International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

An Empirical Study on the Role of Museums in Promoting Tourism in Andhra Pradesh

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Abstract:
Museums are now expected to serve not only as custodians of heritage but also as tourism attractions that support learning, strengthen destination image, encourage repeat visits and generate spending in surrounding tourism economies. This study empirically assesses the role of museums in promoting tourism in Andhra Pradesh by combining primary visitor perceptions with secondary visitor-footfall evidence. Primary data were obtained from 165 museum visitors and cover visit frequency, motivation, awareness channels, cultural interest, satisfaction, facilities, perceived tourism effectiveness, destination spillover and priorities for improvement. The secondary analysis uses district-wise domestic and foreign tourist footfall from 2020 to June 2025 and official visitor counts for the Archaeological Site Museums at Amaravati, Nagarjunakonda and Chandragiri for 2022–23 to 2024–25. Descriptive statistics, weighted means, growth rates, coefficient of variation, chi-square goodness-of-fit and one-sample proportion tests are applied. The results indicate that 70.3% of respondents agree or strongly agree that museums effectively promote cultural tourism, while 67.2% state that museum visits encourage exploration of nearby attractions. Both proportions are significantly above 50% ($p < .001$). Digital and interactive displays are the leading improvement priority (24.2%). Across the three financial years, the three ASI museums recorded 559,642 visits, of which Chandragiri contributed 56.6%. The study concludes that museums already function as meaningful tourism anchors in Andhra Pradesh, although their contribution can be strengthened through digital interpretation, improved destination packaging, event programming, visitor facilities and systematic museum-level data reporting.

Keywords: Museum Tourism, Cultural Tourism, Andhra Pradesh, Visitor Experience, Tourist Footfall, Heritage Interpretation.

1. Introduction

Within the tourism system, museums perform a distinctive role by conserving cultural resources while also providing interpretation, education, recreation and place-branding functions. The International Council of Museums' 2022 definition states that museums research, collect, conserve, interpret and exhibit tangible and intangible heritage while creating opportunities for education, enjoyment, reflection and knowledge sharing (ICOM, 2022). In tourism terms, these functions position museums as more than cultural institutions; they also operate as attractions that can influence destination choice, length of stay, visitor expenditure, local movement and perceptions of place.

The tourism significance of museums is especially evident in destinations with layered archaeological, religious, maritime, tribal and regional histories. Andhra Pradesh contains a varied museum landscape

that includes the archaeological site museums at Amaravati, Nagarjunakonda and Chandragiri, as well as the Bapu Museum in Vijayawada. Other prominent examples are the INS Kurusura Submarine Museum and TU-142 Aircraft Museum in Visakhapatnam and the Tribal Museum and Coffee Museum in Araku Valley.

Museum tourism also aligns with the present tourism-policy environment. The Andhra Pradesh Tourism Policy 2024–29 identifies tourism as an instrument for economic growth, employment creation and cultural exchange (Government of Andhra Pradesh, 2024). Museums can contribute to these objectives because their collections and narratives are strongly connected to place, are generally less seasonal than beaches and outdoor attractions, and are suitable for educational groups, families, domestic tourists and international cultural visitors. They can further be combined with nearby monuments, temples, urban waterfronts, craft clusters, food experiences and festivals to form multi-attraction itineraries.

However, the presence of a museum by itself does not automatically create tourism demand. The quality of the visitor experience is influenced by accessibility, interpretation, exhibit quality, staff interaction, cleanliness, amenities, technology, events, marketing and the museum's ability to connect its collections with the wider destination story. Modernization can substantially influence this experience. Government of India records relating to Bapu Museum, for instance, identify the use of modern interpretative technologies such as immersive projection systems, augmented reality (AR) and virtual reality (VR) as part of its modernization initiatives. In Visakhapatnam, the museum cluster links naval, aviation and maritime heritage attractions with the prominent RK Beach tourism corridor, thereby strengthening the overall visitor experience. These developments indicate that museum-tourism growth increasingly depends on preserving the authenticity of cultural and historical heritage while using innovative technologies and interactive methods to improve visitor engagement, learning and satisfaction.

The primary data assess whether museum visits increase interest in the history and culture of Andhra Pradesh, the level of visitor satisfaction with exhibits and facilities, perceptions of museums as effective tourism promoters, and the extent to which museum visits encourage exploration of nearby attractions. The secondary analysis considers the wider tourism setting and the performance of selected museums. By bringing these two forms of evidence together, the study moves beyond a descriptive account of museums and provides a broader assessment of their contribution to tourism development in Andhra Pradesh.

2. Review of Literature

Earlier tourism studies identified museums as important elements of urban and cultural tourism products. Jansen-Verbeke and van Rekom (1996) demonstrated that visitor motivations can inform the strategic positioning of museums and urban tourism marketing. Richards (1995) likewise observed that cultural tourism can create business opportunities for museums and heritage sites through customer service, partnerships and product packaging. Together, these studies establish a key managerial point: the tourism impact of a museum depends not only on the cultural importance of its collection but also on the way the attraction is positioned, interpreted and connected with the destination.

Research on heritage tourism also places strong emphasis on authenticity and interpretation. Apostolakis (2003) linked demand-side and supply-side approaches to heritage tourism and identified authenticity as a mechanism that connects visitor motivation with attraction image. In their study of My Son and the Cham Museum in Vietnam, Trinh and Ryan (2016) found that personal and aesthetic dimensions can deepen cultural appreciation and reshape the visitor experience of heritage. This perspective is relevant

to Andhra Pradesh because archaeological and tribal museums similarly depend on interpretation that transforms objects into meaningful narratives of place.

Packer and Ballantyne (2002) described museums as important free-choice learning environments in which intrinsic motivations influence visitor engagement. Sheng and Chen (2012) grouped museum experience expectations into five broad dimensions: easiness and fun, cultural entertainment, personal identification, historical reminiscence and escapism. The varied motives found in the present Andhra Pradesh survey—education, recreation, cultural interest, research and family outing—correspond with this wider literature and reinforce the view that museum tourism is a multi-purpose activity rather than a single-purpose visit.

Museum competitiveness is also closely related to service quality and visitor satisfaction. Nowacki (2005) used SERVQUAL in a museum setting and showed that perceived museum quality can be assessed through visitor expectations and perceptions across several service elements. Han and Hyun (2017) identified satisfaction as an important mechanism connecting museum quality and affective experience with post-purchase intentions. In a study of the National Museum in Ghana, Preko et al. (2020) found that tourist experience positively affected satisfaction and that satisfaction contributed to loyalty and willingness to pay more. These findings show that visitor facilities form an integral part of the cultural tourism experience because they help museums convert heritage resources into meaningful and memorable visitor experiences.

The importance of digital interpretation has also increased. Kang, Jang and Jeong (2018) reported that usefulness, enjoyment and interactivity in a museum mobile-guide system positively influenced satisfaction with the technology and with the museum experience as a whole. More recent work by Choi and Nam (2024) indicates that virtual-reality experiences can strengthen satisfaction and re-engagement when digital content is meaningfully connected with original exhibits. This finding corresponds directly with the present primary survey, in which digital and interactive displays received the highest number of improvement preferences.

A further consideration is the link between museum visitation and behaviour within the wider destination. Museums can act as anchor attractions that encourage movement to nearby heritage sites, restaurants, shopping areas and other attractions. Research on heritage-site motives and involvement suggests that visitor evaluations are jointly shaped by interpretation, the physical setting and the surrounding destination context (Trinh & Ryan, 2017). Museums can therefore add tourism value by supporting longer stays, additional attraction visits, learning about local crafts and cuisine, and positive word-of-mouth.

In India, museum-related studies have frequently concentrated on preservation, modernization and audience development, while systematic visitor analytics from a tourism perspective remain uneven. Government sources nevertheless show continuing investment in museum development and modernization, including initiatives in Andhra Pradesh.

Table 1. Selected literature informing the analytical framework

Study	Focus	Relevance to the present study
Jansen-Verbeke & van Rekom (1996)	Museum visitor motives and urban tourism marketing	Visitor motives support strategic positioning of museums within destination products.
Packer &	Motivation and learning at	Museums combine intrinsic

Ballantyne (2002)	museum/leisure sites	motivation, learning and recreation.
Apostolakis (2003)	Demand–supply convergence in heritage tourism	Authenticity links visitor motivation, attraction image and heritage supply.
Nowacki (2005)	SERVQUAL evaluation of a museum attraction	Service attributes and facilities influence perceived quality and satisfaction.
Sheng & Chen (2012)	Experience expectations of museum visitors	Museum experiences include fun, culture, identity, memory and escapism.
Han & Hyun (2017)	Art museum satisfaction and behavioural intentions	Satisfaction and commitment are important drivers of future behaviour.
Kang et al. (2018)	Mobile guide adoption and museum satisfaction	Usefulness, enjoyment and interactivity strengthen the museum experience.
Preko et al. (2020)	Museum experience, satisfaction and loyalty	Positive experience contributes to satisfaction, loyalty and willingness to pay.

2.1 Conceptual Framework

An experience–interpretation–spillover framework is used in this study to assess the tourism role of museums. The first stage concerns museum resources, including collections, heritage buildings, archaeological settings, cultural narratives and the authenticity associated with original artefacts and historic places. These elements constitute the core cultural and heritage assets of a museum and provide the basic foundation for the visitor experience.

The tourism value of these resources is shaped through interpretation and service delivery. Relevant elements include exhibit design, guided explanations, digital media, accessibility, cleanliness, seating, visitor information and opportunities for participation. This intermediate stage reflects the service-quality and visitor-experience literature, which indicates that tourists evaluate both the cultural content of an attraction and the conditions under which that content is experienced.

In the second stage, interpretation and visitor facilities influence immediate outcomes such as learning, cultural interest, enjoyment and satisfaction. The primary survey measures these outcomes through changes in interest in Andhra Pradesh history and culture, satisfaction with exhibits and ratings of museum facilities. Favourable outcomes are expected to strengthen the perception of the museum as a tourism attraction. Within this framework, technology is treated as a means of interpretation rather than an end in itself; digital displays, AR/VR, mobile guidance and projection mapping are valuable when they improve understanding, engagement or accessibility while keeping the original collection at the centre of the experience.

The third stage concerns tourism outcomes. Museums can promote tourism directly by attracting visitors and repeat visitors and indirectly by encouraging movement to other attractions in the surrounding destination. Accordingly, the survey question on whether a museum visit encourages exploration of nearby attractions is used as an important indicator of destination spillover.

3. Research Gap

Existing research establishes clear conceptual links among museum experience, visitor motivation, service quality, satisfaction, technological engagement and behavioural intentions. Even so, important gaps remain in the Andhra Pradesh context. First, many earlier museum-tourism studies have examined individual museums or destinations outside Andhra Pradesh. Their conclusions may therefore not be fully transferable to the State's varied museum landscape, which includes archaeological, maritime, military, tribal, cultural and historical museums.

Second, museum-specific visitor statistics in Andhra Pradesh are limited and fragmented. Although some centrally administered archaeological and site museums provide annual visitor-footfall figures, many State-run, municipal and thematic museums do not maintain or publicly release consistent year-wise visitation data. The absence of comparable series restricts analysis of long-term museum-visitation trends and makes it more difficult to assess their direct contribution to tourism development.

Third, district-level tourism statistics are available for major destinations in Andhra Pradesh, but these broad tourism totals have rarely been examined together with museum-specific visitor data and empirical evidence on visitor perceptions.

The present study addresses these gaps by combining primary data from a survey of 165 museum visitors with verified museum-specific visitor footfall and district-level tourism trends. Overall district tourist arrivals are not assumed to have been generated by museums. Instead, district tourism statistics are used only to describe the wider destination context, whereas museum-specific visitor counts are treated as direct indicators of museum visitation. This distinction improves the reliability of the analysis by separating museum attendance from overall district tourist arrivals. It also allows a more realistic assessment of the role of museums in tourism development while recognizing that the available data do not establish direct causal relationships.

4. Objectives of the Study

a. To examine visitor motivations, awareness channels and frequency of museum visitation in Andhra Pradesh.
b. To assess visitors' perceptions of museums in relation to cultural interest, exhibits, facilities and tourism promotion.
c. To analyze available secondary tourist footfall trends for Andhra Pradesh and selected museum-hosting destinations.
d. To evaluate visitor trends at selected museums using growth rates and other descriptive statistical measures.
e. To identify practical measures for strengthening the contribution of museums to tourism in Andhra Pradesh State.

5. Research Hypotheses

- H01: The proportion of respondents who positively perceive museums as effective in promoting cultural tourism in Andhra Pradesh is not greater than 50%.
- H11: The proportion of respondents who positively perceive museums as effective in promoting cultural tourism in Andhra Pradesh is greater than 50%.
- H02: The proportion of respondents who agree that museum visits encourage visits to surrounding tourist attractions is not greater than 50%.

- H12: The proportion of respondents who agree that museum visits encourage visits to surrounding tourist attractions is greater than 50%.
- H03: Visitor preferences among the proposed measures for improving museum tourism are equally distributed across the six measures.
- H13: Visitor preferences among the proposed measures for improving museum tourism are not equally distributed across the six measures.

6. Research Methodology

Research design: A descriptive and analytical empirical design is adopted. Primary evidence is used to assess visitor perceptions, whereas secondary data are used to place museum visitation within wider tourism trends. The survey component is cross-sectional, while the secondary footfall component is descriptive.

Study area: The study is geographically focused on Andhra Pradesh. The district-wise data reflect the reorganization of the State from 13 districts to 26 districts from April 2022. For this reason, the State-level figure for 2022 is reconstructed by combining the January–March total reported under the former district structure with the April–December total reported under the 26-district structure. District-level comparisons are made only for the post-bifurcation structure.

Primary data: The primary dataset consists of aggregated responses from 165 museum visitors. Nine analytical questions cover visit frequency, main purpose, information source, cultural interest, exhibit satisfaction, facilities, perceived effectiveness in promoting cultural tourism, encouragement to visit nearby attractions and measures for improvement.

Secondary data: Four sources of secondary evidence are used: (i) the Andhra Pradesh district-wise domestic and foreign tourist footfall workbook for 2020 to January–June 2025; (ii) Ministry of Culture visitor counts for the Archaeological Site Museums at Amaravati, Nagarjunakonda and Chandragiri for 2022–23, 2023–24 and 2024–25; (iii) museum footfall reported by the Visakhapatnam Tourism Department through The New Indian Express; and (iv) Government information relating to museum development, museum profiles and tourism policy. District-level footfall is used as destination context and is not treated as museum-specific visitation.

Statistical tools: Frequencies and percentages are used to summarize the primary data. Weighted mean and standard deviation are applied to ordinal perception scales. One-sample proportion z-tests examine whether positive responses regarding museum effectiveness and destination spillover exceed 50%. A chi-square goodness-of-fit test is used to determine whether preferences across the improvement measures are equally distributed. The secondary data are analysed through year-on-year growth, compound annual growth rate (CAGR), museum shares, means and coefficients of variation. Statistical significance is assessed at the 5% level.

7. Data Analysis and Interpretation

7.1 Statewide Tourism Footfall as the Destination Context

Table 2. Andhra Pradesh tourist footfall, 2020 to January–June 2025

Period	Domestic	Foreign	Total	Growth	Foreign share
2020	69,180,318	67,648	69,247,966	—	0.098%
2021	95,744,297	45,743	95,790,040	38.33%	0.048%

2022	225,893,404	187,468	226,080,872	136.02%	0.083%
2023	273,490,879	178,616	273,669,495	21.05%	0.065%
2024	290,266,452	262,432	290,528,884	6.16%	0.090%
2025 (Jan-Jun)	145,311,503	71,326	145,382,829	Not comparable (half-year data)	0.049%

Source: District-wise tourist footfall data by Andhra Pradesh Tourism Authority.

Interpretation: The table indicates a strong recovery after 2020. Total recorded visits rose from 69.25 million in 2020 to 95.79 million in 2021 and then to 226.08 million in 2022. The upward movement continued to 273.67 million in 2023 and 290.53 million in 2024. The Compound Annual Growth Rate (CAGR) for 2020–2024 is 43.12%; however, this high rate should be interpreted with caution because the base year was affected by pandemic-era travel restrictions.

Domestic tourist visits dominate the recorded tourism market in every period, whereas foreign visits account for less than one-tenth of one per cent of statewide footfall. From a museum-strategy perspective, this indicates a very large domestic visitor market in Andhra Pradesh, including educational groups, families, pilgrims, leisure tourists and visitors who combine cultural attractions with other destination experiences.

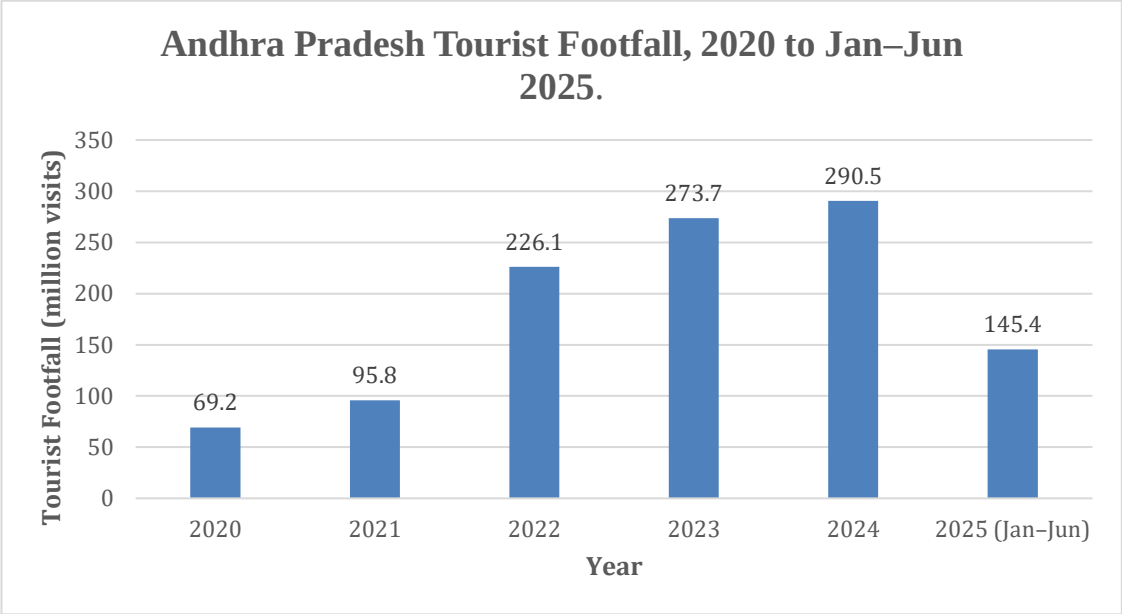

Figure 1. Andhra Pradesh tourist footfall trend (2020 to January–June 2025).

Table 3. Top ten districts by total tourist footfall in 2024

Rank	District	2024 total	Share of State 2024	2025 Jan–Jun
1	Tirupati	34,424,384	11.85%	15,095,933
2	NTR	28,283,408	9.74%	19,444,598
3	Guntur	20,724,590	7.13%	9,859,196
4	Visakhapatnam	20,004,308	6.89%	8,269,099
5	Alluri Seetarama Raju	18,186,023	6.26%	9,573,829
6	Srikakulam	18,113,695	6.23%	8,760,858

7	Chittoor	17,490,791	6.02%	11,771,064
8	Kakinada	16,575,347	5.71%	7,407,245
9	Nandyal	14,890,913	5.13%	6,384,923
10	Krishna	11,955,670	4.12%	9,937,634

Source: District-wise tourist footfall data by Andhra Pradesh Tourism Authority.

Interpretation: A number of important museum locations are situated in districts with high tourism footfall. In 2024, Tirupati ranked first, followed by NTR district, Guntur and Visakhapatnam, while Alluri Seetarama Raju district—home to Araku Valley and its tribal/coffee museum attractions—ranked fifth. These district totals should not be attributed to museums alone because religious, natural, leisure and other attractions are also major drivers of visitation.

7.2 Tourist Footfall at Selected ASI Site Museums

Table 4. Footfall and growth at three Archaeological Site Museums in Andhra Pradesh

Museum	2022–23	2023–24	2024–25	3-year total	Growth 1	Growth 2	Coefficient of Variation (CV)
Amaravati	26,145	21,348	22,112	69,605	-18.35%	3.58%	11.11%
Nagarjunakonda	65,211	47,377	60,589	173,177	-27.35%	27.89%	16.03%
Chandragiri	105,489	110,724	100,647	316,860	4.96%	-9.10%	4.77%
Total	196,845	179,449	183,348	559,642	-8.84%	+2.17%	—

Source: Archaeological survey of India Reports

Interpretation: Together, the three ASI site museums recorded 196,845 visits in 2022–23. Attendance declined by 8.84% to 179,449 in 2023–24 and then increased by 2.17% to 183,348 in 2024–25. Across the three-year period, total visitation reached 559,642. Chandragiri recorded the largest share, with 316,860 visits or 56.62% of the combined total, followed by Nagarjunakonda at 30.94% and Amaravati at 12.44%.

Chandragiri also showed the greatest stability, with a coefficient of variation of 4.77% around its three-year mean of 105,620 visitors. Nagarjunakonda was more variable (CV 16.03%): visitor footfall decreased by 27.35% in 2023–24 and then recovered by 27.89% in 2024–25. Amaravati recorded an 18.35% decline in 2023–24 followed by a 3.58% recovery in 2024–25. These differences indicate that demand can vary considerably from one museum to another even within the same State, supporting the need for institution-specific marketing and visitor research rather than a uniform museum strategy.

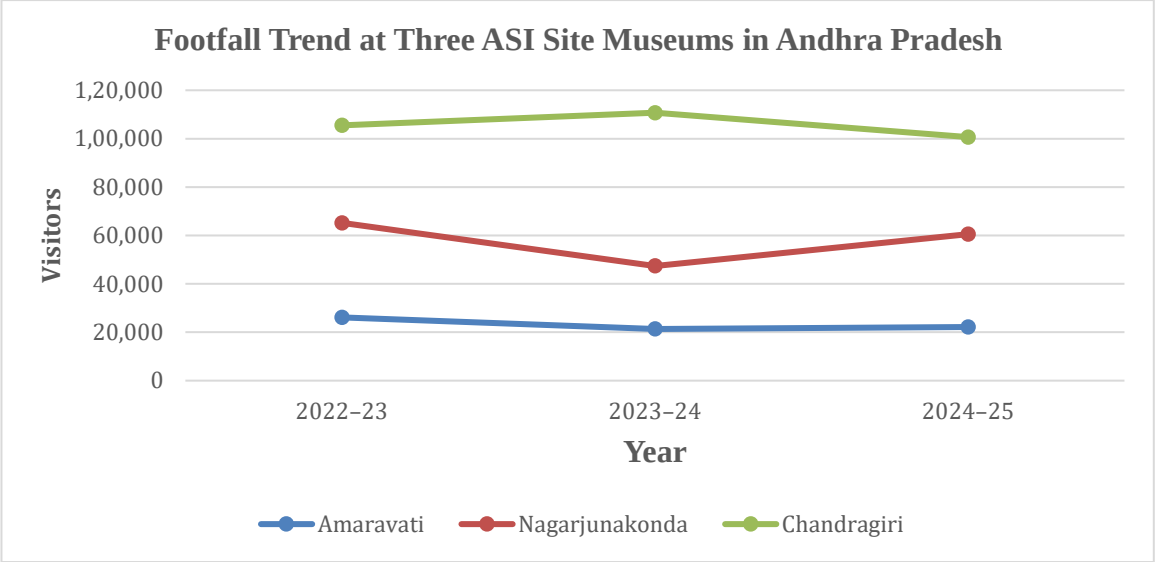

Figure 2. Footfall trend at Amaravati, Nagarjunakonda and Chandragiri Archaeological Site Museums.

(Source: Ministry of Culture, Government of India.)

7.3 Selected Museum Footfall in Visakhapatnam, 2025

Table 5. Footfall at selected Visakhapatnam museums in calendar year 2025

Rank	Museum	Visitors	Share of selected museums
1	INS Kurusura Submarine Museum	374,140	55.80%
2	TU-142 Aircraft Museum	191,738	28.59%
3	Visakha Archaeology/Maritime Museum	104,666	15.61%
	Total	670,544	100.00%

Source: Visakhapatnam District Tourism Department data

Interpretation: The three selected museums in Visakhapatnam received 670,544 visits in 2025. The INS Kurusura Submarine Museum contributed 55.80% of this selected museum total, followed by the TU-142 Aircraft Museum with 28.59% and the Visakha Archaeology/Maritime Museum with 15.61%. The Visakhapatnam District Tourism Department reported 21.14 million visits across a broad range of tourist sites in the district during 2025. On this basis, the three museums represented approximately 3.17% of all reported site visits, excluding other museum-type attractions such as the Sea Harrier Museum and the World Telugu Museum. The figures show that military and maritime heritage form a visible part of Visakhapatnam's diversified tourism product.

7.4 Primary Data Survey: Visitor Behaviour and Motivation

Table 6. Visitor frequency, purpose and sources of museum awareness (n = 165)

Variable	Category	Frequency	Percentage
Visit frequency	First visit	44	26.70%

	Occasionally	35	21.20%
	Once a year	30	18.20%
	Several times a year	56	33.90%
Main purpose	Education	38	23.03%
	Recreation	35	21.21%
	Cultural Interest	34	20.61%
	Research	31	18.79%
	Family Outing	27	16.36%
Awareness source	Social media	33	20.00%
	Tourism website	34	20.60%
	Friends/relatives	39	23.60%
	Travel agents	30	18.20%
	Newspapers/TV	29	17.60%

Interpretation: The largest visit-frequency category is several visits per year (33.9%), while first-time visitors account for 26.7%. The presence of both repeat and first-time visitors has clear tourism-management implications. Museums need new and temporary programming to maintain the interest of repeat visitors while also providing effective orientation and interpretation for newcomers.

Museum visitation is motivated by several purposes rather than by a single dominant reason. Education ranks first (23.03%), followed by recreation (21.21%), cultural interest (20.61%), research (18.79%) and family outing (16.36%). This pattern supports the view of museums as spaces that combine education and leisure. It also suggests that focusing promotion only on students or researchers would leave part of the museums' tourism potential underused.

Visitor awareness is also spread across several channels. Friends and relatives are the leading source (23.6%), followed by tourism websites (20.6%) and social media (20.0%). Travel agents and newspapers/television together still contribute more than one-third of responses. Museum promotion should therefore use an integrated communication mix, with particular attention to shareable digital content that can strengthen both online discovery and word-of-mouth.

7.5 Primary Data Survey: Cultural Interest, Satisfaction and Facilities

Table 7. Visitor perceptions of cultural interest, exhibits and facilities (n = 165)

Variable	Response	Frequency	Percentage
Increase in interest in AP history/culture	Very High	50	30.30%
	High	44	26.67%
	Moderate	33	20.00%
	Low	20	12.12%
	Very Low	18	10.91%
Exhibit/collection satisfaction	Highly Satisfied	52	31.52%
	Satisfied	45	27.27%
	Neutral	43	26.06%

	Dissatisfied	25	15.15%
Museum facilities	Excellent	55	33.33%
	Good	46	27.88%
	Average	40	24.24%
	Poor	24	14.55%

Interpretation: The results indicate that museums contribute to cultural engagement. A high or very high increase in interest in Andhra Pradesh history and culture is reported by 56.97% of respondents. On the five-point scale, the weighted mean is 3.53 (SD = 1.33), which is significantly above the neutral midpoint of 3 ($t = 5.16$, $p < .001$). The finding indicates that the museum experience is associated with increased cultural awareness and is not limited to recreation alone.

Exhibit satisfaction is generally positive, with 58.79% of respondents reporting that they are satisfied or highly satisfied. The weighted mean is 2.75 on the four-point scale (SD = 1.06). Museum facilities record a slightly higher mean of 2.80 (SD = 1.06), and 61.21% of visitors rate them as excellent or good. At the same time, about one-quarter of respondents remain neutral or rate facilities as average, while 14–15% report dissatisfaction or poor facilities. These responses are important for management because weaknesses in service provision may reduce recommendations, dwell time and repeat visitation even when the collections are strong.

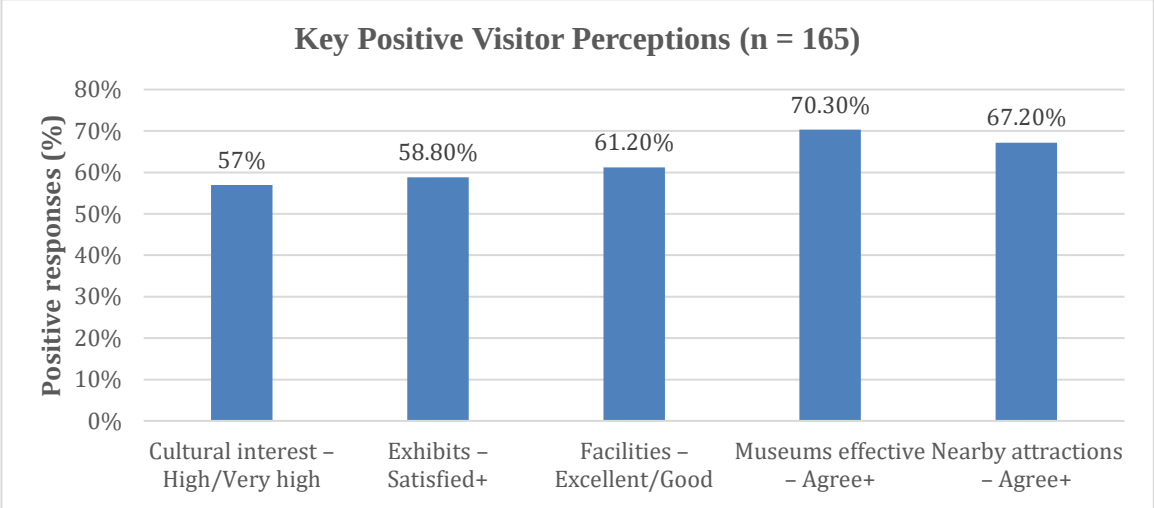

Figure 3. Positive visitor perceptions across key survey indicators (n = 165).

7.6 Perceived Tourism Effectiveness and Destination Spillover

Table 8. Perceived tourism effectiveness and destination spillover (n = 165)

Statement	Response	Frequency	Percentage
Museums effective in promoting cultural tourism	Strongly Agree	65	39.4%
	Agree	51	30.9%
	Neutral	30	18.2%
	Disagree	19	11.5%

Museum visit encourages nearby attraction visits	Strongly Agree	57	34.5%
	Agree	54	32.7%
	Neutral	33	20.0%
	Disagree	21	12.7%

Interpretation: Regarding museum effectiveness, 116 of the 165 respondents (70.3%) agree or strongly agree that museums promote cultural tourism in Andhra Pradesh. A one-sample proportion test against the 50% benchmark produces $z = 5.22$, $p < .001$ (one-tailed), with a 95% Wilson confidence interval of 62.9% to 76.7%. H01 is therefore rejected in favour of H11. The statistical result confirms that favourable perceptions constitute a clear majority of the sample rather than only a simple plurality.

A similar result is observed for destination spillover. In total, 111 respondents (67.2%) agree or strongly agree that a museum visit encourages them to visit surrounding tourist attractions. This proportion is significantly above 50% ($z = 4.44$, $p < .001$; 95% CI 59.8%–74.0%), leading to the rejection of H02 in favour of H12. For destination planning, this is important because it indicates that museum investment can generate value beyond the museum itself by encouraging visits to nearby heritage, religious, leisure and commercial attractions.

7.7 Measures to Improve the Tourism Role of Museums

Table 9. Visitor priorities for strengthening museum tourism (n = 165)

Rank/order	Measure	Frequency	Percentage
1	Digital/interactive displays	40	24.2%
2	Better publicity and promotion	34	20.6%
3	Guided tours	29	17.6%
4	Cultural programmes	30	18.2%
5	Improved visitor facilities	17	10.3%
6	Souvenir shops	15	9.1%

Interpretation: Digital and interactive displays receive the largest share of responses (24.2%). They are followed by better publicity and promotion (20.6%), cultural programmes (18.2%) and guided tours (17.6%). Improved visitor facilities (10.3%) and souvenir shops (9.1%) receive smaller shares but remain relevant to a complete visitor experience. The chi-square goodness-of-fit test rejects the assumption that preferences are distributed equally across the six measures, $\chi^2(5) = 17.22$, $p = 0.0041$, Cramér's $V = 0.144$. Accordingly, H03 is rejected and H13 is supported.

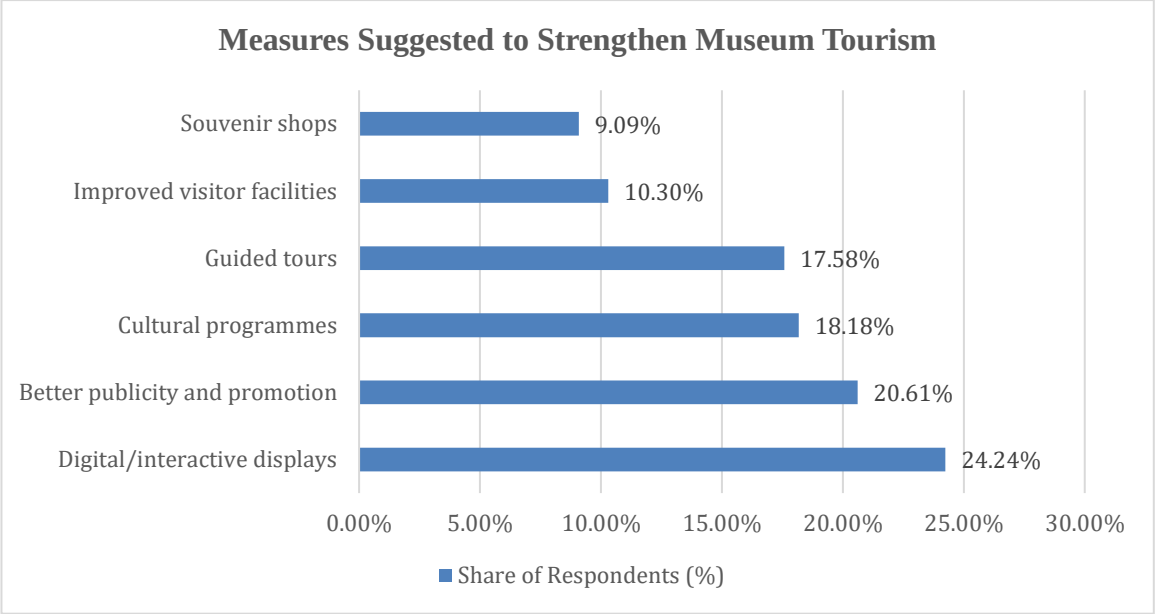

Figure 4. Measures suggested by respondents to strengthen museum tourism (n = 165).

Table 10. Hypothesis test results

Hypothesis	Test variable	Test	Observed	Statistic	Significance	Decision
H01/H11	Positive perception of museums as effective tourism promoters	One-sample proportion z-test	70.3%	$z = 5.22$	$p < .001$	Reject H01; support H11
H02/H12	Museum visit encourages nearby attraction visitation	One-sample proportion z-test	67.2%	$z = 4.44$	$p < .001$	Reject H02; support H12
H03/H13	Preferences among six improvement measures are equal	Chi-square goodness-of-fit	—	$\chi^2(5) = 17.22$	$p = 0.0041$	Reject H03; support H13

8. Discussion

Education, recreation and cultural interest are the strongest motivational categories in the survey, and 56.97% of respondents report a high or very high increase in interest in the State's history and culture. This result is consistent with Packer and Ballantyne's (2002) interpretation of museums as free-choice learning environments and with Sheng and Chen's (2012) multidimensional approach to the museum experience.

The findings also indicate that museums can strengthen destination attractiveness through visitor satisfaction and the quality of the tourism experience. Nearly three-fifths of respondents are satisfied or highly satisfied with museum exhibits, while more than three-fifths rate the facilities as good or excellent. These results are consistent with Nowacki (2005), Han and Hyun (2017), and Preko et al. (2020), who emphasize the role of service quality and satisfaction in behavioural intentions such as revisiting and recommending an attraction. In the present tourism environment, visitors increasingly expect clean and well-maintained amenities, clear and accessible information, adequate seating, digital

guidance, child-friendly interpretation, multilingual support and convenient ticketing. Improving these visitor-oriented services can strengthen the museum experience and increase the competitiveness of museums as tourism attractions.

The statistically significant destination-spillover result gives museums importance beyond their own premises. When a museum visit encourages tourists to add nearby attractions to an itinerary, the resulting benefits can extend to transport providers, guides, restaurants, shops, hotels and other sites. This is particularly relevant in Vijayawada, Visakhapatnam, Amaravati–Nagarjunakonda, Tirupati–Chandragiri and Araku, where museums can be combined with strong surrounding attractions. Museum promotion should therefore be integrated into destination circuits rather than handled only as separate institutional publicity.

The secondary footfall figures reveal substantial variation among museums. Chandragiri records more than one lakh visitors in each of the three financial years and shows relatively stable attendance, while Nagarjunakonda records a pronounced decline followed by a strong recovery. In Visakhapatnam, the museum cluster demonstrates the appeal of experiential military and maritime heritage, with the Submarine Museum attracting the largest share among the selected museums. These patterns underline the importance of thematic distinctiveness, location, accessibility and clustering.

The improvement priorities are concentrated on visitor experience and museum promotion. Digital and interactive displays rank first, followed by better publicity, cultural programmes and guided tours, which together represent a substantial share of suggestions. The result is consistent with recent research on the growing role of technology in museum development and is particularly relevant to the modernization of Bapu Museum. Digitalization, however, should function as an interpretative aid rather than as spectacle separated from the collections. Effective digital applications should make museum objects easier to understand, provide historical and cultural context, support multilingual access and encourage deeper engagement with original collections and heritage.

The study also identifies a gap in data governance. Official annual footfall is available for selected ASI site museums, but comparable time series are not consistently published for many State and thematic museums. In the absence of standardized museum-level indicators, it is difficult to assess the conversion of destination footfall into museum visits, visitor origin, repeat visitation, dwell time, revenue, or the effects of events and digital investment. A statewide museum-tourism dashboard would therefore serve both research and management purposes.

9. Major Findings

- Of the 165 respondents, 33.9% visit museums several times a year, demonstrating the presence of a meaningful repeat-visitor segment.
- The leading purposes of museum visits are education (23.03%), recreation (21.21%) and cultural interest (20.61%), confirming that museums combine educational and leisure functions.
- Friends/relatives (23.6%), tourism websites (20.6%) and social media (20.0%) are the main awareness channels, highlighting the importance of both word-of-mouth and digital discovery.
- A high or very high increase in interest in Andhra Pradesh history and culture after museum visits is reported by 56.97% of respondents.
- A total of 58.79% are satisfied or highly satisfied with exhibits and collections, while 61.21% rate museum facilities as excellent or good.

- Museums are considered effective in promoting cultural tourism by 70.3% of respondents who agree or strongly agree, and this proportion is significantly above 50% ($p < .001$).
- A total of 67.2% agree or strongly agree that museum visits encourage exploration of nearby tourist attractions, and this majority is also statistically significant ($p < .001$).
- Digital/interactive displays are the leading improvement priority (24.2%), followed by publicity/promotion (20.6%), cultural programmes (18.2%) and guided tours (17.6%).
- Across 2022–23 to 2024–25, the three ASI site museums recorded 559,642 visits. Chandragiri accounted for 56.62% of this total and recorded the most stable attendance.
- The selected museums in Visakhapatnam recorded 670,544 visits in 2025, with INS Kurusura Submarine Museum leading at 374,140 visits.
- Andhra Pradesh's overall tourist footfall increased strongly between 2020 and 2024, providing a large destination market from which museums can attract additional visitors; however, district tourism totals cannot be treated as museum attendance.

10. Suggestions and Recommendations

- Develop state-level museum tourism circuits in Andhra Pradesh. Museum promotion should be linked with established destination circuits by combining Bapu Museum with Vijayawada/Kondapalli/Amaravati; Chandragiri with Tirupati; Amaravati and Nagarjunakonda with Buddhist heritage circuits; Visakhapatnam museums with RK Beach and maritime heritage; and the Araku Tribal/Coffee Museums with tribal culture, coffee and nature-based tourism.
- Give priority to digital interpretation that remains relevant to heritage. As indicated by the survey, interactive displays should receive first consideration for investment. AR/VR, projection mapping, QR-based interpretation, mobile guides and digital storytelling should be used to explain collections, provide multilingual content and link objects with archaeological sites, communities and living traditions.
- Develop an integrated digital marketing system. Each museum should maintain accurate Google/online listings, pages on tourism portals, short-form social content, event calendars, online ticket information and shareable visitor stories. Cross-posting through Andhra Pradesh Tourism and district tourism channels can improve awareness among tourists who are already planning a visit.
- Strengthen guided interpretation and cultural programming. Curator talks, guided tours designed for students, weekend storytelling, craft demonstrations, reenactments, temporary exhibitions, naval/aviation interpretation sessions and tribal cultural programmes can provide additional reasons for repeat visitation.
- Raise basic visitor amenities to a common State standard. Clean toilets, drinking water, seating, shaded waiting areas, parking information, accessibility for persons with disabilities, child-friendly facilities, clear signage and multilingual visitor information should be regarded as essential tourism infrastructure.
- Curated souvenir shops should give preference to authentic local products such as Kondapalli toys, Kalamkari, tribal crafts, books, replicas, postcards and locally designed educational products, supported by transparent artisan linkages and appropriate quality standards.

- Create a standardized museum data dashboard. Every major museum should report monthly domestic/foreign footfall, student groups, ticket revenue, event attendance, visitor origin, satisfaction, digital engagement and repeat visitation.
- Strengthen partnerships with educational institutions and tourism intermediaries. Universities, schools, tour operators, hotels, IRCTC/rail tourism providers and local guides can incorporate museums into educational tours and packaged itineraries, thereby increasing both planned and incidental visitation.

11. Conclusion

This study provides empirical evidence that museums contribute meaningfully to the promotion and development of tourism in Andhra Pradesh. The primary survey records a clear positive majority for both the perceived tourism effectiveness of museums and their ability to encourage visits to nearby attractions. Respondents also report cultural and learning benefits together with generally favourable satisfaction with exhibits and visitor facilities. The secondary evidence further demonstrates the tourism significance of museums in the State. Chandragiri received more than one lakh visitors in each of the three financial years examined, while the naval and aviation museums in Visakhapatnam constitute an important and visible part of the city's tourism attractions.

Overall, museum tourism should be developed and managed as an integrated destination system rather than as a collection of isolated attractions. Collections and conservation remain fundamental, but tourism outcomes also depend on interpretation, amenities, accessibility, digital visibility, events, partnerships and connections with surrounding attractions. Andhra Pradesh's large domestic tourism market offers substantial scope for museums to secure a larger place in visitor itineraries.

12. Limitations of the Study

- The study has several limitations. Because the primary data are available only in aggregated form, respondent-level relationships among visit frequency, satisfaction, perceived effectiveness and tourism spillover effects could not be tested through correlation, regression or cross-tabulation analysis.
- District-level tourism footfall represents total tourist visits to different attractions rather than museum-specific attendance. These figures were therefore used only to provide contextual evidence and not as a direct measure of museum visitation.
- Systematic museum-specific visitor records are not available for all institutions. Tourist-footfall data are not consistently maintained or publicly reported by every museum in Andhra Pradesh, limiting the availability of comparable secondary data across museums and districts.

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