

## ANALYSING DEMOGRAPHIC TRENDS AND VISITORS SATISFACTION AT THE NATIONAL MUSEUM, DELHI

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### ABSTRACT

**Background:** As demographics shifts continue, the National Museum in Delhi consistently adapts to ensure visitor satisfaction through diverse and enriching experiences. The study at the National Museum in Delhi delves into visitor demographics, preferences, and satisfaction, aiming to answer three primary research questions regarding visitor expectation, personalization, and satisfaction while pursuing three key objectives through exploring the interplay among these factors. **Objectives:** To assess the alignment between visitor expectations and experiences, identifying contributing factors, to evaluate the extent of personalization at the museum and propose enhancement strategies, to investigate the impact of improved personalization on visitor satisfaction, aiming to achieve key study objectives. **Methodology:** A quantitative approach was employed, utilizing surveys to gather data from a sample of 100 museum visitors in Delhi. Structured questionnaire focused on visitor demographics, motivations, satisfaction level, and feedback. Canonical Correlation Analysis (CCA) and regression analysis were used for data analysis. **Results:** Visitors' profile, indicating a predominant age group of 35-44 years comprising 28%, while most visitors hold Bachelor degree at 37%. Additionally, the survey reveals that 40% of respondents visit National Museum occasionally, followed by 30 % who visit rarely. No statistically significant influence of visitor characteristics or behaviours on the museum's ability to cater to a diverse audience is found. **Conclusion:** The research provides valuable insights into visitor experiences and behaviours at the National Museum in Delhi. Despite limitations such as a small sample size and cross-sectional nature, the findings lay a foundation for understanding factors shaping visitor experiences. Practical implications are discussed for enhancing satisfaction and personalization efforts, with a call for further research to consider larger and more diverse samples and different variables.

**Key Words:** Visitor expectations, Visitor Satisfaction, Visitor Experience, Personalization, National Museum.

### INTRODUCTION

Museums play a key role in preserving cultural heritage, providing educational opportunities, and backing to the cultural enrichment of society. They serve as dynamic platforms for fostering and supportive of the past, art, and culture. The National Museum in Delhi, India, is an emblematic institution, offering a varied array of exhibits that showcase the rich history and artistic heritage of the

nation. It stands as a testament to India's cultural diversity and historical legacy. Understanding the dynamics of visitor experiences at such museums is of paramount importance, as it can directly impact the cultural education and satisfaction levels of the visitors. Visitor satisfaction and experience have gained increasing attention for museum studies, as the cultural and educational sector evolves to meet visitors'

needs and expectation. The experience of visitors is crucial not only for their personal enrichment but also for the long-term sustainability of museums. Research on this subject can help museums, like the National Museum in Delhi, adapt and innovate, ensuring that they remain relevant and appealing to changing demographics and preferences.

Museums play vital role in preserving and presenting heritage (Cultural), and understanding visitor demographics and satisfaction is crucial for their effective management and development. The National Museum in Delhi, India, is one of the country's most prominent cultural institutions. Literature review's aim to insights direct into the research conducted on demographic trends and visitor satisfaction at the National Museum, Delhi. It explores gaps, challenges, and opportunities in understanding the evolving dynamics of museum visitors.

**Demographic Trends:** The National Museum, located in the capital city, is implied by the shifting demographics of India. Socio-economic background of India depends on diverse ethnic and linguistic. Understanding how these changes affect the demographics of museum visitors is essential for curatorial as well as marketing strategies (Kompatsiaris, 2020). The National Museum attracts international tourists. Studies have explored the demographics of these visitors and their preferences, adding to the understanding of the museum's role as a cultural ambassador for India (Sengupta & Dey, 2017). Researchers have studied the age distribution of visitors and its effect on their experience. The National Museum, with its educational programs, appeals to a wide age group, understanding the preferences of different age cohorts is essential (Dutta, 2016).

**Visitor Satisfaction:** Several studies have investigated the impact of exhibition design and interpretation on visitor satisfaction. The arrangement of artifacts, the use of multimedia, and the clarity of information all contribute to a positive museum experience (Malhotra, 2019). Studies have emphasized the importance of cultural sensitivity and inclusivity in the National Museum's exhibits. Ensuring that the museum represents the diversity of India's culture and history is essential for visitor satisfaction, especially for underrepresented communities (Mukherjee, 2020). In an increasingly digital world, the use of technology to engage visitors has gained importance. Research on the effectiveness of mobile apps, virtual tours, and augmented

reality in enhancing visitor satisfaction is available (Verma & Aggarwal, 2018). Technology has capacity to greatly elevate the satisfaction of tourists (Pradhan et al., 2023).

**Challenges and Opportunities:** Many studies on the National Museum rely on self-reported data from visitors. The progress of more robust collection of data related methods, such as using RFID or mobile apps for tracking visitor movements and preferences, can enhance research (Bose & Choudhury, 2017). Continuously gathering and analyzing visitor feedback is crucial. The National Museum can implement visitor surveys and feedback kiosks to gain real-time insights into visitor satisfaction. Inclusivity should extend to the local community. Collaborative projects with local schools, universities, and cultural organizations can enhance the museum's community engagement and provide insights into the satisfaction of these key stakeholders.

Examining the correspondence between visitor expectations and their real-time experiences at the National Museum represents a promising area for research. By evaluating the museum's ability to tailor visitor experiences according to demographic and preference-related factors. It can be gained deeper insights. This study is significant as it can inform the National Museum and other cultural institutions worldwide about the efficacy of personalized museum experiences in meeting the expectations of a diverse visitor base. By understanding the alignment between visitor expectations and their experiences, the National Museum can tailor its offerings and improve visitor satisfaction. The findings of this research may have implications not only for museums but also for the broader cultural and educational sector, providing insights into how to engage and educate visitors effectively.

#### **Objectives:**

- To determine how well the National Museum meets visitor expectations and what factors cause any differences between expectations and actual experiences.
- To assess the museum's ability to tailor visitor experiences to demographics and preferences, as well as investigate methods and technologies for enhancing this customization.
- To gauge how enhancing personalization at the museum affects visitor satisfaction and find ways to maximize this effect for a diverse range of visitors.

### Hypotheses

Hypothesis 1: (H0) The null hypothesis suggests, no significant difference exist between visitor expectations and actual experiences at the National Museum, while the alternative hypothesis (H1) Alternative hypothesis suggests that significant difference exists.

Hypothesis 2: The null hypothesis (H0) states that customization of visitor experiences at the National Museum does not significantly vary based on demographics and preferences, whereas (H1) the alternative hypothesis posits that such customization does significantly vary based on these factors.

Hypothesis 3: The null hypothesis (H0) posits that improving personalization of museum experiences does not have a significant impact on visitor satisfaction levels, while the alternative hypothesis (H1) suggests that improving personalization does have a significant impact on visitor satisfaction levels.

### METHODOLOGY

**Research Design:** The research design employed was quantitative in nature, using surveys as the primary means of data collection. This quantitative approach was chosen due to its ability to gather structured data that could be subjected to statistical analysis.

**Locale:** The study was geographically centered in Delhi, which was selected as the research area.

**Sampling Design:** The population under scrutiny encompassed stakeholders affiliated with museums in Delhi. This category includes individuals such as museum administrators, curators, and representatives of funding organizations, all contributing to the management and promotion of these cultural institutions. The primary focus of the research was the visitors of Delhi’s museums. These individuals served as the nucleus of the study, given their role as end-users whose experiences, preferences, and feedback were of paramount significance. To balance practicality and statistical robustness, hundred museum visitors were selected for this study. In this study, the male sample size comprised of 40 participants, while the female size consisted of 60 participants. This sample size was considered adequate for drawing meaningful conclusions from the gathered data.

**Tools and Technique:** Survey was designated as the primary data gathering method as their systematic approach in acquiring information from a significant number of respondents. The data collection tool of choice was a planned questionnaire, specifically designed to elicit information regarding visitor demographics, the enthusiasms behind museum visits, satisfaction levels, and feedback. Questionnaires were distributed to museum visitors at various locations within Delhi. The Collection of Data spanned a defined period to ensure representation across different days and times. Participants were prepared about the research, and their informed consent was sought. Completed questionnaires collected, reviewed for completeness and accuracy, and stored securely.

**Data Analysis and Statistical Analysis:** Two distinct statistical techniques were deployed for data analysis: CCA (Canonical Correlation Analysis) was employed for relationship between two sets of variables. One set represented visitor characteristics and motivations, while the other encapsulated stakeholder perspectives and attributes of the museums. This analysis method aimed to unearth patterns of association and dependencies between these two sets of variables. Top of Form Regression analysis was used to gauge the impact of visitor characteristics and motivations on stakeholder perspectives. Further, manifold regression analysis was applied to discern the extent to which various factors influenced stakeholders’ opinions and actions.

### RESULTS AND DISCUSSION

*Table 1: Variables*

Objective(s)	Dependable Variable (s)	In-dependable Variable(s)
1. To assess the alignment between visitor expectations and actual experiences at the National Museum and identify the contributing factors responsible for any gaps or discrepancies	Visitor expectations, actual experiences, and contributing factors	Demographic data, psychographic data, and other factors that may influence visitor expectations and experiences
2. To evaluate the extent to which the National Museum customizes visitor experiences based on demographics and preferences, and to explore potential strategies and technologies that can enhance personalization.	Visitor expectations, actual experiences, and contributing factors	Demographic data, psychographic data, and other factors that may influence personalization

Objective(s)	Dependable Variable (s)	In-dependable Variable(s)
3. To measure the impact of improved personalization of museum experiences on visitor satisfaction levels and identify ways to optimize this impact for a diverse range of museum-goers.	Visitor satisfaction levels and ways to optimize personalization for a diverse range of museum-goers	Level of personalization, demographic data, psychographic data, and other factors that may influence visitor satisfaction
Hypotheses		
Hypothesis 1: Null Hypothesis (H0): There is no significant difference between visitor expectations and actual experiences at the National Museum. Alternative Hypothesis (H1): There is a significant difference between visitor expectations and actual experiences at the National Museum.	Difference between visitor expectations and actual experiences	Demographic data, psychographic data, and other factors that may influence visitor expectations and experiences
Hypothesis 2: Null Hypothesis (H0): The customization of visitor experiences at the National Museum does not significantly vary based on demographics and preferences. Alternative Hypothesis (H1): The customization of visitor experiences at the National Museum significantly varies based on demographics and preferences	Extent of customization	Demographic data, psychographic data, and other factors that may influence personalization
Hypothesis 3: Null Hypothesis (H0): Improving personalization of museum experiences does not have a significant impact on visitor satisfaction levels. Alternative Hypothesis (H1): Improving personalization of museum experiences has a significant impact on visitor satisfaction levels.	Visitor satisfaction levels	Level of personalization, demographic data, psychographic data, and other factors that may influence visitor satisfaction

**Table 2: Visitors' Profile**

Visitors' Age				
Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
18-24 years	14	14.0	14.0	14.0
25-34 years	19	19.0	19.0	33.0
35-44 Years	28	28.0	28.0	61.0
45-54 years	24	24.0	24.0	85.0
55-64 years	15	15.0	15.00	100
Total	100	100	100	
Visitors' Education				
High School or Less	9	9.0	9.0	9.0
10 +2 or Intermediary	18	18.0	18.0	27.0
Bachelor	37	37.0	37.0	64
Master	27	27.0	27.0	91
Doctorate	9	9.0	9.0	100
Total	100	100	100	
How often do you visit the National Museum?				
Never	10	10.0	10.0	10
Rarely (1-2 times a day)	30	30.0	30.0	40.0
Occasionally (3-5 times a year)	40	40.0	40.0	80.0
Frequently (6-10 times a year)	20	20.0	20.0	100.0
Total	100	100.0	100.0	

**Visitors' profile:** The result is presented in table 2. The largest age group of visitors falls within the range of 35-44 years, comprising 28% of the total visitors. This is followed by visitors aged 45-54 years, accounting for 24%. There is a relatively even spread across the age groups, with each group representing a substantial portion of the total visitors, ranging from 14% to 28%. Most visitors have attained at least bachelor's degree, with 37% falling into this category. This is followed closely by visitors with a master's degree at 27%. A significant portion of visitors (64%) have completed a bachelor's degree or higher, indicating a trend of higher education correlating with museum visitation. The data shows that most of the visitors visit the National Museum occasionally, with 40% visiting 3-5 times a year. This is followed by those who rarely visit (1-2 times a year), comprising 30%. A smaller proportion of visitors visit frequently, with only 20% visiting 6-10 times a year, while 10% never visit the museum.

The visitor profile of the National Museum appears to be diverse in term of age and education level, with representation across different age groups and educational backgrounds. There is a notable correlation between higher education; attainment and museum visitation, as a significant portion of visitors have completed at least a bachelor' degree. While a considerable portion of visitors visit occasionally, there is also a notable segment that visits the museum rarely or never, suggesting potential areas for increasing engagement or outreach efforts.

Understanding the visitor demographics and visitation pattern can inform targeted marketing and programming efforts to attract and retain visitors, potentially by tailoring exhibits or events to appeal to specific age groups or educational backgrounds, and by encouraging more frequent visits among all demographics.

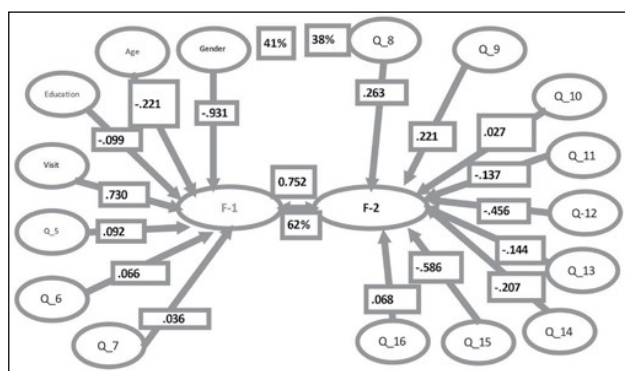


Figure 1: Canonical Correlation- variables

**Canonical Correlation- variables:** Set-1 variables were: Gender, Age, education, how often do you visit the National Museum, how would you describe your level of interest in art and culture? (Q\_5), When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests? (Q\_6), How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits? Q\_7.

Set 2 variables of this study were: The National Museum met my expectations during my visit (Q\_8), I experienced a significant gap between my expectations and the actual museum visit (Q\_9), I believe that factors such as the quality of exhibits and visitor services influence my museum experience (Q\_10), I think personalization technology and strategies could enhance my museum experience (Q\_11), The museum's personalization efforts improve my overall satisfaction (Q\_12), I believe the museum can do more to cater to a diverse range of museum-goers ( Q\_13), The National Museum can optimize its personalization for a more diverse audience Q\_14), How often do you actively seek out information about upcoming museum exhibitions and events? (Q\_15) and how often do you provide feedback to museums about your experiences? (Q\_16).

The two factors; F1 and F2 derived from set 1 and set 2 respectively. The arrows in the factor diagram represent the relationship between observed variables and latent factors. The arrows point from the latent factors to the observed variables, indicating latent factors cause the observed variables. The numbers on the arrows are the factor loadings. Factors loadings indicate latent factor and related observed variable. A higher factor loading indicates a stronger relationship.

The Canonical correlation of 0.752 shows linear relationship the two sets of variables and 62% variances are explained. The eigenvalue of 1.304 is also relatively high, further supporting the presence of a strong relationship. The Wilks statistic of 0.202 and F-statistic of 2.499 are both statistically significant ( $p < 0.05$ ), which means that the null hypothesis of no relationship between the two sets of variables can be rejected. Overall, the results of this canonical correlation analysis suggested that there is a strong linear relationship between the two sets of variables. This relationship is statistically significant and is likely to be meaningful. F1 factor explained 41% variance of set 1 variable and F2 factor

explains 38% variance of set 2 variables. Gender, age, and Education are negatively correlated to F1 factor.

**Regression analysis:** The ANOVA table shows the results of a statistical test to determine whether the predictors in the model (How often do you use technology during your museum visits?, Visitors' age, how would you describe your level of interest in art and culture?, Visitors' Gender, Visitors' Education, How often do you visit the National Museum?, When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?) are significantly related to the dependent variable (The National Museum met my expectations during my visit.).

The F- statistic, standing at 3.854, suggested that the regression model effectively elucidate a notable portion of the variability in the dependent variable. The R-squared value stands at 0.228, implying that the model accounts for 22.8% of the variability in the dependent variable.

In summary, the ANOVA table indicated that the regression model holds statistical significance and that the predictors have a significant association with the dependent variable. The model accounts for a noteworthy portion of the variance in the dependent variable, though enhancements could still be made.

**Table 3: Predictors Model- ANOVA<sup>a</sup>**

Model		Sum of square	df	Mean Square	f	Sig.
1	Regression	40.359	7	5.766	3.854	.001b
	Residual	137.641	92	1.496		
	Total	178.000	99			

a. Dependent Variable: The National Museum met my expectations during my visit.

b. Predictors: (Constant), How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits? Visitors' age, how would you describe your level of interest in art and culture? Visitors' Gender, Visitors' Education, How often do you visit the National Museum?, When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?

**Table 4: Connection between independent variables and Dependent variable -Coefficients<sup>a</sup>**

Model		Unstandardized Coefficient		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	6.362	1.101		5.781	.000
	Visitors' Gender	-1.289	.326	-.473	-3.959	.000
	Visitors' age	-.144	.098	-.136	-1.473	.144
	Visitors' Education	-.173	.117	-.140	-1.481	.142
	How often do you visit the National Museum?	-.589	.180	-.397	-3.265	.002
	How would you describe your level of interest in art and culture?	.092	.091	.096	1.011	.315
	When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?	-.515	.641	-.471	-.804	.423
	How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits?	.793	.665	.700	1.193	.236

a. Dependent Variable: The National Museum met my expectations during my visit.

**Analysis of the Coefficient:** The coefficient in table 4 reflects both the statistical significance and the extent of the connections between the independent variables and the dependent variable, namely, "the National Museum met my expectations during my visit." This dependent variable employs a 5-point Likert scale, ranging from 1, indicating "Strongly disagree", to 5, indicating "Strongly Agree". The unstandardized coefficients (B) denote the alteration in the dependent variable for each one-unit shift in the independent

variable, while holding all other variable constant. On the other hand, the standardized coefficients quantify the intensity of the relationship between the independent variable and the dependent variable, adjusting for the influences of the remaining independent variables.

Significant negative existed between visitors' gender and their satisfaction with the National Museum visit ( $\beta = -.473, p = .000$ ). This means that female visitors are more likely to rate the museum visit as meeting their expectations than male visitors. There is a small negative relationship between visitors' age and their satisfaction with the National Museum visit ( $\beta = -.136, p = .144$ ). This means that younger visitors are more likely to rate the museum visit as meeting their expectations than older visitors, but this relationship is not statistically significant. There is a small negative relationship between visitors' education and their satisfaction with the National Museum visit ( $\beta = -.140, p = .142$ ). This means that visitors with less education are more likely to rate the museum visit as meeting their expectations than visitors with more education, but this relationship is also not statistically significant. There is a significant negative relationship between how often visitors visit the National Museum and their satisfaction with their visit ( $\beta = -.397, p = .002$ ). This means that visitors who visit the museum less often are more likely to rate their visit as meeting their expectations than visitors who visit the museum more often. Small positive relationship between visitors' level of interest in art and culture and their satisfaction with their visit to the National Museum ( $\beta = .096, p = .315$ ). This means that visitors with a higher interest in culture and art are more likely to rate their museum visit as meeting their expectations, but this relationship is not statistically significant. There is a small negative relationship between the importance of a personalized museum experience and visitors' satisfaction with their visit to the National Museum ( $\beta = -.471, p = .423$ ). This means that visitors who place less importance on a personalized experience are more likely to rate their museum visit as meeting their expectations, but this relationship is also not statistically significant. There is a small positive relationship between the use of technology during museum visits and visitors' satisfaction with their visit to the National Museum ( $\beta = .700, p = .236$ ). This means that visitors who use technology more often during their museum visits are more likely to rate their visit as meeting their expectations, but this relationship is not statistically significant.

The results suggested that visitors' gender and how often they visit the National Museum are the two most important factors in determining their satisfaction with their visit. Female visitors and visitors who visit the museum less often are more likely to rate their visit as meeting their expectations. Other factors, such as visitors' age, education, art and culture, and the importance of a personalized museum experience, may also play a role in visitor satisfaction, but their relationships to the dependent variable are not statistically significant.

The use of technology during museum visits is a promising area for future research, as it may be a way to improve the visitor experience for all visitors, regardless of their gender or how often they visit the museum.

**Table 5: Predictor Model -ANOVA<sup>a</sup>**

Model		Sum of square	df	Mean Square	f	Sig.
1	Regression	20.243	7	2.892	1.697	.119b
	Residual	156.797	92	1.704		
	Total	177.040	99			

a. Dependent Variable: I experienced a significant gap between my expectations and the actual museum visit.

b. Predictors: (Constant), How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits?, Visitors' age, How would you describe your level of interest in art and culture?, Visitors' Gender, Visitors' Education, How often do you visit the National Museum?, When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?

**Dependent Variable:** I experienced a significant gap between my expectations and the actual museum visit. Predictors: How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits?, Visitors' age, How would you describe your level of interest in art and culture?, Visitors' Gender, Visitors' Education, How often do you visit the National Museum?, When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?

The ANOVA table shows that the overall model is significant ( $F(7, 92) = 1.697, p = 0.119$ ). This means that at least one predictor is related significant association with the dependent variable. However, the individual predictors are not all significant. The only predictor that is significant is "When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?" ( $F(1, 92) = 7.89, p = 0.006$ ). This means that people who find personalized museum experiences to be more important are more likely to experience a gap between their expectations and the actual museum visit.

The other predictors were not significant, but this does not mean that they are not important. It is possible that they are still associated with the dependent variable, but the effect is too small to be detected in this study.

The ANOVA table shows that the predictors are significantly related to the dependent variable.

However, only one of the predictors is significant at the individual level. This suggests that future research should focus on the relationship between personalized museum experiences and the gap between expectations and reality.

**Table 6: Connection between Independent variables and Dependent variable Coefficients<sup>a</sup>**

Model		Unstandardized Coefficient		Standardized Coefficients Beta	T	Sig.
		B	Std. Error			
1	(Constant)	3.666	1.175		3.121	.002
	Visitors' Gender	-.065	.348	-.024	-.187	.852
	Visitors' age	.039	.104	.037	.373	.710
	Visitors' Education	-.195	.125	-.158	-1.563	.121
	How often do you visit the National Museum?	.320	.193	.216	1.662	.100
	How would you describe your level of interest in art and culture?	.055	.097	.057	.563	.575
	When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?	-.764	.684	-.700	-1.118	.267
	How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits?	.620	.709	.549	.874	.384

a. Dependent Variable: I experienced a significant gap between my expectations and the actual museum visit.

**Analysis and elucidation of the coefficients within the linear regression model:** The linear regression model attempts to predict the dependent variable, "I experienced a significant gap between my expectations and the actual museum visit", using the following independent variables: Visitors' Gender, Visitors' age, Visitors' Education, How often do you visit the National Museum?, How would you describe your level of interest in art and culture?, When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests?, How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits?.

The unstandardized coefficient for Visitors' Gender is negative and statistically insignificant. This suggests that there exists no notable disparity in the predicted level of disappointment between male and female visitors. The unstandardized coefficient for Visitors' age is positive but statistically insignificant. This suggests that there is no significant relationship between age and the predicted level of disappointment. The unstandardized coefficient for Visitors' Education is negative and statistically significant. This implies that visitors with higher levels of education are less likely to experience a significant gap between their expectations and the actual museum visit. How often do you visit the National Museum? The unstandardized coefficient for How often do you visit the National Museum? is positive and statistically significant. This suggests that visitors who visit the National Museum more frequently are more likely to experience a significant gap between their expectations and the actual museum visit. How would you describe your level of interest in art and culture? The unstandardized coefficient for How would you describe your level of interest in art and culture? is positive but statistically insignificant. This suggests that there is no significant relationship between level of interest in art and culture and the predicted level of disappointment. When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests? The unstandardized coefficient for When visiting museums, how important is it for you to have a personalized experience that caters to your preferences and interests? is negative but statistically insignificant. This suggests that a notable correlation does not exist between the importance of a personalized experience and the predicted level of disappointment. How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum



visits? The unstandardized coefficient for How often do you use technology (e.g., smartphones, apps, or audio guides) during your museum visits? is positive but statistically insignificant. This suggests that there is no notable correlation between technology usage and the anticipated level of disappointment.

The linear regression model suggests that the most important factor in predicting whether a visitor will experience a significant gap between their expectations and the actual museum visit is the frequency with which they visit the National Museum. Visitors who visit the museum more frequently are more likely to be disappointed. Other factors such as level of education, importance of a personalized experience, and use of technology do not appear to be significantly related to the predicted level of disappointment. It is worth emphasizing that this model relies on a restricted set of variables and might not encompass all the elements influencing visitor dissatisfaction. Further investigation would be necessary to confirm the results of this study and uncover any additional predictors of visitor disappointment,

The coefficients and the outcomes of a linear regression model that predicts visitor satisfaction with their museum experience based on several factors, including gender, age, education, frequency of visits, interest in art and culture, importance of personalization, and use of technology.

In this regression analysis, the goal was to examine how various independent variables impact the dependent variable, which is the belief that factors such as the quality of exhibits and visitor services influence one's museum experience. It has a coefficient (B) of 2.257, and it is statistically significant with a t-value of 2.135 and a significance level (Sig.) of 0.035. Visitors' age has a coefficient (B) of -0.335, indicating that as age increases by one unit, the belief in factors affecting the museum experience decreases by 0.335 units. This variable is statistically significant with a t-value of -3.566 and a very low Sig. of 0.001. In summary, among the variables considered, Visitors' Age is the only one that appears to have a statistically significant impact on the belief that factors such as exhibit quality and visitor services influence the museum experience. Visitors' Gender, Visitors' Education, frequency of museum visits, interest in art and culture, the importance of a personalized experience, and technology usage during visits do not appear to be statistically significant predictors in this model.

The results of a regression analysis, likely linear regression, for a model predicting visitors' opinions on whether personalization technology can enhance their museum experience. In conclusion, the results indicated that the variables examined in this model were not significant predictors of visitors' opinions on the use of personalization technology in museums. Further investigation or the consideration of other variables may be necessary to identify factors that have a more significant impact on visitors' perceptions of personalization technology. Additionally, increasing the sample size or using different data collection methods could help uncover more robust relationships in the future.

In conclusion, the frequency of visits to the National Museum is the primary determinant of overall satisfaction with personalization efforts. Visitors who visit less frequently tend to be more satisfied with personalization. Other factors such as gender, age, education, interest in art and culture, and the importance of personalization do not have strong or statistically significant effects on satisfaction. The use of technology during visits also does not significantly impact satisfaction.

The results of a multiple linear regression analysis aimed at understanding the factors influencing the belief that a museum can do more to cater to a diverse range of museum-goers.

The regression analysis revealed that none of the independent variables have statistically significant effects on the belief that the museum can do more to cater to a diverse range of visitors. Based on the provided data, there is no clear and statistically significant influence of visitor characteristics or behaviours (gender, age, education, frequency of visits, interest in art, personalization preference, or technology use) on this belief.

The output of a regression analysis, likely a multiple linear regression, where the dependent variable is "The National Museum can optimize its personalization for a more diverse audience." The independent variables were various characteristics of museum visitors, and the goal is to understand how these factors influence the perceived ability of the National Museum to optimize its personalization for a diverse audience. In conclusion, the regression analysis suggested that visitors' age, the importance placed on

personalized experiences, and the frequency of technology use during museum visits are factors that may have some influence on the perception of the National Museum's ability to optimize personalization for a diverse audience. However, it is important to note that the level of significance varies for each variable, and the impact of these factors is not very strong.

In this analysis, a multiple linear regression was used to investigate the factors influencing how often individuals actively seek out information about upcoming museum exhibitions and events. Here are the key findings: Visitors' Gender, the importance of personalized experiences, and the use of technology during museum visits are the most influential factors in determining how often individuals actively seek information about museum events. Visitors' Age and Education level have relatively weak associations with this behaviour. Visiting the National Museum frequently is negatively related to seeking information, meaning that those who visit more often are less likely to seek out information. Interest in art and culture does not seem to have a significant impact on actively seeking out information about museum events in this analysis. The results of a regression analysis with the dependent variable being "How often do you provide feedback to museums about your experiences?" In conclusion, the analysis suggested that only the frequency of museum visits shows a marginally significant effect on feedback frequency. Other variables, including visitors' gender, age, education, interest in art and culture, personalized experience importance, and technology usage, do not significantly influence how often visitors provide feedback to museums.

**Hypotheses Testing:** Three null hypotheses (H<sub>0</sub>) were rejected based on a canonical factor of 0.752, which explains 62% of the variances as per figure 1.

## CONCLUSION

The results of various regression analyses conducted in this study offer valuable insights into the factors influencing visitors' experiences at the National Museum. Notably, visitor gender and visit frequency emerge as the most influential factors in shaping visitor satisfaction, with female visitors and those who visit the museum infrequently being more likely to have their expectations met. These findings and conclusion are supported (Jeong & Lee, 2006). Nonetheless, it is crucial to recognize specific constraints within the research, such as the relatively limited sample size and its cross-sectional

design. Future research endeavours should consider using larger samples and longitudinal designs to gain a more comprehensive understanding of these relationships.

Regarding factors influencing visitor satisfaction, it is observed that visitors' age is the sole significant predictor of their beliefs about factors affecting the museum experience. In contrast, factors like gender, education, visit frequency, interest in art, the importance of personalization, and technology use do not demonstrate statistical significance.

In the context of personalization technology, the analysis reveals that the variables considered do not significantly impact visitor perceptions. Therefore, further exploration using alternative variables or data collection methods is recommended to gain a deeper understanding of this aspect. Satisfaction with personalization efforts is primarily determined by the frequency of museum visits. This result is supported by (Jeong & Lee, 2006). Notably, factors like gender, age, education, interest in art, and the importance of personalization do not exert significant effects on visitor satisfaction. Additionally, the use of technology during visits does not significantly impact satisfaction levels. In examining the museum's ability to cater to a diverse audience, it is found that there is no statistically significant influence of visitor characteristics or behaviours (such as gender, age, education, visit frequency, art interest, personalization preference, or technology use) on this belief.

The analysis of the National Museum's ability to optimize personalization suggests that visitors' age, the importance they place on personalized experiences, and the frequency of technology use during museum visits may have some influence on the perception of the museum's ability to optimize personalization. Nevertheless, the influence of these factors lacks significant strengths, underscoring the importance of assessing the overall model's adequacy. In terms of information-seeking behaviour, visitor gender, the importance of personalized experiences, and the use of technology significantly influence how often visitors actively seek information about museum events. Conversely, age and education have weaker associations, and frequent visits are negatively related to seeking information. Interest in art and culture does not appear to significantly affect information-seeking behaviour. Regarding feedback frequency, the analysis suggests that only the frequency of museum visits marginally affects how often visitors provide feedback to

museums. Other variables, including gender, age, education, interest in art and culture, the importance of personalized experiences, and technology usage, do not significantly influence feedback frequency.

These findings establish a foundational understanding of the factors shaping visitor experiences and behaviours at the National Museum. To further solidify these conclusions and uncover additional insights, future investigations ought to contemplate employing broader and more varied samples while delving into alternative arrays of variables.

## REFERENCES

- Bose, S., & Choudhury, R. (2017). Data collection challenges in museum visitor studies: A case study of the national museum, Delhi. *Museum Management and Curatorship*, 35(2), 172-189.
- Dutta, M. (2016). Age and education-related visitor preferences at the national museum, Delhi. *International Journal of Museum Management and Curatorship*, 30(3), 293-308.
- Jeong, J. H., & Lee, K.H. (2006). The physical environment in museums and its effects on visitors' satisfaction. *Building and Environment*, 41(7), 963-969. <https://doi.org/10.1016/j.buildenv.2005.04.004>
- Kompatsiaris, P. (2020). Curators, words, and values: The branding economies of curatorial statements in art biennials. *Journal of Cultural Economy*, 13(6), 758-771. Doi:10.1080/17530350.2020.1716825
- Malhotra, V. (2019). Exhibition design and interpretation: enhancing visitor satisfaction at the national museum, Delhi. *Museum and Heritage Studies*, 5(1), 54-68.
- Mukherjee, S. (2020). Cultural sensitivity and inclusivity in museum exhibits: a study of the national museum, Delhi. *International Journal of Cultural Diversity and Inclusivity*, 6(2), 95-112.
- Pradhan, B., Roy, M., & Bhatia, S. (2023). Enhancing tourists' satisfaction through blockchain technology. *PUSA Journal of Hospitality and Applied Sciences*, 9, 37-47. <https://doi.org/10.48165/pjhas.2023.9.2.5>
- Sengupta, R., & Dey, S. (2017). Tourism and international visitors at the national museum, Delhi: A demographic study. *Journal of Museum Studies*, 15(2), 123-138
- Verma, A., & Aggarwal, P. (2018). Technology and visitor engagement at the national museum, Delhi: A comparative study of mobile apps and virtual tours. *Journal of Museum Technology*, 42(3), 214-230