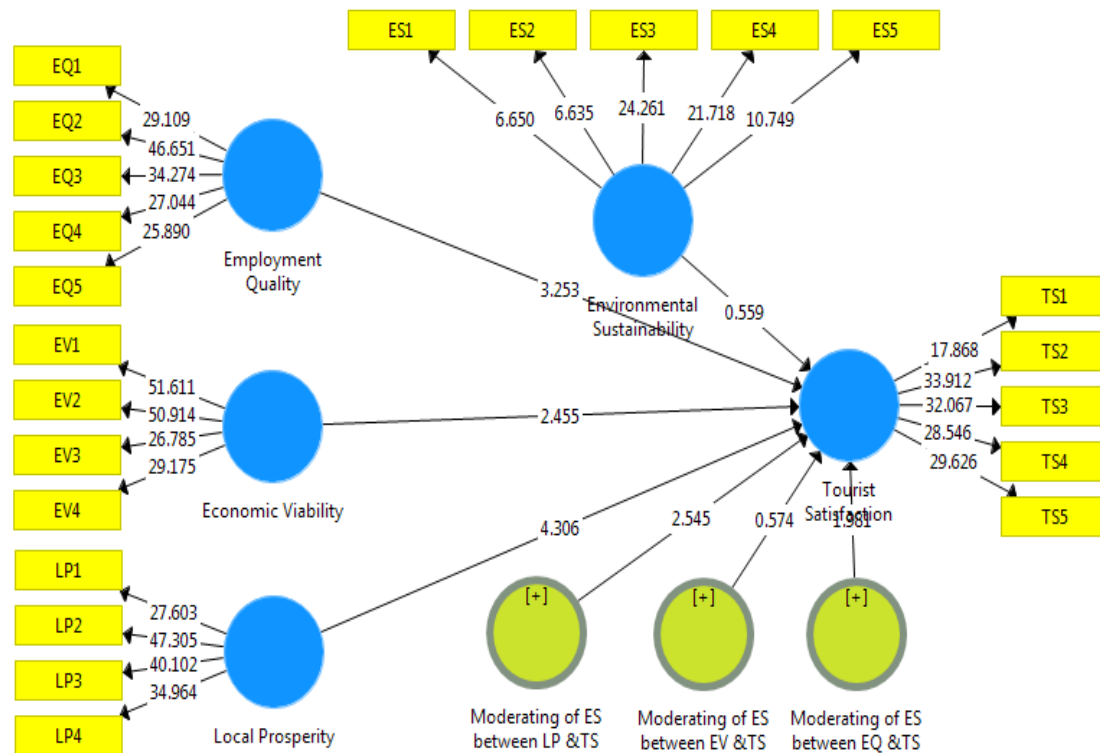


Fig. 4: depicts a model for Structural Model

Discriminant Validity:

Each construct tested in a study must be distinct from the others and must be measuring a different concept, which is why discriminant validity is an important statistical term. Considering the Fornell-Larcker criterion, which measures the square root of the AVE for each construct to the correlations among constructs, this study evaluated the measures' discriminant Validity. Discriminant validity (Fornell & Larcker, 1981).was determined to be satisfactory because the AVEs for each construct in table 3 were higher than the correlations between them.

Table 4: Validity of discrimination

Source:

	Economic Viability	Employment Quality	Environmental Sustainability	Local Prosperity
Economic Viability	0.843			
Employment Quality	0.781	0.814		
Environmental Sustainability	0.508	0.585	0.721	
Local Prosperity	0.347	0.363	0.450	0.854

Path Coefficients

The magnitude and direction of the association between two constructs in a structural equation model are represented by path coefficients. The path coefficients in this analysis reveal the interplay among the various IV and the study's DV, Traveler Happiness. The results show that economic viability ($\beta = 0.217$, $T = 2.455$, $P = 0.014$), employment quality ($\beta = 0.283$, $T = 3.253$, $P = 0.001$), & local prosperity ($\beta = 0.376$, $T = 4.306$, $P = 0.000$) had significant positive relationships with (tourist satisfaction). However, environmental sustainability did not have a statistically significant impact on tourist satisfaction as measured by the path coefficient ($\beta = 0.077$, $T = 0.559$, $P = 0.576$). Additionally, two of the moderation variables for environmental sustainability had significant positive relationships with (tourist satisfaction): the moderation of environmental sustainability between employment quality and tourist satisfaction ($\beta = 0.190$, $T = 1.981$, $P = 0.048$) and the moderation of environmental sustainability between local prosperity and tourist satisfaction ($\beta = 0.238$, $T = 2.545$, $P = 0.011$). However, the moderation of environmental sustainability between economic viability and tourist satisfaction was insignificant ($\beta = 0.072$, $T = 0.574$, $P = 0.566$). These findings point to the importance of economic viability, employment quality, and local prosperity in predicting (tourist satisfaction), and they also imply that environmental sustainability may moderate the relationship between these three criteria and satisfaction.

Table 4: Result of the Hypothesis

	Path Co	Sample Mean:	Standard Deviation:	T Statistics:	P Values:
Economic Viability -> (Tourist Satisfaction)	0.189	0.191	0.077	2.455	0.014
Employment Quality -> (Tourist Satisfaction)	0.253	0.257	0.078	3.253	0.001
(Environmental Sustainability) -> (Tourist Satisfaction)	0.035	0.048	0.063	0.559	0.576
Local Prosperity -> (Tourist Satisfaction)	0.396	0.385	0.092	4.306	0.000
Moderating of Environmental Sustainability Between Employment Quality & Tourist Satisfaction -> (Tourist Satisfaction)	-0.150	-0.142	0.076	1.981	0.048
Moderating of Environmental Sustainability Between Economic Viability & Tourist Satisfaction -> (Tourist Satisfaction)	-0.047	-0.034	0.083	0.574	0.566
Moderating of Environmental Sustainability Between Local Prosperity & Tourist Satisfaction -> (Tourist Satisfaction)	0.181	0.158	0.071	2.545	0.011

R-Square

R-squared is a statistical measure of how well a model explains the connection between its independent (model) and dependent (observed) variables (here, economic vitality, employment quality, (environmental sustainability), and local prosperity). Closer R-squared values near 1 suggest that more of the observed variance in the dependent variable can be explained by the independent factors. Table 5 shows that. This study's R-squared value for tourist satisfactions 0.606, which means that the independent variables account for 60.6% of the total variance in (tourist satisfaction). When all of the independent factors were included, the adjusted R-squared value dropped to 0.595 from 0.605. Based on these findings, the model seems to have a moderate-to-high capacity for predicting visitors' degrees of satisfaction.

Table 5: The Value of R Squared

	R Square	R Square Adjusted	
(TOURIST SATISFACTION)	0.606	0.595	

Discussion and Conclusion

This study's objective is to investigate how environmental sustainability affects the relationship between visitor satisfaction and economic sustainability in Petra. The results of this study show that tourist satisfactions significantly positively correlated with economic viability, employment quality, and local prosperity, but not significantly positively correlated with (environmental sustainability). However, it was discovered that environmental sustainability has a significant moderating effect on visitor satisfaction, demonstrating that the impact of these variables is muted by (environmental sustainability).

The findings of this study are consistent with the notion that local, social, and economic factors all contribute to tourist pleasure. However, as it has a significant impact on the viability of the tourism industry, it is equally necessary to look at the environmental component. The results suggest that decision-makers and business professionals should take a more comprehensive approach to managing and planning tourism that strikes a balance between economic development, social welfare, and environmental preservation.

In the Jordanian city of Petra, this study examined the structural relationship between visitor satisfaction and the traits of sustainable tourism. According to the study's results, tourist satisfactions strongly positively correlated with economic viability, employment quality, and local prosperity but not with environmental sustainability. The moderating impact of environmental sustainability on economic viability, employment quality, and local prosperity with (tourist satisfaction), on the other hand, was found to be considerable.

These results may help policymakers and industry practitioners establish and execute tourist development strategies that consider economic, social, and environmental factors in order to achieve sustainable tourism. However, the research has numerous limitations, including the use of a single data collecting technique and a sample size restricted to travelers visiting Petra. To confirm the results of this study, future research should take these limitations into account and employ more diversified data gathering techniques and a larger sample size.

Based on the results of the study, the following suggestions may be made: The tourism business in Petra should priorities economic sustainability, job quality, and local prosperity since these variables have a direct and considerable beneficial influence on visitor satisfaction. Environmental sustainability is important because it moderates the link between economic viability and employment quality and tourist happiness. As a result, governments and tourist managers should take steps to encourage sustainable tourism practices across the area. Improving the quality of jobs in the tourism industry should be prioritized in order to increase visitor satisfaction. According to the data, the quality of employment has a substantial positive relationship with visitor satisfaction.

Future studies should be carried out to investigate the influence of other aspects, such as cultural heritage, on visitor satisfaction in Petra. Finally, legislators and tourist managers

should work together to adopt sustainable tourism practices and guarantee that the tourism sector in Petra stays ecologically, economically, and socially sustainable for the benefit of the local people as well as the tourism industry.

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