

Evaluating the Economic Value of Hemis Cultural Heritage Festival Using Contingent Valuation Methods

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Abstract: The Contingent Valuation Method (CVM) is an economic tool used to estimate the value of non-market goods like cultural heritage by assessing people's willingness to pay (WTP) in hypothetical scenarios. To ensure accuracy and minimize overestimation, limitation of CVM, respondent's answers were carefully verified through a two-stage confirmation process. The study result suggests that WTP was positively related to cultural uniqueness the more distinctive the heritage, the more people valued it and 98% of participants agreed that the Hemis Cultural Heritage Festival (HCHF) plays a vital role in boosting Ladakh's economy. Using a Logit model, the CVM findings highlight how promoting HCHF through tourism campaigns can amplify its cultural and economic impact. This not only preserves Ladakh's unique traditions but also reinforces their irreplaceable value. Such insights are crucial for policymakers and researchers, helping them recognize the true economic and social worth of safeguarding cultural heritage for future generations.

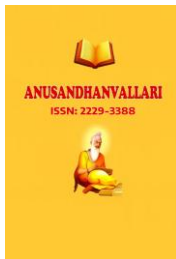
Keywords: Willingness to pay, cultural heritage, contingent valuation method, non-market goods

1 Introduction

The 21st century has witnessed the rise of globalization, cultural heritage festivals, and tourism as deeply intertwined forces driving socioeconomic transformation (Yang and Park 2024). Once-inaccessible national boundaries have dissolved, enabling cultural exchange to flourish effortlessly through festivals dynamic platforms that celebrate diversity, foster cross-cultural understanding, and showcase the world's socioeconomic richness (Zhang et al. 2019). The cultural heritage festivals act as effective economic engines, stimulating regional development, enhancing earning potential, and positioning tourism as a compound for sustainable economic growth (Choi et al. 2020).

In this modern period, festival has progressed into a dynamic platform for cultural exchange, transforming regional economies and prosper tourism into an economic asset for growth and development (Kostis and Kafka 2023). Central government and state governments now identify the cultural festival sector as a powerful engine of economic growth, connecting the unique, rich cultural heritage such as, historical, monuments and spiritual practices of their regions to create more significance in the global market (Gomez-Zapata et al. 2024).

This kind of positive steps to focus on cultural heritage not only preserves the identity of a region but also differentiates it from others, offering a competitive edge in the global tourism market (Xu and Zhao 2023). By exhibiting their unique traditions, landscapes, and monuments, regions can attract visitors seeking authentic and meaningful experiences, thereby stimulating local economies and fostering sustainable economic growth (Egan et al. 2023). By linking tourism with cultural heritage festival, regions reveal unparalleled opportunities for economic and social development (Jurado-Rivas and Sánchez-Rivero 2022). Visitors become active participants in the preservation and celebration of local traditions and it provides a sense of place and continuity, enabling communities to celebrate their roots while innovating for the future. So, in a sense, visitors are no longer just visitors, (Zhu et al. 2023). In this way, cultural festival, in turn, becomes a bridge between tradition and modernity, allowing visitors to engage with local cultures in ways that enrich both the visitor and the host community (Koumoutsea et al. 2023). This mutual relationship among tourism, local economies, and cultural heritage festival



not only drives economic prosperity but also empowers regions to achieve independent growth, ensuring that their unique identities remain vibrant and relevant in an increasingly interconnected world (Borges et al. 2020).

To protect the potential of cultural heritage festivals, the Universal Declaration on Cultural Diversity by UNESCO'S 2001 and annual Cultural Diversity Day held on 21 may every year in the world due to the importance of Cultural heritage festival and safeguarding their spiritual practices, arts, traditions, and beliefs. Yet, balancing universal appeal with regional authenticity remains a challenge. Local festivals are vital to identity and survival, requiring collaborative efforts between governments and communities to preserve heritage while driving socioeconomic progress (Mwebaze and Bennett 2014).

Cultural heritage is now recognized as the fourth pillar of sustainable development, with festivals and tourism serving as key drivers (Shen et al. 2012). Festivals and the cultural events are the rapid emerging forms of tourism, and are frequently applied in policy to attract tourists, in order to declining seasonality and generating revenue flow as an indirect method of marketing (Choi et al. 2020). Moreover, festival events is one of the significant tools to contribute economic and social sectors by generating revenue and attracting tourism at the regional and national levels (Tabasi et al. 2023). The role of cultural festivals has been growing in the cultural industry and by investments in the cultural heritage projects have positively impacting in a multi-dimensional way i.e., creating economic and social opportunity to uplift the standard of living of the entire regional community and the growth of regional GDP (Boufounou and Argyrou 2022).

Ladakh is one of the most sought-after tourist destinations in India (Bamwesigye et al. 2020). Thus, tourism in Ladakh is an important industry for their economic growth and contributes more than 60% share in regional GDP. This is mainly due to the cultural unique and wealth of Ladakh, which has the various density of cultural heritage such as National monuments, monasteries, spiritual practices, rich handicrafts, unique natural sceneries, landscapes, customs and traditions in Ladakh (Kabaya et al. 2019). Tourism is the backbone of Ladakh's economy, with the help of cultural event and festival serving as key drivers to boost the regional livelihoods and economy (Kimic et al. 2021). Thus, the tourist upgradation approach in the Ladakh region (Where Hemis Cultural heritage festival, on which present study emphases) is of core importance. The economic valuation of cultural heritage is the most observable feature of the contribution to overall socio-economic development of Ladakh.

Cultural heritages are non-market goods and their value cannot be assessed by market principles. Thus, the present study purposes to estimate the value of Hemis Cultural heritage festival (HCHF) using the model of Contingent valuation method (CVM). The Contingent Valuation Method (CVM) is mostly used for assessing the value of non-market goods by measuring individuals' willingness to pay (WTP) through hypothetical scenarios (Choo and Han Joon 2024). The authenticity of culture could encourage the spending behaviour of tourists (Ben-Malka and Poria 2019) and the larger the perception of cultural authenticity, the higher positive its impact on tourists' satisfaction and willingness to pay (Traeger 2014).

Limited studies coalesced issues of cultural heritage festival with assessment of contingent valuation method (CVM), applying tourist willingness to pay, which this study attempted to accomplish using primary survey approach. The study is also aligned to Ladakh vision 2050, aspiring to achieve the sustainable, efficient and eco-tourism growth and development in the region. The study is highly contemporary from both the academic and policy contributions particularly in realizing SDGs and universally accessible tourism inclined towards the achievement of the universal 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

This study used the model of (CVM) to assess the economic value of cultural heritage festivals and tourism, by incorporating the means into models estimating economic impact and its cost benefit analysis (CBA), creating a vigorous framework to quantify both tangible and intangible impacts of these events. This study helps to make an appropriate governments policy and strategy to develop effective policies, optimize event planning to allocate

resources, with the maximum combined economic and social return and preserve intangible cultural heritage, which has been efficiently proven and authenticated. This permits the research to provide policy recommendation based on proven cultural authenticity using CVM method, thereby augmenting reliability of the research findings. Therefore, this study is an attempt to fill knowledge void regarding importance of sustainable cultural tourism and its impacts on regional GDP, applying a robust primary-level methodological technique.

2 Theoretical Background

2.1 Foundational Economic Theory

The foundational economic theory for this study is a neoclassical welfare economics framework, which helps the theoretical background to measure changes in individual utility and social welfare (Hanley and Czajkowski 2019). The suitable measure for a welfare gain, such as the preservation of a cultural heritage festival, is the Hicksian Compensating Variation method (HCVM) pronounced as the maximum amount an individual is Willing to Pay (WTP) to secure the enrichment while maintaining their primary level of utility (Tabasi et al. 2023). The Contingent Valuation Method is the empirical technique/tool designed to produce this measure directly from individuals through wisely constructed hypothetical markets. The Hemis Festival, as an intangible cultural heritage asset, displays characteristics of a public good, notably non-rivalry in consumption and partial non-excludability. These characteristics lead to a classic market failure and its full social value is not reflected in any market price, leading to potential under-provision. CVM addresses this failure by simulating a market to reveal hidden demand (Yang and Park 2024).

We adopt the Total Economic Value (TEV) framework to conceptualize the multiple ways tourists value the cultural heritage festival (Boo 2019). This includes Direct Use Value (the experience itself), Option Value (for future visits), and crucially, Non-Use Values such as Bequest Value (for future generations) and Existence Value (satisfaction from knowing the tradition persists) (Borges et al. 2020). CVM is uniquely suited to capture this comprehensive valuation, moving beyond a simple recreational fee to measure the deeper cultural worth of the asset (Choo and Han Joon 2024). This study is theory-driven empirical analysis into the welfare impacts of cultural heritage preservation and how preserving cultural authenticity affects the regional economy is highly relevant to both academic and policy contributions. This increases our work from simple application to a contribution within established economic science.

3 Materials and methods

3.1 Methodology

The Contingent Valuation Method (CVM) is a powerful economic tool used in welfare economics that measures the economic value people place on cultural assets (Suciu and Nasulea 2019). The method works through a simple but powerful principle by asking individuals directly about their willingness to pay (WTP) for preserving cultural heritage, we can quantify its perceived value to maximize their satisfaction (or "utility") (Milman 2015). When asked how much they're willing to pay (WTP) to preserve a Hemis cultural heritage festival (HCHF), their answers reveal how much they truly value it. We used a dichotomous choice format where respondents answer 'yes' or 'no' to specific payment amounts in hypothetical scenarios, making a clear trade-off between keeping their money and supporting preservation (Jurado-Rivas and Sánchez-Rivero 2019). People compare the benefit of paying (preserving culture) vs. not paying (keeping their money). They choose the option that gives them greater satisfaction, following the principle of utility maximization (Gomez-Zapata et al. 2024). Responses are converted into a probability model to estimate average willingness to pay (WTP). If a person believes preserving heritage (HCHF) brings more value than the cost, they will say 'Yes.' This relationship is formally expressed in economic models. The fundamental relationship can be expressed as:

$$v(1, Y - A, C, S) \epsilon_1 \geq v(0, Y, C, S) + \epsilon_0 \quad (1)$$

Where v represents the total satisfaction (utility) a person gets from their choice; Y is the individual's income level; A stands for the amount they're willing to pay to preserve cultural heritage (HCHF); C denotes how important they rate cultural authenticity (on some measurement scale); S represents other personal factors like age, education, etc. (socioeconomic characteristics) and ϵ_1, ϵ_0 are the random variation in responses (statistical 'noise' with mean value of 0).

Based on the utility framework described above, we can calculate the probability that an individual will contribute to HCHF preservation in INR using the following relationship:

$$P_1 = P_r\{WTP\}$$

$$= P_r\{v(1, Y - A, S) + \epsilon_1 \geq v(0, Y, S) + \epsilon_0\} \quad (2)$$

$P(\text{Yes})$ = Probability of agreeing to pay amount A for HCHF preservation
= Function of (Income Y , Cultural Value C , Socioeconomic Factors s , Random Factors ϵ)

As shown in Equation (3), this model enables a direct comparison between 'Paying for Preservation' that is the utility gained from contributing to HCHF conservation and 'Not Paying' that is the utility derived from retaining one's income.

$$\Delta v = v(1, Y - A, S) - v(0, Y, S) + (\epsilon_1 - \epsilon_0)$$

$$= v(1, Y - A, S) - v(0, Y, S) \quad (3)$$

3.2 Binary Logit model and estimating willingness-to-pay (WTP)

In contingent valuation method (CVM) studies, respondents answer 'yes' or 'no' when asked if they would pay a specified amount to preserve the cultural heritage of the Hemis Festival (Tabasi et al. 2023). Since these responses are categorical, the logit model is generally applied to calculate the likelihood of their willingness to pay. The probability of an individual contributing to the Hemis Cultural Heritage Festival preservation can be modelled as follows:

$$P_1 = F_n(\Delta v) = \frac{1}{1 + e^{-\Delta v}} = \frac{1}{1 + e^{\alpha + \beta \cdot bid + C + \gamma Z}} \quad (4)$$

The probability (P_1) of a respondent accepting to pay for the preservation of the Hemis Festival's cultural heritage is modeled using a logit function, F_n shows the cumulative density function (CDF), β and γ are coefficients to be estimated, C represents the contribution bid amount, Z captures individual factors such as cultural authenticity degree and demographic variables. The model is estimated using maximum likelihood estimation (MLE), the standard approach for logit models (Kimic et al. 2021). This explains us to evaluate the influence of main variables on willingness to pay. To determine the net economic benefits of preservation, we examine the integral of the estimated function, representing the total welfare value. The formula is given by:

$$CV = \int_0^\infty F_n(\Delta v) dA = \int_0^\infty \frac{1}{1 + e^{\alpha + \beta \cdot bid}} dA \quad (5)$$

The mean WTP is derived by calculating the area under the probability curve across the range from zero to infinity. This integral indicates the expected value of what individuals are willing to pay, providing a strong measure of economic value.

$$WTP_{mean} = \int_0^\infty F_n(\Delta v) dA = \frac{1}{\beta_1} \ln[1 + \exp(\alpha)] \quad (6)$$

3.3 Research Design

3.3.1 Contingent valuation method (CVM)

The Contingent Valuation Method (CVM) performs as a dynamic tool for estimating the economic value of non-market goods by assessing individuals' willingness to pay (WTP) through hypothetical market situations. This method involves some survey formats, including open-ended questions, bidding games, payment cards, and the commonly chosen dichotomous choice (DC) method. In DC surveys, respondents are presented with a specific price and just answer 'yes' or 'no' to show whether they would pay that amount often framed as an admission fee or preservation contribution. Its candid, binary response structure not only simplifies participation but also reduces possible biases, making it the most practical and consistent CVM method.

While CVM formerly expanded distinction in the 1970s for valuing environmental assets, its applications have since expanded into cultural, recreational, and tourism frameworks (Choi et al. 2020). Recent studies have applied CVM to calculate the economic importance of cultural heritage sites, related facilities, and festivals, indicating its usefulness. Research constantly highlights that WTP is influenced by multiple factors, including the proposed price, respondents' demographic backgrounds, and psychological variables such as emotional connection or satisfaction. For instance, a study on ecological parks revealed that visitor satisfaction significantly boosts willingness to contribute financially. These understandings collectively emphasize the complexity of WTP determinants and reinforce CVM's relevance in shaping policies for cultural preservation and sustainable tourism development. In this study by using CVM not only analyse the perceived value of the Hemis Festival but also provides realistic data to support its conservation and promotion, ensuring its cultural and economic benefits to the local people of Ladakh and their regional GDP.

3.3.2 Hypothetical Scenario

The Contingent Valuation Method (CVM) relies on hypothetical scenarios to evaluate respondents' willingness-to-pay (WTP) for a given good or service. However, these scenarios must be realistic if they seem exaggerated or overstated, they may distort payment intentions, making it difficult to determine the true of WTP (Milman 2015). A key limitation of CVM is hypothetical bias, where respondents may exaggerate their WTP due to the absence of real financial values (Choo and Han Joon 2024). To mitigate this, our study incorporated two follow-up questions to validate the reliability of responses. Additionally, we used preservation of the Hemis Festival as the payment vehicle to estimate the cultural heritage festival's value. Respondents were presented with a dichotomous-choice (DC) question:

"Would you be willing to pay (A) INR per month to support the preservation of the Hemis Festival?"

☐ Yes ☐ No

Based on prior research and expert consultations, six price points (1,000 INR, 2,000 INR, 5,000 INR, 10,000 INR, and 50,000 INR) were randomly assigned to respondents. To enhance response accuracy, a two-step verification process was implemented.

(If 'Yes' to Q1):

"If you agreed to pay, would you accept an electronic bank bill for the specified amount?"

☐ Yes ☐ No

(If 'Yes' to Q2):

"To deliver the bill, would you provide your name and email address?"

☐ Yes ☐ No



This approach ensures that respondents seriously consider the financial commitment, reducing hypothetical bias and improving the reliability of WTP estimates. By grounding the scenario in real-world actions (e.g., accepting an e-bill and sharing contact details), we encourage more truthful and accurate responses. This structured method strengthens the validity of CVM findings, ensuring that estimated values reflect genuine public willingness to support cultural heritage preservation.

3.4 Data collection

The data for this study were gathered over a two-day period, from June 16 to June 17, 2024, during the Hemis Festival, using a convenient sampling method to survey both domestic and foreign visitors presented in the HCHF. A team of six graduate students, including myself, conducted the survey after receiving specialized training to ensure a clear understanding of the survey's objectives and methodology. Before administering the questionnaires, we obtained consent from participants, primarily county residents, and used a self-administration approach allowing respondents to fill out the forms themselves. For elderly participants who required help, our survey team read the questions clearly and recorded their responses accordingly. In total, we collected responses from 100 participants, ensuring a representative sample for analysis.

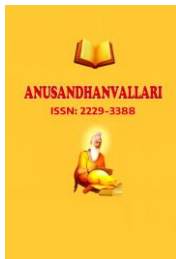
4 Hemis Cultural Heritage Festival

The Hemis Monastery is one of the largest and said to be the 'wealthiest' monasteries in Ladakh, famous for its stunning architecture, ancient artifacts, and beautiful murals. It attracts tourists and pilgrims from all around the world. The Hemis Festival, believed to be started in the 17th century under the Ladakhi King Sengge Namgyal, and it commemorates the birth anniversary of Guru Padmasambhava, the founder of Tibetan Buddhism (Tsewang 1997). This festival held over two days on 10th and 11th in the 5th month of the lunar calendar (as per the Georgian calendar it is held either in June or July), and there is display of the spiritual and cultural heritage of Ladakh region.

The main highlight of the festival is the Cham Dance which is a religious masked performance by monks, symbolizing the triumph of good over evil. With rhythmic drums, cymbals, and horns, the dance creates a magical atmosphere in the monastery's courtyard. The festival draws thousands of visitors each year, offering glimpse into Ladakh's traditions and devotion. Along with the Cham/mask dance, the other highlight of the festival is the display of a massive three storey world largest Thangka/ textile artwork of Guru Padmasambhava. It is revealed to the public once in a year, and is intricately ornamented with pearls, semi-precious stones, and vibrant silk. It offers a unique chance for visitors to see and experience the rich traditions, spirituals, customs and cultural heritage of the region and attracting tourists and art enthusiasts from all over the world.

The Hemis Festival is an ideal event for tourists to explore Ladakh's unique spiritual and cultural traditions, as it showcases a combination of spiritual practices, local crafts, and traditional performances. The main attraction of the Hemis Festival lies in connecting of culture and spirituality with other arts and the participation of the local artists with the aim of expanding the cultural and tradition through a variety of different activities such as folk music and dance. Local musicians display handmade crafts and play traditional instruments like daman (drum), surna (flute), and lingbu (small flute). In this way, the event brings together spirituality, art, and community, making it a key part of preserving Ladakh's cultural identity.

Further, Hemis Museum is another significant site for tourists and pilgrims is to explore in the monastery. the Hemis. It is one of the oldest and largest museums in Ladakh with various ancient scripts written in gold, rare antiques, Buddha's copper statues, gold and silver Buddhist stupas, ancient scriptures, and prehistoric handmade gold Thangkas. These artifacts offer a glimpse into centuries of Ladakh unique cultural heritage. For years, the Hemis Festival has been a symbol of Ladakh's living traditions, blending ancient customs with modern celebrations. It serves as a case study in cultural preservation, portraying how festivals can keep heritage alive



while bringing people together. From its historic roots to its vibrant present, the Hemis Monastery and its festival remain a timeless window into the heart of the Ladakh's region.

5 Cultural Authenticity

Authenticity in culture refers to its 'original form,' 'uniqueness,' or its deep-rooted connection to a specific place, custom, tradition and spiritual (Boufounou and Argyrou 2022). However, as globalization, industrialization, and urbanization accelerate, maintaining a culture in its pure, unaltered state becomes increasingly difficult. Many traditions either adapt to societal changes or fade into obscurity (Milman 2015). One notable effect of tourism is staged authenticity where cultural elements are modified to meet visitor's expectations and presented as 'genuine' (Koumoutsea et al. 2023). While this can lead to cultural commodification and loss of originality, it may also revive forgotten traditions by drawing attention to them (Tabasi et al. 2023). Authenticity is shaped by visitors' expectations, stereotypes, and subjective judgments about a destination's environment, customs, and heritage (Borges et al. 2020). However, its definition remains debated among scholars, Milman (2015) simplified this into two types: i.e., Objective authenticity that experiencing the 'real' culture and existential authenticity that feeling immersed in an authentic experience. Traeger (2014) further refined authenticity into three categories: Objective authenticity – Tangible, real artifacts (e.g., museum exhibits). Constructive authenticity that perceived uniqueness shaped by beliefs and expectations and existential authenticity that a personal, emotional connection to the experience.

Authenticity is widely studied in environmental economics, anthropology, and tourism research and it evolves through interactions between locals and visitors, enriching the cultural experience (Choo and Han Joon 2024). In cultural tourism, perceived cultural authenticity can enhance visitor engagement (Egan et al. 2023) and even influence spending behavior (Xu & Zhao 2023). When visitors perceive a culture as genuine, they engage more deeply—and may even support its preservation. In this study, we explore how perceptions of cultural authenticity may affect visitors' willingness to pay (WTP) for the preservation of the Hemis Festival's heritage.

6 Results

6.1 Demographic characteristics of the respondents

(Table 1) presents the socio-demographic profile of the survey participants. Males accounted for 39% of respondents, while females represented a majority at 61%. Age distribution revealed that participants over 60 years old formed the largest group (31%), followed by those aged 20-29 (25%) and 30-39 (19%). while only 4% are under 20 years, reflecting markedly less participation from minors or students and middle-aged groups 40–59 years (12%) were also less participated. Income levels showed a clear predominance of high earners, with 38% earn $\geq 300,000$ INR annually and 34% earning between 250,000–299,999 INR, collectively constituting 72% of total sample. While minimum sample respondents were from lower-income group 50,000–99,999 INR (1%). Educational attainment was notably high, with PhD holders comprising 30% of respondents and graduates making up 27%. Minimal representation of lower education levels (High School: 1%). Regarding nationality, 73% of participants were domestic (Indian national), while 27% were foreigners (non-Indian).

Table 1: Demographic Characteristics of the respondent (N=100)

Attributes		Number of Responses (%)
Gender	Male	39

	Female	61
Age	<20	4
	20-29	25
	30-39	19
	40-49	12
	50-59	9
	>60	31
Annual Income	Upto 49999	0
	50000-99999	1
	100000-149999	8
	150000-199999	6
	200000-249999	13
	250000-299999	34
	300000 and above	38
Education	Junior High School	0
	High School	1
	Higher Secondary School	12
	Graduation	27
	Master	16
	PhD	30
	Technical	14
Nationality	Foreign	27
	Domestic	73

Note: Indian Rupee (INR)

Source: Authors' calculations based on data from field survey.

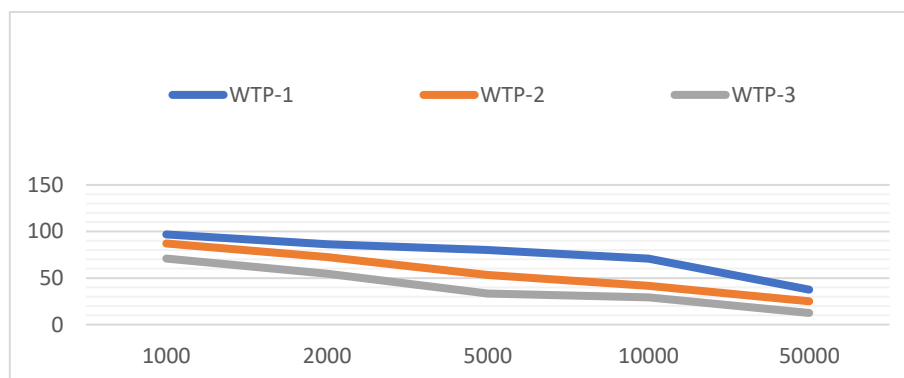
WTP-1					WTP-2			WTP-3		
Amount (INR)	Sample	Yes	No	WTP% (Yes)	Yes	No	WTP% (Yes)	Yes	No	WTP% (Yes)
1000	31	30	1	96.8	27	4	87.1	22	9	70.9
2000	22	19	3	86.4	16	6	72.7	12	10	54.5
5000	15	12	3	80	8	7	53.3	5	10	33.3
10000	24	17	7	70.8	10	14	41.7	7	17	29.2
50000	8	3	5	37.5	2	6	25	1	7	12.5
Total	100	81	19	81	63	37	63	47	53	47

Table 2: Probability of WTP for Hemis Cultural Heritage Festival (HCHF)

Source: Authors' calculations based on data from field survey.

(Table 2) illustrate a detailed breakdown of the probability information associated with respondents' WTP for the HCHF. To enhance the accuracy of the CVM and mitigate potential hypothetical bias is a common issue in stated preference surveys which is adopted by this study with a rigorous two-step verification approach. WTP_1: Respondents were initially asked whether they were willing to pay the specified price for the HCHF, this primary filter established baseline intent. WTP_2: Only those who answered 'yes' in WTP_1 were further questioned on their acceptance of receiving an electronic bill for the payment, a practical step ensuring realistic payment compliance. In the same manner, to further authenticate respondent sincerity, WTP_3: Respondents who confirmed their willingness in both WTP_1 and WTP_2 were then asked if they would provide their email address to facilitate the delivery of the aforementioned electronic bill, thereby linking declared intent to tangible, traceable action. This sequential filtering mechanism serves as a validation check, ensuring that only genuinely committed respondents progress through each stage. By reconfirming their intentions at multiple decision points, the two-step approach effectively reduces hypothetical bias, thereby yielding more reliable and credible WTP estimates. The resultant WTP estimates thus reflect not merely stated preferences, but credible commitments, reinforcing the empirical validity of the findings.

Figure 1: Comparison of WTP in practical and hypothetical situation



Source: Authors' creation based on data from field survey.

(Figure 1) presents a compelling visual representation of respondents' willingness to contribute to the HCHF preservation fund, indicating the inverse relationship between proposed payment amounts and affirmative responses. The graph distinctly depicts a declining probability curve, where the likelihood of respondents

answering ‘yes’ diminishes as the requested contribution increases a trend that aligns with fundamental economic principles of demand elasticity.

Notably, the pointed lower region of the curve holds particular significance, as it reflects the systematic elimination of exaggerated or hypothetical bias through the study's rigorous validation process. At lower proposed payment thresholds, a substantial proportion of respondents expressed readiness to participate, suggesting strong baseline support for cultural heritage festival. However, as the amount contribution higher, the declining ‘yes’ responses reveal a more discerning and economically rational decision-making pattern among participants. The inverse correlation between amount and consent supports the credibility of responses, as it mirrors real-world economic behavior where affordability constraints naturally limit participation. The convergence of these observations underscores the methodological robustness of the study. By demonstrating both demand sensitivity to price and progressive bias reduction. The empirical evidence that the derived WTP estimates reflect authentic rather than hypothetical valuation of the HCHF's cultural significance.

Table 3: Results of the Binary Logistic Regression Models for WTP_1.

Variable	Coefficient	SE	Wald	Significance	Exp(B)
Constant	-15.585	4.244	13.487	.000	.000
Age	-.732	.314	5.435	.020	.481
Edu	1.864	.539	11.963	.001	6.452
Occupation	.175	.319	.300	.584	1.191
Annual income	.339	.344	.974	.324	1.404
Cultural authenticity	3.139	.938	11.202	.001	23.092
-2 Log likelihood: 47.306 ^a			Cox & Snell R ² : .393		
Nagelkerke R ² : .632			Percent of correct prediction: 90.0%		

Source: Authors’ calculations based on data from field survey.

The present study used the dichotomous nature of payment responses; the logit model developed as the most statistically appropriate framework for analysis. This approach is particularly well-suited for binary outcome variables, using the WTP variable as the dependent variable and the other variables as independent variables (Predictors), and allowing us to rigorously examine the factors influencing respondents' Willingness to Pay (WTP) for the HCHF.

The logistic regression results highly statistically significant ($p < 0.05$) for the majority of independent variables, confirming their positive association with WTP_1 in the (Table 3). This suggests that factors such as education level, age and cultural authenticity play a pivotal role in shaping respondents' willingness to contribute financially. However, two variables i.e., occupation and annual income that did not show statistical significance ($p > 0.05$) in our model, as detailed in (Table 3) in the context of HCHF preservation.

To enhance the robustness of the model estimation and inference, a thorough examination was conducted. The (Table 4 and 5) analysis revealed that, among all the variables considered, only ‘cultural authenticity’ demonstrated statistical significance at the 5% significance level and exhibited a positive relationship with Willingness To Pay (WTP). This finding suggests that cultural authenticity plays a crucial role

in influencing visitors' willingness to pay for attendance at the Hemis Cultural Heritage Festival. Specifically, the more visitors perceive the festival as culturally authentic that reflecting genuine traditions, heritage, and meaningful cultural representation the more inclined they are to pay for the experience. The statistical significance of these variable underscores the importance of preserving and promoting authentic cultural elements in heritage festivals. Visitors value experiences that are deeply rooted in tradition and originality. Since cultural authenticity positively affects WTP, festival organizers and policymakers can leverage this insight to enhance pricing strategies, ensuring that the perceived value of authenticity is reflected in ticket pricing or donations. Emphasizing the festival's genuine cultural significance in promotional campaigns could attract more attendees willing to pay a premium, thereby increasing revenue and sustainability. The findings support the need for cultural preservation initiatives, as maintaining authenticity not only safeguards intangible heritage but also enhances the festival's economic viability.

Table 4: Results of the Binary Logistic Regression Models for WTP_2.

Variable	Coefficient	SE	Wald	Significance	Exp(B)
Constant	-6.018	1.935	9.670	.002	.002
Age	.123	.200	.381	.537	1.131
Edu	.292	.233	1.579	.209	1.340
Occupation	.284	.253	1.259	.262	1.328
Annual income	.006	.189	.001	.973	1.006
Cultural authenticity	2.196	.650	11.423	.001	8.990
-2 Log likelihood: 106.057 ^a Cox & Snell R ² : .227					
Nagelkerke R ² : .310 Percent of correct prediction: 74.0%					

Source: Authors' calculations based on data from field survey.

Table 5: Results of the Binary Logistic Regression Models for WTP_3.

Variable	Coefficient	SE	Wald	Significance	Exp(B)
Constant	-2.714	1.615	2.826	.093	.066
Age	.183	.179	1.037	.308	1.200
Edu	-.057	.215	.070	.792	.945
Occupation	.374	.241	2.398	.121	1.453
Annual income	-.093	.173	.290	.590	.911
Cultural authenticity	1.676	.657	6.497	.011	5.343
-2 Log likelihood: 122.168 ^a Cox & Snell R ² : .149					

Nagelkerke R^2 : .199
63.0%

Percent of correct prediction:

Source: Authors' calculations based on data from field survey.

A comprehensive analysis of the visitors' perceptions regarding the importance of cultural heritage to the local economy. The survey data indicates an overwhelming consensus among respondents, with 89% of the sample respondents considering festivals to be 'very important' for local development, while an additional 9% viewed them as "quite important." This cumulative 98% positive appraisal underscores the widely held belief that cultural festivals as beneficial for the regional economic growth. These findings match previous research documented in the academic literature (Hanley and Czajkowski 2019), confirming that Hemis cultural heritage festival help boost local economic development represented in (Figure 2) below.

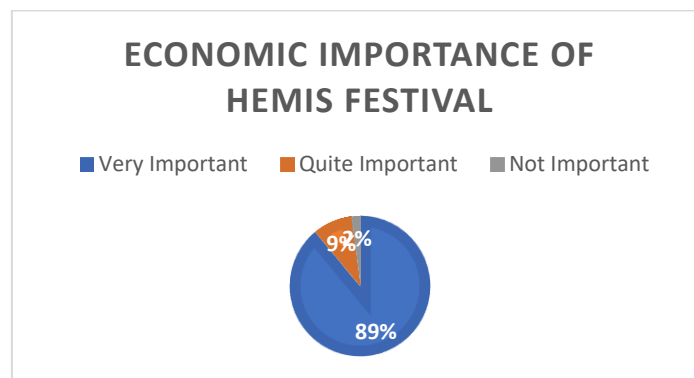


Figure 2: Economic Importance of Hemis Cultural Heritage Festival

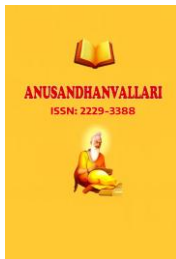
Source: Authors' creation based on data from field survey.

7 Discussion: implications for policy and research

Cultural heritage festivals are powerful instrument for regional progress, driving social cohesion, economic vitality, and tourism expansion. Among these, the Hemis Cultural Heritage Festival (HCHF) in Ladakh stands as a beacon of cultural pride and economic opportunity, drawing thousands of domestic and international visitors annually. In 2024 alone, the two-day event attracted approximately 2,000 attendees, underscoring its growing appeal. Beyond its cultural significance, the festival serves as a dynamic engine for regional development, generating revenue through entry fees (₹300 for foreigners, ₹200 for domestic visitors including museum access charges), and premium front-seat reservations (₹1,300 via online booking). A cost-benefit analysis confirms that the festival's social and economic returns far surpass its operational costs.

This study result reveals that 98% of participants stated the HCHF's significant role in boosting Ladakh's economy. Visitors are not just spectators, they are invested in preserving cultural authenticity. The festival's success features on showcasing Ladakh's unique traditions, customs, and spiritual practices, which visitors actively seek to experience. This demand for authenticity translates into tangible economic gains, positioning the festival as a cornerstone of regional GDP growth.

The present study quantified visitors' willingness to pay (WTP) for cultural preservation by using the Contingent Valuation Method (CVM) and a binary logistic regression model. The findings align with macroeconomic principles like the multiplier effect and ratchet effect. Every tourist's expenditure on taxis, hotels, restaurants, and local goods creates a positive cascading effect of economic activity. For example, a single visitor's spending



activate demand across sectors, empowering local businesses, creating jobs, and thereby augmenting supply chains. This cycle of interconnectedness uplifts livelihoods and entrepreneurship opportunities, and strengthens Ladakh's economic growth and development.

The HCHF shows how cultural heritage can drive holistic progress. As a matter of fact, the festival not only preserves tradition but also unlocks economic prosperity for its residents. As visitor numbers rise, so do opportunities for inclusive growth proving that cultural pride and economic development are not just compatible but mutually reinforcing. The HCHF stands as a model for regions worldwide in an era where authenticity is prized.

7.1 Policy Implications

The results from our study suggest that there are a number of potential policy implications that can be addressed to foster sustainable economic growth and development in the study area. These include:

These findings underscore the main practical implications that to ensure the survival and growth of traditional heritage, cultural authenticity must be promoted actively. When visitors recognize and appreciate the unique aspects of festivals like the Hemis Cultural Heritage Festival (HCHF), they are more likely to value and support them. Further, we need to integrate the significance of HCHF into school curricula, and thereby helping young people to understand its cultural and historical value. Expansion of opportunities for immersive cultural engagement, such as through cultural centers, interactive exhibits, and storytelling sessions, required to be done in order to make the festival more meaningful for attendees. We can also promote and showcase the distinct traditions of HCHF through media, tourism campaigns, and community events, reinforcing its irreplaceable role in preserving heritage. This helps policymakers and researchers understand the economic and social value of preserving such resources.

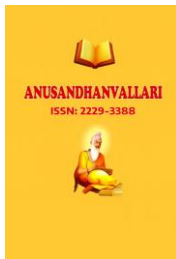
- Prioritize preservation of traditional practices and heritage in festival programming to maintain perceived authenticity, a key driver of WTP.
- Adopt tiered pricing i.e., basic entry fees, premium experiences to cater to varying WTP levels, maximizing participation and revenue.
- Target educational outreach to younger and middle-aged groups (under-represented in the sample) through digital platforms, emphasizing intergenerational cultural value.
- Allocate fund or invest in develop support systems including infrastructure upgrades and artisan empowerment initiatives to preserve cultural heritage and secure lasting economic and social benefits.
- Expand international outreach by showcasing Ladakh's unique cultural identity, leveraging the 27% foreign respondent base to attract global tourists.

8 Limitations and Future Research

This study provides baseline data on HCHF in Leh Ladakh. However, its limitations must be acknowledged. Our sample of 100 tourists may not fully represent the diversity of visitors across all seasons. Furthermore, the economic valuations rely on stated expenditures and recall, which are susceptible to bias. Future research should employ larger samples across different seasons and locations, integrate revealed preference methods, and examine contingent valuation from the perspective of local tourism workers and residents.

9 Conclusion

The Contingent Valuation Method (CVM) is a technique used to calculate the monetary value of non-market goods which cannot be quantify with the direct market analysis, like cultural festivals. Since this 'non-market' goods don't have a price determination, CVM creates hypothetical scenarios to estimate what people are truly willing to pay (WTP) for the Hemis Cultural Heritage Festival (HCHF), and its socio-economic implications. The main



findings reveal that cultural authenticity is the most significant driver of WTP, emphasizing visitors' prioritization of genuine cultural experiences. The rigorous two-step verification process (WTP_1 to WTP_3) effectively mitigated hypothetical bias, enhancing the credibility of WTP estimates. Socio-demographic factors such as education and age influenced WTP, while income and occupation did not, likely due to the sample's homogeneity (72% high-income earners, 57% highly educated). The inverse relationship between proposed payment amounts and affirmative responses aligns with demand elasticity principles, indicating price sensitivity. Additionally, 98% of respondents perceived the festival as important for Ladakh's economy, reinforcing its role in stimulating tourism, job creation, and multiplier effects through visitor expenditures.

Author contributions

Conceptualization: Tsering Tashi; Methodology: Tsering Tashi; Formal analysis and investigation: Tsering Tashi, Tsering Dolma; Writing - original draft preparation: Tsering Tashi, Tsering Dolma; Writing - review and editing: Tsering Tashi

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Data availability

Data will be made available on request.

Declarations

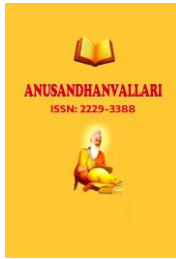
Conflict of interest

The authors of this paper declare that they have no conflicts of interest.

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