International Research Journal of Multidisciplinary Scope (IRJMS), 2025; 6(2): 1064-1078 IRJMS

Original Article | ISSN (O): 2582-631X DOI: 10.47857/irjms.2025.v06i02.03718

Multidimensional Sustainability Paradigms in Religious Tourism Destination Ecosystems: Scale Development and Comprehensive Structural Modeling Approach

Nimisha Maheshwari, Vipin Singh*

School of Hotel and Tourism Management, Vellore Institute of Technology, Vellore, India. *Corresponding Author's Email: vipin.singh@vit.ac.in

Abstract

Religious tourism is one of the most fundamental and deep travel phenomena, encompassing worldwide destinations for deep spiritual exploration. The present study critically analyzes the sustainability dynamics of religious tourism by conducting an extensive analysis of Mathura-Vrindavan, a quintessential pilgrimage location in India. Given its vast religious diversity, India is a key destination for religious tourism, one of the most significant and oldest forms of travel in the world. For the study, 245 questionnaires were gathered from tourists visiting various areas of Mathura and Vrindavan. This paper uses structural equation modeling to deconstruct tourism constructs such as accommodation, accessibility, and attractions and their three-dimensional impacts on environmental, socio-cultural, and economic sustainability. An independent scale is developed in this study by using sustainability and religious tourism constructs together. The empirical analysis captures nuanced relations, especially regarding the economic opportunities of attractions and environmental concerns arising from accessibility. The results indicate how religious tourism is complex in its interactions, encompassing potential for transformation and inherent challenges toward sustainable development of destinations. By throwing light upon these intricate dynamics, the research contributes valuable insights for formulating strategic policies and holistic management of destinations for religious tourism with consideration of sustainability.

Keywords: Pilgrimage Destinations, Religious Tourism, Structural Equation Modeling, Sustainability, Tourism Management.

Introduction

Since the dawn of mankind, religious tourism has been considered one of the oldest forms of tourism that have been ignored for many years now vice versa religious Tourism has gained a mainstream place in the tourism industry (1-3). The scholars and groups differed greatly about how to define this market segment. It is supposed that this kind of travel is determined by a specific faith or set of beliefs, regardless of the terminology (4). Religious tourism includes all forms of religious travel outside of one's typical surroundings but it excludes business travel and religious travel became more prevalent during the middle Ages and became an unshakable custom all over the world (5). In this paper, we will deliberate the influence of religious tourism in Mathura and Vrindavan (religious towns) of Uttar Pradesh, India, in terms of sustainability dynamics. India is home to several diverse types of temples, ranging in size from little stone buildings to enormous colossal complexes. Each type of temple has a unique importance and a profound impact on the lives of individuals who see it as a place where they can become close to God and India is a deeply religious and spiritual country, as seen by the abundance of temples throughout this subcontinent (6). The research areas Mathura and Vrindavan are two of the main attractions of Uttar Pradesh in terms of religious towns. There are some of the most well-known sites where Lord Krishna is supposed to have been born in the Hindu religion; Hindus hold that the precise site of Lord Krishna's birth, Braj-Bhoomi, is where the Krishna Janmabhoomi temple is. situated, and it is widely accepted that Lord Krishna spent his formative and teenage years in the Braj region of Mathura-Vrindavan, known for its several Ghats, Mathura is a popular Indian pilgrimage site situated on the banks of the Yamuna River is also most famous for the

(Received 06th January 2025; Accepted 22nd April 2025; Published 30th April 2025)

"Garbhagriha" jail cell and the delectable Mathura Peda delicacy (7). Quite a lot of research studies have been carried out to ascertain the significance of religious tourism, and investigation offers evidence to back up the growth of the Uttar Pradesh tourist sector in India (8). The clue that pilgrims constantly impact these sacred sites has been articulated by many authors in several ways (9-13). The investigation offers evidence to back up the growth of the Uttar Pradesh tourist sector in India. It is clear from their gigantic history that religious shrines and sites have been the most popular destinations for pilgrims. The encouraging impacts of the local populace are stimulated by religious tourism (14). They preserve their religious sites and shrines as well as their cultural heritage, and they ensure that the under-maintenance of the sacred sites does not disappoint pilgrims who come to visit. These assistants ensure that these sacred sites are protected as much as possible and act as a lifesaver for them. The positive aspects that impact tourists' sentiments are "impressive atmosphere, attractive environment, personal beliefs, and loyal behaviors, but weakened by commercial activities, modern buildings, and environmental pollution" (15). The region's carrying capacity, managing tourism, enforcing a tourism fee, giving relevant training to various stakeholders (including the locals), and encouraging conscientious travel to foster religious tourism while preserving the ecological and economic equilibrium of these regions (16).

Current Scenario of Religious Tourism

Religious tourism, a form of travel intensely rooted in spiritual values, refers to journeys where individuals seek profound connections with the sacred and divine (17). Often called pilgrimages, these journeys typically involve traveling over considerable distances to visit sacred locations and are among the most traditional forms of travel. Religious tourism remains an essential component of the global travel industry (18). The economic power of religious tourism is particularly significant due to its substantial growth.

Challenges in Defining Religious Tourism

Despite its progress and significance, religious tourism faces contests, particularly in defining what constitutes a religious tourist. The lack of an undeviating definition complicates the evaluation of the sector. For instance, there is often ambiguity regarding whether local or foreign visitors should be included in the count of religious tourists. These definitional issues can lead to unclear statistics and make it difficult to accurately assess the scope and impact of religious tourism.

Moreover, religious tourism has conventionally been associated with budget travelers, which is changing as the sector grows. More diverse groups of tourists are now engaging in religious travel, expanding beyond the traditional demographic of pilgrims (19, 20). However, despite its expansion, spiritual tourism is still not as thoroughly researched or recognized as other forms of tourism (21).

The Interplay of Tourism and Sustainability: A Paradigm for the Future

Tourism is often driven by the allure of natural and man-made attractions, which are key factors in drawing visitors to a particular area. These attractions, whether pristine landscapes or historical landmarks form the foundation of a destination's appeal. However, the depletion or destruction of these resources can significantly diminish a destination's attractiveness, leading to a decline in tourism and economic growth. This makes the application of sustainable development principles increasingly important to ensure the longevity and appeal of tourism destinations. Sustainable development is essential not only for preserving the natural and cultural assets that attract tourists but also for maintaining the well-being of local communities (22).

The concept of sustainable tourism, as defined, involves travel that adheres to the principles of sustainable development (23). This means that tourism should meet the needs of all stakeholders, including tourists, businesses, and local communities, while taking full justification of its current and future economic, social, and environmental impacts. Sustainable tourism objects to equilibrium the needs of the present with the fortification of resources for future generations, thereby safeguarding that tourism can continue to thrive without compromising the ability of future generations to enjoy the same experiences. In the dynamic and ever-evolving domain of international tourism, a groundbreaki-

ng movement has emerged that transcends traditional travel experiences (24). This movement is characterized by a growing awareness of the need to integrate sustainability into all aspects of tourism

Religious Values as Catalysts for Sustainable Tourism Behaviors

Religious belief systems may have a positive impact on the sustainability experience based on values of sacred stewardship, sanctity of the created order, and moral care of communities (25). For example, basic Sikh principles of equality, responsible consumerism, and compassion for all life can be incorporated into secular sustainable tourism policies (26). Through focus on community service (seva), natural resource management, and modesty of living (living within means), Sikh-influenced tourism enhances equitable ecological exchanges. By supporting sustainable consumerism, community involvement, and visiting places more as respectful visitors than as shoppers, this style helps maintain the ecological and cultural resources for posterity.In contrast to secular tourism models, religious systems offer intrinsic rewards for sustainable action based on values like karma, spiritual cleansing, and divine responsibility (27). Sacred sites have unique cultural and spiritual capital that inspires more feelings of affinity and stewardship among pilgrims (28). For Mathura-Vrindavan alone, the Hindu principles of "prakriti" (nature as divine expression) and "ahimsa" (non-violence) may inspire more environmental awareness and more commitment to sustainable action among religious pilgrims than among mainstream tourists.

Tourism's Impact on Sustainability Concerns

Studies have shown that tourism influences the economy, society, and ecology. These effects can be beneficial or depraved, and researchers and spectators can decide to document both or to emphasize one over the other, depending on their interests (29). In the direction of establishing more scientifically sustainable tourism management and development, a location's carrying capacity must be ascertained. This is especially significant in light of the numerous tragedies recently occurring at pilgrimage destinations in India around particular religious festivals (30).

Constructs of Religious Tourism

Attractions, including historical sites, natural landscapes, and cultural events, are key in drawing tourists to destinations, providing enjoyment and opportunities for various activities. Accessibility, which encompasses the infrastructure and transportation needed to reach these destinations, is crucial for ensuring a comfortable and convenient travel experience. Additionally, accommodation plays a vital role, as travelers seek clean, well-maintained places to rest, with a range of options from luxury hotels to modest lodges being available at most destinations.

Research Gap

Improving the condition of existing and new infrastructure and branding the city as a tourist destination because clean and hygienic accessibility attracts tourists but ignores the development in the milieu of religious tourism. Only regulation of visitors cannot help lower residents' irritation for long-term advanced visitor management (number of visitors, space, time) and attracting less obtrusive visitor. It examines several religious site categories that draw a variety of visitors, each of whom is looking for a unique experience, but it does not concentrate on the long-term upkeep of the sites (31). Encourage religious tourism while preserving the socioeconomic and environmental equilibrium in these states. This involves determining an area's carrying capacity, controlling tourism, imposing fees, providing adequate instruction to all parties involved (including the locals), encouraging responsible travel, and ignoring the effects of religious tourism on the location. Developing infrastructure, promoting cultural awareness, preserving traditions, and involving local communities in sustainable religious tourism development (32).

Research Problem

In this paper, we will discuss the impact of religious tourism in Mathura and Vrindavan (Religious town) of Uttar Pradesh, India in terms of sustainability dynamics. As we go forward in our lives, the exploitation of resources is at a high level. The main reason for this problem is a lack of understanding of the conservation of resources

and the natural environment. In the context of tourism, tourists are the main stakeholders, and also the most responsible stakeholder because tourists are directly impacting the sustainability paradigm of any destination. So, here research problem is the understanding of religious tourism's impact on sustainability, destruction of the environment and societal values are the main problems of any tourist destination.

Research areas Mathura-Vrindavan

Mathura-Vrindavan is the religious towns of Uttar Pradesh belongs to Lord Krishna and his Beloved Radha Rani, Krishna spent his childhood in the town of Vrindavan and born in Mathura. In every street of Mathura-Vrindavan, one can find eternal bliss and great spirituality. Pilgrims from different parts of India came here for Krishna bliss even from outside India many foreigners pay visits there. Mathura-Vrindavan is famous for its festivals i.e. Janmashtami and Braj ki Holi, Pilgrims from all over India go there for the ultimate colors of those festivals.

Aim and Importance

This paper focuses on the impact of the sustainability dynamics of Mathura-Vrindavan in terms of religious tourism. The main of this study is to find out the impacts directly or indirectly on the sustainability of the destination i.e. Environmental, socio-cultural, and economic aspects, and also understand the ongoing scenario of religious tourism of Mathura-Vrindavan. Nowadays sustainability is a big concern as we are heading towards sustainable development in every industry of the world. The growth of the travel and tourism industry is a reflection of the population's ever-expanding desire for consumer goods and services on both an economic and social level. The manufacturing and service sectors are propelled by this demand, which leads to an increase in economic activity and consumption that deviates from the usual progression of market trends (33). The findings of this analyze the impact of religious tourism in Mathura-Vrindavan and help in understanding the strategies to maintain the sustainability of the destination.

The purpose of the current paper is to find out the impact of religious sites, temple management techniques, accessibility, and accommodation on economic, socio-cultural, and environmental aspects. The understanding of sustainability in pilgrimage towns requires taking into account ideas on sustainability from cultural and religious contexts (34). The objectives of this paper are to evaluate the impacts of religious tourism on the economic aspect, to measure the impact of religious tourism on the socio-cultural aspect, and to calculate the impact of religious tourism on the environmental aspect.

Conceptual Framework and Hypothesis Development

This paper aims to find out the impact of religious tourism on Mathura-Vrindavan in terms of socio-cultural, environmental, and economic aspects. Based on the literature review, three constructs of religious tourism have been found in terms of impact. Accessibility, accommodation, and attraction are the three constructs finalized for this paper. The impact of these variables has been assessed. The following hypotheses have been formed in light of the information above:

H1: There is a connection between accommodation and economic aspects.

H2: There is a connection between accessibility and economic aspects.

H3: There is a connection between attraction and economic aspects.

H4: There is a connection between accommodation and environmental aspects.

H5: There is a connection between accessibility and environmental aspects.

H6: There is a connection between attraction and environmental aspects.

H7: There is a connection between accommodation and socio-cultural aspects.

H8: There is a connection between accessibility and socio-cultural aspects.

H9: There is a connection between attraction and socio-cultural aspects.

Methodology

Tourists visiting the Braj region represented the study's target population. For the study, 245 questionnaires were gathered from tourists visiting various areas of Mathura and Vrindavan. In 2024, the research project was conducted in June and July. The literature review from earlier studies served as the foundation for the scale created for this investigation. Existing prepared research served as a basis for the study's use of the environmental, economic, social, accommodation, attractiveness, and accessibility

components. Following the earlier elements, each statement was rated on a 5-point Likert scale, where 1 represented an intense disagreement and 5 indicated a high level of agreement.

Demographic Profile

This demographic Table 1 shows that respondents were predominantly young adults, with 53.19% aged 18-24 and 41.49% aged 25-34. The vast majority (89.36%) were single. Now, educational preparation varies widely as seen in a big chunk of high school graduates (just under 41%) and those with a bachelor's degree (just 38%). Regarding occupation, the "Others" category represented the largest group (45.75%, followed by private employees (28.72%, while the government employees, self-employed individuals, and business owners constituted smaller percentages.

Table 1: Demographic Details

Category	Sub-Category	Frequency	Percentage
Age Group	18-24	49	53.19%
	25-34	39	41.49%
	35-44	2	2.13%
	45-54	2	2.13%
	55-above	1	1.06%
Marital Status	Single	83	89.36%
	Married	9	9.57%
	Divorced	1	1.06%
Educational Qualification	High School	39	41.49%
	Bachelors	36	38.40%
	Masters	8	8.51%
	Professional	6	6.38%
	PhD	3	3.19%
	Pursuing PhD	1	1.06%
Occupation	Pvt. Employee	27	28.72%
	Govt. Employee	9	9.57%
	Self Employed	8	8.51%
	Business	7	7.45%
	Others	49	45.75%

Results

The results have been analyzed using structural equation modeling, or SEM (35). Another name for structural equation modeling (SEM) is a second-generation technique that allows multidimensional modeling of interactions between various independent and dependent structures. The results were analyzed using a partial least squares (PLS)-based program called Smart PLS 2.0. The two models that were employed to evaluate the data were the structure-based model and the measurement technique. We must initially determine the notions and quantities before we can talk about their relationships. A rating that is observed by observation, interview, self-report, or any other method is referred to as a measure (36). A phenomenon with theoretical importance is described by the conceptual term "construct" (37). Everything is considered, and our interpretation of a construct indicates an analytical pragmatic perspective in that we see constructs as efforts to describe actual phenomena, while also admitting that we are unable to know these occurrences directly or totally due to errors in measurement and the limited conceptual lens that a construct delivers (38). In contrast to the measuring model, which shows the relationship between latent constructs and the parameters associated with them, the structural model illustrates the causal relationship between the constructs (39).

Measurement Model

Here, Table 2 shows the quantities obtained via the PLS approach. Convergent validity and internal consistency are evaluated using the analytical outcome. While average variance extracted (AVE) is used to determine convergent validity, composite reliability (CR) is castoff to evaluate internal consistency. The recommendation is that the value of CR be at least 0.7 to attain internal consistency (40). An AVE value of less than 0.5 is objectionable since it cannot elucidate more than half of the

dissimilarity by its items or factors (41). Table 2 proves that, except for one construct, EM8, all constructs have AVE values greater than 0.5. Similarly, the CR value of every construct is higher than 0.8. This type of model has revealed internal consistency, dependability, reliability, and convergent validity (42).

Table 2: Measurement Model

Constructs	Assigned Name	Items	Loading	AVE	CR
Environment (EM)	EM1	Do you believe that tourism is destroying the environment?	0.734	0.551	0.897
	EM2	Does an increase in tourism contribute to increased noise, water, and pollution in the air?	0.825		
	EM3	Do you believe that tourism worsens problems like trash and wastewater discharge?	0.812		
	EM4	Do you believe that building hotels and other tourist attractions destroys the ecosystem?	0.86		
	EM5	Do you feel tourism development encourages deforestation?	0.847		
	EM6	Do you feel tourism development strengthens local environmental conservation efforts?	0.762		
	EM7	Do you feel tourism development promotes the natural environment and wildlife habitat?	0.553		
	EM8	Does tourism provide incentives for the conservation of natural areas?	0.429		
Economics (EC)	EC1	Do you think rising travel expenses drive up living expenses?	0.747	0.675	0.949
	EC2	Do you believe that increased tourism has increased the value of real estate and land?	0.882		
	EC3	Do you think that the cost of products and services goes up because of tourism?	0.811		
	EC4	Do you believe that the visitors are more demanding of the roadways, law enforcement, and utilities?	0.798		
	EC5	Do you believe that tourism raises living standards and income levels?	0.863		
	EC6	Do you believe that an increase in tourism leads the shops, restaurants, and hotels offering better service?	0.82		
	EC7	Do you believe that businesses in the region gain from tourism?	0.841		
	EC8	Do you think that more money is invested in local companies because of tourism?	0.837		

	EC9	Do you think that the growth of the local economy depends on tourism?	0.857		
	EC10	Do you feel roads, bridges, and other public facilities are kept at a high standard because of tourism?	0.749		
	SC1	Do you feel tourism development increases crime rates?	0.542		
	SC2	Do you think that traffic issues like accidents and congestion are made worse by tourists?	0.836		
	SC3	Do you think increased tourism leads to crowded public areas?	0.886		
	SC4	Do you think that the growth of tourism increases tensions between locals and tourists?	0.765		
Socio-Culture (SC)	SC5	Do you think that the growth of tourism contributes to the extinction of cultural customs?	0.86	0.626	0.948
	SC6	Do you think that tourism causes the community's tranquillity to decline?	0.89		
	SC7	Do you think that tourism undermines family values and promotes social cohesion?	0.804		
	SC8	Do you think travel broadens our understanding of different cultures and communities?	0.876		
	SC9	Do you think that the growth of the tourism industry promotes understanding and communication across cultures?	0.823		
	SC10	Do you feel tourism supports restoring and maintaining cultural and historic sites?	0.519		
	AT1	Do you feel cultural heritage sites help increase tourism?	0.814		
	AT2	Do you feel the scenic view is the factor that attracts tourism?	0.765		
	AT3	Do you feel the preservation and conservation of attraction sites can promote tourism?	0.871		
	AT4	Do you feel exploring unexplored sites can lead to increased tourism?	0.802		
Attraction (AT)	AT5	Do you feel neat and clean places attract more visitors?	0.86	0.62	0.948
	AT6	Do you feel proper visitor management can help manage tourists at religious sites?	0.832		
	AT7	Do you feel banning electrical items inside religious premises can remove chaos?	0.642		

	AT8	Do you feel the promotion of unexplored tourist places/sites can lead to an increase in destination development?	0.686		
	AC1	Do you feel easy access to hotels and ashrams there?	0.778		
	AC2	Do you feel any problem with the food safety standards?	0.891		
Accommodation	AC3	Do you think a hotel charges a lot for reservations?	0.916	0.654	0.994
(AC)	AC4	Do you feel big hotel chains lead to cultural erosion?	0.617		
	AS1	Do you feel proper connectivity to reach there?	0.548		
	AS2	Do you feel transportation services are easily accessible?	0.738		
Accessibility	AS3	Do you feel overcrowding there?	0.882	0.568	0.863
(AS)	AS4	Do you mismanage while visiting tourist places?	0.785		
	AS5	Do you feel overpricing from local transportation services at your destination?	0.776		

Note: AVE- average variance extracted CR- composite reliability

Table 3: Discriminant Validity

	Accommodation	**Accessibility**	**Attraction**	**Economic**	**Environmental**	**Socio-Culture**
Accommodation	0.809					
Accessibility	0.293	0.754				
Attraction	0.223	0.407	0.787			
Economic	0.112	0.367	0.637	0.822		
Environmental	0.29	0.416	0.265	0.221	0.742	
Socio-Culture	0.112	0.208	0.328	0.205	0.23	0.791

The Table 3 shows discriminant validity analysis for tourism elements. Diagonal entries (bold, 0.742-0.822) are the square root of AVE for every construct, and other entries show correlations between constructs. Since diagonal entries are greater than their corresponding correlations, it demonstrates discriminant validity - every construct is capturing a distinct concept. The maximum correlation (0.637) is between Attraction and Economic factors, and the minimum (0.112) is between Accommodation and both Economic and Socio-Culture factors. Discriminant validity is employed to ascertain whether the different constructs are distinct from one another (43). When the square root of AVE is less than the inter-construct correlations, discriminant validity is attained. Table 3's off-diagonals indicate the connections between each construct, while the diagonals represent the square root of the AVE. The square root of AVE is bigger than the construct correlations. As such, the measurement model has a suitable level of discriminant validity.

Structural Model

The links within the various structures are depicted in Figure 1's structural model. The Smart PLS 2.0 program bootstrapping procedure is used to validate these linkages. The Figure 1 illustrates a structural equation model consisting of four principal constructs (blue circles: EM, EC, SC, and AS) that are linked by paths with numeric coefficients representing strengths of relationships. Each construct consists of several yellow indicator variables (such as EM1-EM8,

EC1-EC10). The strongest relationship seems to be between EC and AC (0.815), whereas SC has a strong influence on AS (0.633). EM has a moderate influence on AT (0.447). The model presumably depicts relationships between environmental or economic constructs and their corresponding measurement indicators for each construct.

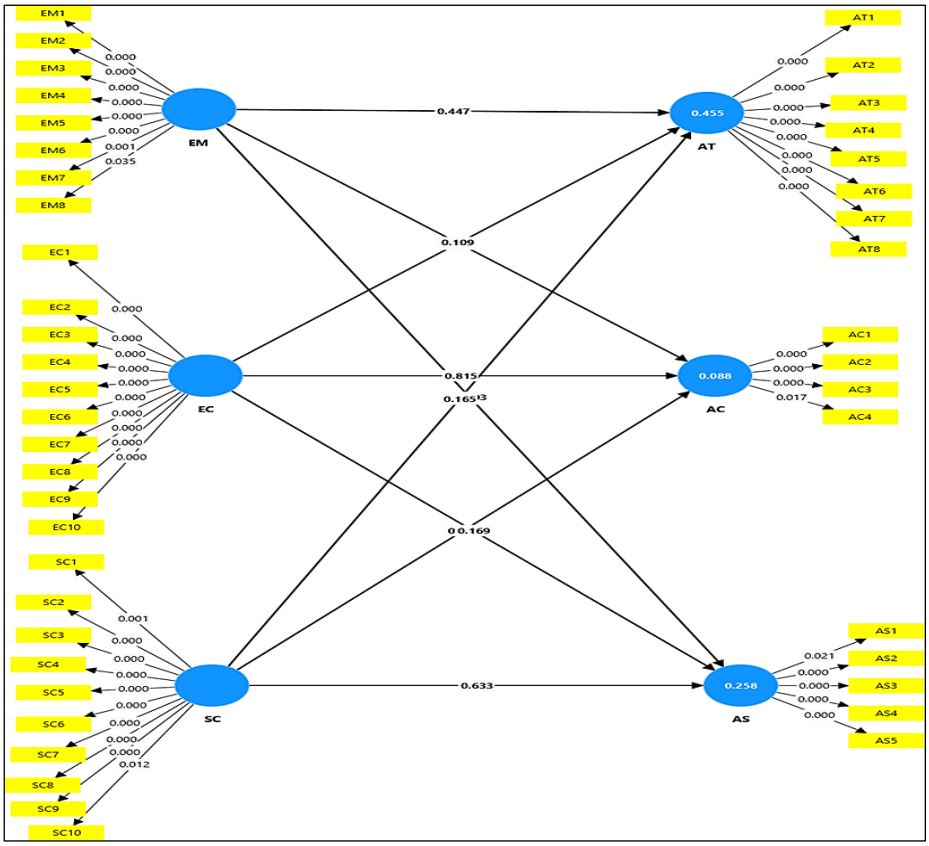

Figure 1: Structural Model Outcomes

Table 4: Findings from Testing Hypotheses Using Structural Model Analysis

Hypothesis Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (Stdev)	T Statistics (|O/Stdev|)	P Values	Decision
EC -> AC	0.044	0.018	0.188	0.234	0.815	Not supported
EC -> AS	0.278	0.256	0.202	1.376	0.169	not supported
EC -> AT	0.578	0.587	0.119	4.84	0	Supported
EM -> AC	0.271	0.217	0.169	1.604	0.109	not supported
EM -> AS	0.338	0.343	0.113	2.977	0.003	Supported
EM -> AT	0.094	0.087	0.124	0.76	0.447	Not supported
SC -> AC	0.041	-0.03	0.198	0.206	0.837	Not supported
SC -> AS	0.074	0.04	0.154	0.478	0.633	Not supported
SC -> AT	0.188	0.17	0.135	1.388	0.165	Not supported

The Table 4 presents hypothesis test outcomes of a structural model analysis. There are just two confirmed hypotheses: EC -> AT (p=0, t=4.84) and EM -> AS (p=0.003, t=2.977). Economic factor has significant impact on Attraction, and Environmental factor has significant impact on Accessibility. All the other seven hypotheses were not confirmed (p>0.05), i.e., no statistically significant relationships between those constructs. Path coefficients, sample means, standard deviations, t-statistics, and p-values were used for the analysis to establish statistical significance.

Table 4 lists the path coefficients produced by Smart PLS along with their t-values, through the boot-strapping process; the software provides the

t-values and displays the outcomes of the experiments conducted on the theories generated throughout the study. If at all feasible, the standardized coefficients of the path ought to be greater than 0.3 and at least 0.2 (44).

Value Inflation Factor and Multicollinearity Assessment

In Table 5 VIF values reflect the extent to which the variance of an estimated regression coefficient is inflated by collinearity with other predictors. Typically, VIF values less than 5 reflect acceptable levels of multicollinearity, whereas values greater than 10 reflect problematic correlation. All constructs (AC, AS, AT, EM, EC, SC series) have VIF values less than 3, which suggest relatively low multicollinearity. Values mostly range between 1 and 2.5, which means these variables are statistically distinct from one another. This indicates measurement model possess discriminant validity with non-redundant constructs. Concerns about multicollinearity led to a thorough variance inflation factor (VIF) investigation of every predictor variable in the structural model. Furthermore, VIFs were used to evaluate multicollinearity. The findings of the analysis showed that there were no substantial multicollinearity problems, with VIFs ranging from 1.003 to 2.603, all of which were below the acceptable threshold of 3.33 (45).

Table 5: Value Inflation Index

Constructs	VIF (Value Inflation Factor)
AC1	1.003
AC2	1.085
AC3	1.154
AC4	1.145
AS1	1.343
AS2	1.191
AS3	1.261
AS4	1.207
AS5	1.276
AT1	2.201
AT2	2.219
AT3	2.317
AT4	1.815
AT5	2.301
AT6	1.749
AT7	1.559
AT8	1.376
EM1	1.356
EM2	2.118
EM3	1.987
EM4	1.811
EM5	1.687
EM6	1.204
EM7	1.289
EM8	1.284
EC1	1.462
EC2	2.502
EC3	2.108
EC4	2.160
EC5	1.766
EC6	2.053
EC7	2.601
EC8	1.057
EC9	2.134
EC10	1.596
SC1	1.593
SC2	1.642
SC3	1.706
SC4	1.876

SC5	1.834
SC6	2.253
SC7	1.650
SC8	1.684
SC9	1.707
SC10	1.249

Discussion

This study has discussed the tourist's perspective on Mathura-Vrindavan religious tourism on sustainability dynamics. At first, the findings confirmed that the tourism has significant impact on sustainability. The findings ensure that religious tourism in the area maximizes the effect on socio-cultural, economic and environmental factors. From the findings, the H1 hypothesis does not support and show the relationship between the economic and accommodation construct of religious tourism, in addition to this the identical relationship studied (46-48) proved the positive impact of accommodation on economic development of a destination as a whole. Hypothesis H2 signifies the relationship between accessibility and economic dynamics of sustainability although the results do not support it. The connection of infrastructure, accessibility, and economic development has been discussed over many years (49). An increment in accessibility can have several economic impacts in their study and used different approaches for analyzing economic impacts (50). There is a regional dependence on the positive partial correlation between transport accessibility and wealth, indicating the need for a more complete perspective (51, 52). The key findings from the analysis include a noteworthy constructive connection the H3 hypothesis states between attractions and economic impacts and are supported by findings in addition to these findings of the support the relation between attraction and economic dynamics and suggesting religious tourism attractions contribute to economic benefits (53-56). The allure of a location to tourists and advanced knowledge of tourism's role in promoting sustainable growth trends (57, 58). The H4 and H7 Hypothesis are not supported and state the accommodation did not show significant relationships with any of the sustainability aspects and found that there are no explicit operational guidelines addressing the unique nature of tourism products (59), even while there is agreement on the goal that tourism should be reaching environmentally. Several studies have been conducted in the context of environment and accommodation and findings concluded the symbiotic connection (60, 61). The proposed a three-step, analytical definition of accessibility, emphasizing that it includes both an environmental and a personal component and that it needs to be analyzed by integrating the two (62), H5 is supported by the results and shows the connection between accessibility and environment many authors also have supported this relationship with their findings. The pressure of getting transported deteriorates the environment, and a notable impact can be seen on public health (63-65). H8 shows the relationship between accessibility and socio-cultural aspects not supported by the data. Hypothesis H6 is also not supported by the findings. Hypotheses H7, H8 and H9 show the relationship of sociocultural aspects with accommodation, accessibility, and attraction and are not supported by the findings that shed light on this relationship (66-69). The research indeed finds robust associations between religious tourism dimensions and sustainability determinants, such as the economic contribution of attractions and environmental issues concerning accessibility. Religious tourism companies would be able to utilize given structural model to invest in attractions that bring high economic benefits while taking up environmental mitigation measures for transport services (70). Local governments would be able to utilize this study to establish targeted policy interventions like sustainable transport incentives and management guidelines for attractions that ensure economic benefits and environmental protection. Religious groups would be able to utilize this study to develop pilgrim education programs that focus on the socio-cultural and environmental responsibilities of the pilgrims. The model discussed here provides these stakeholders with a tested metric by which they can regularly measure impacts. Monitoring change in each of these domains over time enables operators and regulators to make adaptive management decisions (71). Subsequent

research needs to evaluate specific management actions we derived from our model and their effectiveness using longitudinal studies with more stakeholder involvement.

The findings shed some light on how Mathura-Vrindavan's sustainability is being impacted by religious tourism. The two main issues that come up are the economic advantages of attractions and accessibility-related environmental concerns. The absence of noteworthy results for a large number of the suggested links, however, raises the possibility that the effects are complicated and call for more research. The study has certain drawbacks, such as its exclusive focus on the impressions of tourists and its comparatively small sample size. Incorporating viewpoints from nearby inhabitants and additional interested parties may yield a more all-encompassing picture. In general, this study advances knowledge of the effects of religious tourism on sustainability in a significant pilgrimage site. The results can be used to improve management plans and policies to optimize positive effects while minimizing unfavorable ones. Expanding on this approach with more studies could benefit sustainable religious development.

Conclusion

Travel has been a vital component of mankind's amusement since ancient times. When travel first emerged, it simply meant visiting another place for enjoyment. However, as communities have grown and travel and tourism have become part of a larger "tourism industry," broad definitions of travel have gone to a variety of categories. Humans have been traveling for several reasons since the beginning of time, including business, food, medicine, and knowledge. Spirituality is one of these motivations. Large-scale group travel to sacred locations, shrines, or houses of devotion to learn more or solve life's riddles is referred to as religious tourism (72). This research paper examines the impacts of religious tourism on sustainability in Mathura-Vrindavan, India. The study focuses on the core facets of sustainability - environmental, socio-cultural, and economic - and how they are affected by religious tourism activities. The prosperous nations must safeguard both the natural environment and tranquility in developing nations because people in these countries already consider cross-border travel to be necessary (73). The findings also highlighted the same and stated that the most likely effects of tourism on the natural environment are those linked to trash release, litter treatment facilities, and garbage disposal (74). To ensure fair distribution of goods within communities as well as equitable methods of making choices on the sharing and safeguarding of these resources, globally as well as locally, for the good of future generations as well as the present, policies, norms, and guidelines are necessary under a sustainable development agenda and in these procedural considerations, great consideration must be given to the rights and obligations of persons who inhabit, visit, and use natural and cultural sites, as well as those who are having an impact on human-environment linkages and other cultural relationships (75). The growing significance of religious tourism for the advancement of society and the economy of human cultures and the presence of a unique religious site can draw travelers and aid in the growth of the area. The paper provides background on religious tourism as one of the primogenital and most substantial forms of travel globally and notes that India, with its rich religious diversity, is a most important terminus for religious tourism. The Mathura-Vrindavan in particular is highlighted as an important pilgrimage site associated with Lord Krishna. It has been determined that perceived environmental negative effects on the local community reduce the local community's satisfaction with tourism development. It has been revealed that perceived socio-cultural negative effects do not affect the local community's satisfaction with tourism development. Contrary to the hypothesis, a different result has been obtained that the perceived economic negative effects of tourism increase the satisfaction of the local community. The findings shed some light on how Mathura-Vrindavan's sustainability is being impacted by religious tourism. The two main issues that come up are the economic advantages of attractions and accessibility-related environmental concerns. The absence of noteworthy results for a large number of the suggested links, however, raises the possibility that the effects are complicated and call for more research. The study has certain drawbacks, such as its exclusive focus on tourists'

impressions and comparatively small sample size. Incorporating viewpoints from nearby inhabitants and additional interested parties may yield a more all-encompassing picture. In general, this study advances knowledge of the effects of religious tourism on sustainability in a significant pilgrimage site. The results can be used to improve management plans and policies to optimize positive effects while minimizing unfavorable ones. Expanding on this approach with more studies could benefit sustainable religious development.

Abbreviations

AVE: Average Variance Extracted, CR: Composite Reliability, Govt: Government, Pvt: Private.

Acknowledgment

The authors extend profound gratitude to the local authorities of Mathura-Vrindavan and the participating stakeholders who generously provided invaluable insights and data for this research. We acknowledge the support of the Vellore Institute of Technology. Our deepest appreciation goes to the local community members and tourism professionals who shared their experiences, making this research possible.

Author Contributions

Nimisha Maheshwari: Data Collection, Manuscript Preparation, References Arranging, Vipin Singh: Result Analysis, Supervision, guided her while preparing the manuscript.

Conflict of Interest

There is no conflict of Interest in this study.

Ethics Approval

This research work requires no ethical approval.

Funding

This research work has no funding from any sources.

References

1. Rashid AG. Religious tourism–a review of the literature. Journal of Hospitality and Tourism Insights. 2018; 1(2):150-67.
2. Kim B, Kim S, King B. Religious tourism studies: evolution, progress, and future prospects. Tourism Recreation Research. 2020; 45(2):185-203.
3. Collins-Kreiner N. Researching pilgrimage: Continuity and transformations. Annals of tourism research. 2010; 37(2):440-56.
4. Hill PC, Pargament KI, Hood RW, McCullough JM, Swyers JP, Larson DB, Zinnbauer BJ. Conceptualizing religion and spirituality: Points of commonality, points of departure. Journal for the theory of social behaviour. 2000; 30(1):51-77.
5. Jauss HR, Bahti T. The alterity and modernity of medieval literature. New literary history. 1979; 10(2):181-229.
6. Bharati A. Pilgrimage in the Indian tradition. History of religions. 1963; 3(1):135-67.
7. Jha A, Kumar A, Jain P, Om H, Singh R, Bunkar DS. Physico-chemical and sensory changes during the storage of lal peda. J Food Sci Technol. 2014; 51:1173-8.
8. Dhamija A. The Increasing Significance of Religious Tourism: A Case from Uttar Pradesh, India. Int J Relig Tour Pilgr. 2021; 8(8):135-149.
9. Din KH. Islam and tourism: Patterns, issues, and options. Ann Tour Res. 1989; 16(4):542-63.
10. Walpole MJ, Goodwin HJ. Local economic impacts of dragon tourism in Indonesia. Ann Tour Res. 2000; 27(3):559-76.
11. Collins-Kreiner N, Gatrell JD. Tourism, heritage, and pilgrimage: The case of Haifa's Baha'i Gardens. J Herit Tour. 2006; 1(1):32-50.
12. Rinschede G. Forms of religious tourism. Ann Tour Res. 1992; 19(1):51-67.
13. Damari C, Mansfeld Y. Reflections on pilgrims' identity, role and interplay with the pilgrimage environment. Current Issues in Tourism. 2016; 19(3):199-222.
14. Cohen E. Authenticity and commoditization in tourism. Ann Tour Res. 1988; 15(3):371-86.
15. Huang K, Pearce P. Visitors' perceptions of religious tourism destinations. J Dest Mark Manag. 2019; 14:100371.
16. Passafaro P, Cini F, Boi L, D'Angelo M, Heering MS, Luchetti L, Mancini A, Martemucci V, Pacella G, Patrizi F, Sassu F. The “sustainable tourist”: Values, attitudes, and personality traits. Tourism and hospitality research. 2015; 15(4):225-39.
17. Morgan AD. Journeys into transformation: Travel to an “other” place as a vehicle for transformative learning. Journal of transformative education. 2010; 8(4):246-68.
18. Budovich LS. The impact of religious tourism on the economy and tourism industry. HTS Teologiese Studies/Theological Studies. 2023; 79(1):8607.
19. Reader I. Pilgrimage growth in the modern world: Meanings and implications. Religion. 2007; 37(3):210-29.
20. Bar D, Cohen-Hattab K. A new kind of pilgrimage: The modern tourist pilgrim of nineteenth-century and early twentieth-century Palestine. Middle East Stud. 2003; 32(2):131-48.
21. Halim MS, Tatoglu E, Hanefar SB. A review of spiritual tourism: A conceptual model for future research. Tourism and hospitality management. 2021; 27(1):119-41.
22. Angelevska-Najdeska K, Rakicevik G. Planning of sustainable tourism development. Procedia Soc Behav Sci. 2012; 44:210-20.
23. Waligo VM, Clarke J, Hawkins R. Implementing sustainable tourism: A multi-stakeholder involvement management framework. Tour Manag. 2013; 36:342-53.

24. Allioui H, Mourdi Y. Exploring the full potentials of IoT for better financial growth and stability: A comprehensive survey. Sensors. 2023; 23(19):8015.
25. Hitzhusen GE, Tucker ME. The potential of religion for Earth Stewardship. Frontiers in Ecology and the Environment. 2013; 11(7):368-76.
26. Tyndale W. Faith and economics in'development': a bridge across the chasm? Development in practice. 2000;10(1):9-18.
27. Kirsch AT. Complexity in the Thai religious system: An interpretation. The Journal of Asian Studies. 1977; 36(2):241-66.
28. Shepherd RJ. When sacred space becomes a heritage place: Pilgrimage, worship, and tourism in contemporary China. International Journal of Religious Tourism and Pilgrimage. 2018; 6(1):33-46.
29. Jude OC, Uchenna O, Ngozi E. Impact of religious tourism in host communities: The case of Awhum Monastery. Am J Soc Sci. 2018; 6(3):39-47.
30. Jangra R, Kaushik SP. Assessment of physical carrying capacity for managing sustainability at religious tourist destinations. Int J Relig Tour Pilgr. 2017; 5(1):28-38.
31. Bond N, Packer J, Ballantyne R. Exploring visitor experiences, activities, and benefits at three religious tourism sites. Int J Tour Res. 2015; 17(5):471-81.
32. Vargas-Hernández JG. Sustainable cultural and heritage tourism in regional development of Southern Jalisco. World Journal of Entrepreneurship, Management and Sustainable Development. 2012; 8(2/3):146-61.
33. Sofronov B. The development of the travel and tourism industry in the world. Ann Spiru Haret Univ Econ Ser. 2018; 18(4):123-37.
34. Shinde KA, Olsen DH. Reframing the intersections of pilgrimage, religious tourism, and sustainability. Sustainability. 2022; 15(1):461.
35. De Carvalho J, Chima FO. Applications of structural equation modeling in social sciences research. Am Int J Contemp Res. 2014; 4(1):6-11.
36. Moskowitz DS. Comparison of self-reports, reports by knowledgeable informants, and behavioral observation data. Journal of personality. 1986; 54(1):294-317.
37. Cronbach LJ, Meehl PC. Construct validity in psychological tests. Psychol Bull. 1955; 52:281-303.
38. Polites GL, Roberts N, Thatcher J. Conceptualizing models using multidimensional constructs: a review and guidelines for their use. Eur J Inf Syst. 2012; 21(1):22-48.
39. Edwards JR, Bagozzi RP. On the nature and direction of relationships between constructs and measures. Psychol Methods. 2000; 5(2):155-74.
40. Fornell C, Larcker DF. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. J Mark Res. 1981; 18(1):39-50.
41. Henseler J, Ringle CM, Sarstedt M. A new criterion for assessing discriminant validity in variance-based structural equation modeling. J Acad Mark Sci. 2015; 43(1):115-35.
42. Ambardar A, Singh A, Singh V. Barriers on implementing ergonomic practices in hotel housekeeping. International Journal of Hospitality & Tourism Systems. 2023; 16(2):11-17.
43. Cable DM, DeRue DS. The convergent and discriminant validity of subjective fit perceptions. J Appl Psychol. 2002; 87(5):875-84.
44. Dijkstra TK, Henseler J. Consistent partial least squares path modeling. MIS Q. 2015; 39(2):297-316.
45. Cenfetelli RT, Bassellier G. Interpretation of formative measurement in information systems research. MIS quarterly. 2009; 33(4):689-707.
46. Portolan A. The impact of private accommodation on economic development of tourist destination-the case of Dubrovnik-Neretva County. Oecon Jadertina. 2012; 2(1):35-45.
47. Pappas N. The complexity of purchasing intentions in peer-to-peer accommodation. Int J Contemp Hosp Manag. 2017; 29(9):2302-21.
48. Kontogeorgopoulos N. Accommodation employment patterns and opportunities. Ann Tour Res. 1998; 25(2):314-39.
49. Rokicki B, Stępniak M. Major transport infrastructure investment and regional economic development–An accessibility-based approach. Journal of Transport Geography. 2018; 72:36-49.
50. Vickerman R, Spiekermann K, Wegener M. Accessibility and economic development in Europe. Regional studies. 1999; 33(1):1-5.
51. Freiria S, Sousa N, Calvo-Poyo F. Spatial analysis of the impact of transport accessibility on regional performance: a study for Europe. Journal of Transport Geography. 2022; 102:103371.
52. Cho S, Choi K. Transport accessibility and economic growth: Implications for sustainable transport infrastructure investments. Int J Sustain Transp. 2021; 15(8):641-52.
53. Zhou B, Qu H, Li N. How tourist attraction agglomeration affects a regional tourism economy. Tour Anal. 2016; 21(6):603-16.
54. Neves DC, Fernandes AJ, Pereira ET. Determinants of touristic attraction in Portuguese regions and their impact on GDP. Tour Econ. 2015; 21(3):629-48.
55. Moskalenko B, Lyulyov O, Pimonenko T, Kwilinski A, Dzwigol H. Investment attractiveness of the country: Social, ecological, economic dimension. Int J Environ Pollut. 2021; 69(1-2):80-98.
56. Florida R. The economic geography of talent. Ann Assoc Am Geogr. 2002; 92(4):743-55.
57. Streimikiene D, Svagzdiene B, Jasinskas E, Simanavicius A. Sustainable tourism development and competitiveness: The systematic literature review. Sustainable development. 2021; 29(1):259-71.
58. De Lucia C, Pazienza P, Balena P, Caporale D. Exploring local knowledge and socio-economic factors for touristic attractiveness and sustainability. Int J Tour Res. 2020; 22(1):81-99.
59. Carter RW, Whiley D, Knight C. Improving environmental performance in the tourism accommodation sector. J Ecotour. 2004; 3(1):46-68.
60. Moliner MÁ, Monferrer D, Estrada M, Rodríguez RM. Environmental sustainability and the hospitality customer experience: A study in tourist accommodation. Sustainability. 2019; 11(19):5279.
61. Sánchez-Ollero JL, García-Pozo A, Mondéjar-Jiménez J. Impacts of environmental sustainability measures

on rural accommodation. J Hosp Tour Res. 2022; 46(7):1241-56.
62. Iwarsson S, Ståhl A. Accessibility, usability, and universal design positioning and definition of concepts describing person-environment relationships. Disabil Rehabil. 2003; 25(2):57-66.
63. Lo SM, Yiu CY, Lo A. An analysis of attributes affecting urban open space design and their environmental implications. Manag Environ Qual Int J. 2003; 14(5):604-14.
64. Martini U, Buffa F. Local networks, stakeholder dynamics and sustainability in tourism. Opportunities and limits in the light of stakeholder theory and SNA. Sinergie. 2015; 96:113-30.
65. Saif MA, Zefreh MM, Torok A. Public transport accessibility: A literature review. Period Polytech Transp Eng. 2019; 47(1):36-43.
66. Uslu A, Alagöz G, Güneş E. Socio-cultural, economic, and environmental effects of tourism from the point of view of the local community. J Tour Serv. 2020; 11(21):1-21.
67. Chin CH, Law FY, Lo MC, Ramayah T. The impact of accessibility quality and accommodation quality on tourists' satisfaction and revisit intention to rural tourism destination in sarawak: the moderating role of local communities' attitude. Global Business and Management Research. 2018; 10(2):115-27.
68. Mbaiwa JE. The socio-cultural impacts of tourism development in the Okavango Delta, Botswana. J Tour Cult Change. 2005; 2(3):163-85.
69. Mirtaghian Rudsari SM, Gharibi N. Host-Guest Attitudes toward socio-cultural carrying capacity of urban tourism in Chalus, Mazandaran. J Tour Hosp Res. 2019; 6(2):31-47.
70. Baloch QB, Shah SN, Iqbal N, Sheeraz M, Asadullah M, Mahar S, Khan AU. Impact of tourism development upon environmental sustainability: a suggested framework for sustainable ecotourism. Environmental Science and Pollution Research. 2023; 30(3):5917-30.
71. Lyons JE, Runge MC, Laskowski HP, Kendall WL. Monitoring in the context of structured decision-making and adaptive management. The Journal of Wildlife Management. 2008; 72(8):1683-92.
72. Shinde K. The spatial practice of religious tourism in India: A destinations perspective. Tourism Geographies. 2022; 24(4-5):902-22.
73. Tosun C. Challenges of sustainable tourism development in the developing world: the case of Turkey. Tour Manag. 2001; 22(3):289-303.
74. Altinay M, Hussain K. Sustainable tourism development: a case study of North Cyprus. Int J Contemp Hosp Manag. 2005; 17(3):272-80.
75. Harden CP. Framing and reframing questions of human–environment interactions. Annals of the association of american geographers. 2012; 102(4):737-47.