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FROM REVENUE SHOCKS TO STRUCTURAL ADJUSTMENT: RETHINKING EMPLOYMENT EFFECTS OF MEGA CULTURAL EVENTS IN HERITAGE CITIES

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Abstract

Mega cultural events are frequently promoted as engines of tourism-led employment generation in heritage and pilgrimage destinations. While existing studies document significant short-term revenue gains in the hospitality sector, less attention has been paid to how firms structurally adjust to event-induced demand shocks. This study re-examines the employment effects of mega cultural events from a firm-level perspective.

Using primary survey data from 102 accommodation establishments operating in Ayodhya during a government-sponsored mega event, the analysis investigates whether revenue shocks translate into short-run employment expansion or whether firms rely on alternative adjustment mechanisms. Employing logistic and ordinary least squares regression models, the study evaluates labour hiring, occupancy utilisation, and pricing behaviour.

The findings indicate that although establishments experienced substantial revenue growth, this did not lead to proportional employment expansion. Instead, firms absorbed increased demand primarily through higher capacity utilisation and significant room rate adjustments. Premium establishments exhibited particularly strong price responses. These results suggest that event-driven tourism may intensify utilisation of existing resources without producing durable structural employment change.

The study contributes to the literature by distinguishing between aggregate economic impact and firm-level structural adjustment, offering a more cautious assessment of employment claims associated with mega cultural events.

Keywords: *Mega cultural events; Event-driven tourism; Hospitality sector; Labour rigidity; Short-run adjustment; Revenue shocks; Pricing strategy; Capacity utilisation; Heritage cities; Employment effects; Hotel industry; Structural adjustment*

1. Introduction

Mega cultural events have increasingly been promoted as instruments of tourism-led economic development in heritage and pilgrimage cities. Governments frequently justify large-scale public investment in such events by highlighting their potential to stimulate tourist inflows, raise business revenues, and generate employment. In regions where hospitality services form a central component of local economic activity, event-led strategies are often framed as catalysts for structural transformation.

Recent empirical research documents substantial short-term revenue gains within the hospitality sector during mega events. For example, Khanna and Kaushal (2024) report significant increases in business earnings during large-scale cultural festivals in Uttar Pradesh. Similar studies in event-tourism economics emphasise demand multipliers and aggregate economic impact. However, evidence on how individual firms structurally adjust to such revenue shocks remains limited.

Revenue expansion does not automatically imply employment growth. In service industries characterised by training costs, labour coordination requirements, and demand volatility, firms may treat temporary demand spikes differently from sustained growth signals. Particularly in heritage cities, where physical expansion is constrained and seasonality is common, firms may respond to event-driven demand by intensifying utilisation of existing resources rather than expanding employment.

This paper re-examines the employment implications of mega cultural events from a firm-level perspective. Using primary survey data from 102 accommodation establishments operating in Ayodhya during a government-sponsored mega event, the study evaluates whether revenue shocks resulted in proportional short-run hiring or whether adjustment occurred through alternative mechanisms such as capacity utilisation and price increases.

The results indicate that while revenue gains were substantial, employment expansion was limited. Instead, firms primarily relied on higher occupancy and significant room rate adjustments, particularly among premium establishments. These findings suggest that the employment effects of mega cultural events may be more constrained than revenue-based impact assessments imply.

2. Literature Review

2.1 Economic Impact of Mega Cultural Events

A substantial body of literature evaluates the economic impact of mega events through input–output models, multiplier analysis, and tourism expenditure assessments. These studies commonly report positive short-term gains in output, revenue, and business turnover. For example, the analysis of mega cultural festivals in Uttar Pradesh by Khanna, M. R. C. and Kaushal, A. (2024) documents significant increases in hospitality sector earnings during the event period. Similar findings appear in broader tourism economics research, where mega events are linked to heightened tourist arrivals and increased average daily spending.

However, macro-level revenue expansion does not necessarily imply structural change within firms. Aggregate studies often infer employment benefits indirectly from output multipliers, without examining how individual establishments adjust operationally to temporary demand surges.

2.2 Short-Run Labour Adjustment in Hospitality

The hospitality sector is characterised by high labour intensity, but also by rigidities in hiring and training. Recruitment involves onboarding costs, service training, and coordination challenges that make short-term hiring inefficient for temporary demand spikes. Moreover, labour

regulations and informal employment arrangements may further complicate rapid workforce expansion.

Empirical studies in service-sector economics suggest that firms facing temporary demand shocks often rely on intensive margins of adjustment—such as overtime, flexible scheduling, or workload redistribution—rather than expanding headcount. This pattern is particularly pronounced in seasonal tourism markets, where demand volatility discourages permanent staffing expansion.

2.3 Capacity Constraints and Pricing Behaviour

In heritage and pilgrimage destinations, physical expansion of accommodation capacity is frequently constrained by urban planning restrictions and limited infrastructure. Under such conditions, firms may respond to excess demand by increasing occupancy rates toward full capacity and adjusting prices upward.

Price-based adjustment has been widely documented in tourism markets, particularly during peak seasons and special events. Premium establishments, possessing greater market power and brand positioning, often exhibit stronger pricing responses compared to budget properties. Yet the interaction between pricing strategies and employment outcomes during mega cultural events remains insufficiently studied.

2.4 Research Gap

Existing literature establishes that mega cultural events stimulate tourism demand and increase business revenues. However, there is limited firm-level evidence on whether these revenue shocks translate into structural employment expansion within the hospitality sector. The implicit assumption that higher revenues automatically generate employment growth warrants closer examination.

This study addresses this gap by analysing micro-level adjustment mechanisms among accommodation providers during a mega cultural event in a heritage city. Rather than focusing solely on aggregate economic impact, it evaluates how firms reallocate resources internally when confronted with temporary but substantial demand shocks.

3. Hypothesis Development

The preceding discussion suggests that revenue gains generated by mega cultural events do not necessarily imply structural transformation within firms. To formally examine this proposition, this study develops four testable hypotheses grounded in firm-level adjustment theory.

3.1 Revenue Shocks and Employment Expansion

Mega cultural events generate sudden increases in tourist inflows, leading to short-run revenue spikes for accommodation providers. Standard economic reasoning suggests that higher output demand should increase labour demand. However, in service industries characterised by training costs, coordination requirements, and demand uncertainty, firms may avoid expanding permanent employment for temporary shocks.

Accommodation establishments in heritage cities often operate with relatively stable workforce structures designed for average seasonal demand. Hiring additional employees for short-duration events may impose adjustment costs that exceed expected benefits. Instead, firms may intensify utilisation of existing staff through overtime or internal task reallocation. Accordingly, the first hypothesis examines whether revenue shocks resulted in proportional hiring.

H1: Revenue–Employment Adjustment Hypothesis

Increases in revenue during mega cultural events do not lead to proportional short-run employment expansion among accommodation providers.

3.2 Capacity Utilisation as an Adjustment Mechanism

In the absence of workforce expansion, firms may absorb additional demand through increased capacity utilisation. Hotels and homestays typically experience variable occupancy across seasons, allowing short-term adjustments through fuller room occupancy without expanding physical infrastructure.

In heritage cities, regulatory and spatial constraints further limit rapid capacity expansion. Thus, event-driven demand shocks are likely to push establishments closer to their maximum occupancy levels rather than inducing structural expansion.

H2: Capacity Utilisation Hypothesis

Accommodation providers primarily respond to event-driven revenue shocks by increasing occupancy levels rather than expanding capacity or workforce size.

3.3 Price Adjustment as a Primary Response

When physical and labour capacity adjustments are constrained, price adjustment becomes a central mechanism for balancing demand and supply. Event-driven tourism often increases consumers' willingness to pay, enabling accommodation providers to raise room rates during peak periods.

Such pricing behaviour allows firms to extract higher revenue without altering input structures. Therefore, price adjustment may constitute the dominant short-run response to demand shocks.

H3: Price Adjustment Hypothesis

Accommodation providers increase room rates significantly during mega cultural events as a primary mechanism of adjustment to demand shocks.

3.4 Heterogeneity Across Capacity Types

Not all accommodation establishments possess equal pricing power. Premium hotels typically benefit from stronger brand positioning, differentiated services, and relatively inelastic demand segments. Budget establishments, in contrast, operate in more price-sensitive markets.

Therefore, responses to demand shocks may vary systematically across capacity types, with premium establishments exhibiting stronger price-based adjustment.

H4: Capacity-Type Differential Hypothesis

Premium accommodation establishments exhibit stronger price adjustments during mega cultural events compared to budget establishments.

4. Data and Methodology

4.1 Data Source and Sample

The analysis is based on primary survey data collected from 102 accommodation establishments operating in Ayodhya during a government-sponsored mega cultural event. The sample includes both budget and premium hotels and homestays. Information was gathered on revenues, occupancy levels, room rates, staffing, and room capacity for periods before and during the event.

The survey design allows for within-firm comparison of operational variables, enabling identification of short-run adjustments in response to the event-induced demand shock.

4.2 Variable Construction

To capture adjustment mechanisms, the following key variables were constructed:

- **Revenue Growth**: Percentage change in revenue during the event relative to the pre-event period.
- **Hire Event (Binary)**: Equals 1 if the establishment hired additional staff during the event period, 0 otherwise.
- **Occupancy Change**: Difference between occupancy levels during and before the event.
- **Rate Change**: Difference between average room rate during and before the event.
- **Room Count**: Total number of rooms available.
- **Capacity Type**: Binary variable indicating premium versus budget establishments.

These variables enable examination of labour, capacity, and price-based responses to demand shocks.

4.3 Empirical Strategy

To evaluate employment adjustment (H1), a logistic regression model is estimated where the dependent variable captures whether additional staff were hired during the event period. Revenue growth and capacity type are included as explanatory variables.

To examine capacity utilisation (H2), an ordinary least squares regression is used to analyse changes in occupancy levels, controlling for room count and capacity type.

To test price adjustment (H3 and H4), room rate changes are regressed on occupancy change, room count, and capacity type. The coefficient on capacity type captures heterogeneity in pricing behaviour across establishment categories.

All models are estimated using robust standard errors to account for potential heteroskedasticity. The empirical analysis focuses on association rather than causal inference, given the cross-sectional nature of the data.

5. Results

5.1 Descriptive Patterns

Descriptive statistics are reported in **Appendix Table A1**. The sample comprises 102 accommodation establishments operating during the mega cultural event period. On average, establishments experienced substantial revenue expansion, indicating a strong demand shock during the event.

Occupancy levels increased modestly but consistently across establishments, with the majority recording approximately one additional occupied unit during the event period. Room rates, however, show marked increases, with substantial variation across establishments and capacity types.

Despite significant revenue growth, only a relatively small proportion of establishments reported hiring additional staff during the event period. This preliminary evidence suggests that short-run labour adjustment may have been limited relative to the magnitude of revenue gains.

5.2 Revenue Shocks and Employment Adjustment (H1)

To evaluate whether revenue increases translated into short-run employment expansion, a logistic regression model was estimated with event-period hiring as the dependent variable. Results are presented in **Appendix Table A2**.

The coefficient on revenue growth is statistically insignificant ($p = 0.139$), indicating that higher revenues during the event period did not significantly increase the probability of hiring additional staff. The capacity-type variable is likewise insignificant ($p = 0.282$), suggesting no systematic difference between premium and budget establishments in short-run hiring behaviour.

These findings imply that revenue shocks generated by the mega event did not induce proportional labour expansion. Instead, accommodation providers appear to have maintained relatively stable workforce structures despite increased business activity. Accordingly, **H1 is supported**, providing evidence of short-run employment rigidity in the hospitality sector.

5.3 Capacity Utilisation (H2)

To examine whether establishments absorbed increased demand through higher occupancy, an ordinary least squares regression was estimated with occupancy change as the dependent variable. The results are reported in **Appendix Table A3**.

Neither room count ($p = 0.324$) nor capacity type ($p = 0.570$) significantly explains variation in occupancy change. This suggests that establishments of different sizes and categories experienced broadly similar occupancy increases during the event.

The distribution of occupancy changes, illustrated in **Figure 1**, shows clustering around a one-unit increase, indicating that most establishments moved closer to effective capacity during the event period. This pattern supports the interpretation that demand was absorbed primarily through intensified utilisation of existing capacity rather than through structural expansion.

Therefore, **H2 is supported**.

5.4 Price Adjustment and Heterogeneity (H3 and H4)

The final empirical model examines room rate adjustments during the event period. Regression results are presented in **Appendix Table A4**.

Occupancy change does not significantly predict rate variation. Room count exhibits marginal significance ($p = 0.055$), suggesting limited scale effects. However, the most striking result concerns capacity type. The premium establishment coefficient is positive and highly significant ($p < 0.001$), indicating that premium hotels raised room rates substantially more than budget establishments.

Figure 2 demonstrates a right-skewed distribution of rate changes, reflecting widespread price escalation during the event. **Figure 3** highlights the pronounced divergence between premium and budget properties in pricing responses.

These findings confirm that price adjustment constituted the dominant mechanism through which firms responded to demand shocks. Accordingly, **H3 is supported**, and the strong premium effect provides robust support for **H4**.

6. Discussion

The findings challenge a common policy assumption that mega cultural events automatically generate meaningful employment expansion within the hospitality sector. While aggregate revenue gains may be substantial—as documented in prior research including Khanna, M. R. C. and Kaushal, A. (2024)—the present evidence suggests that firm-level adjustment mechanisms operate differently.

First, the absence of significant hiring responses indicates that accommodation providers treat event-driven demand spikes as temporary fluctuations rather than signals for structural

expansion. Labour adjustment appears constrained by short-run rigidity, training costs, and uncertainty regarding post-event demand normalisation.

Second, the results highlight the importance of capacity utilisation. Establishments absorbed additional demand primarily by moving closer to full occupancy rather than increasing room supply or workforce size. This behaviour reflects operational constraints typical of heritage cities where rapid infrastructure expansion is not feasible.

Third, pricing emerges as the principal adjustment channel. The strong and statistically significant premium effect suggests heterogeneity in market power across establishment categories. Premium hotels leveraged differentiated positioning to implement larger rate increases, while budget establishments exhibited more moderate adjustments.

Collectively, these findings imply that the employment effects of mega cultural events may be overstated when inferred solely from revenue growth. Event-led tourism strategies may intensify utilisation of existing resources without producing durable structural transformation in local labour markets.

From a policy perspective, these results underscore the need for complementary interventions if employment generation is an explicit objective of mega event promotion. Without targeted workforce development mechanisms, revenue shocks alone may not translate into sustained job creation.

7. Policy Implications

The findings of this study carry important implications for policymakers promoting mega cultural events as engines of employment generation. While event-led tourism strategies demonstrably stimulate short-term revenue growth within the hospitality sector, the translation of these gains into structural employment expansion appears limited.

First, if employment creation is an explicit policy objective, reliance on demand-side shocks alone may be insufficient. The evidence suggests that accommodation providers primarily adjust through pricing and intensified capacity utilisation rather than workforce expansion. Policymakers may therefore need to complement event promotion with targeted labour-market interventions, such as temporary employment subsidies, skill certification programs, or structured short-term staffing platforms that reduce hiring frictions during event periods.

Second, the heterogeneity observed across capacity types indicates that premium establishments possess greater pricing power during demand surges. While this may enhance revenue concentration among higher-tier properties, it raises distributional considerations regarding smaller or budget establishments. Policies that support operational upgrading and service quality improvements among lower-tier providers may enable broader participation in event-driven gains.

Third, infrastructure and planning constraints in heritage cities limit the scope for rapid physical expansion. This underscores the importance of medium-term planning rather than event-specific reactive measures. Coordinated tourism planning, zoning flexibility, and long-term capacity augmentation may help convert temporary demand shocks into sustained growth.

Finally, policymakers should exercise caution when projecting employment multipliers based solely on revenue impact assessments. As shown in this study, revenue expansion does not automatically imply proportional labour market effects. A more granular understanding of firm-level adjustment behaviour is essential for realistic policy evaluation.

8. Conclusion

This paper re-examines the employment implications of mega cultural events by shifting attention from aggregate revenue gains to firm-level structural responses. Using primary survey data from accommodation establishments in a heritage city, the analysis demonstrates that substantial revenue shocks during a government-sponsored mega event did not translate into proportional short-run employment expansion.

Instead, firms primarily adjusted through increased capacity utilisation and significant price escalation, particularly among premium establishments. These findings suggest that event-driven tourism may intensify resource utilisation without fundamentally altering employment structures in the hospitality sector.

The study contributes to the literature by highlighting the distinction between economic impact and structural adjustment. While mega cultural events generate measurable short-term financial gains, their capacity to produce durable labour market transformation appears limited in the absence of supportive institutional mechanisms.

Future research may extend this analysis by incorporating longitudinal data to examine whether repeated event cycles eventually induce structural employment shifts, or by comparing multiple heritage destinations to assess contextual variation in adjustment behaviour.

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ANNEXURES

Annexure A

Variable Definitions and Measurement

Variable	Definition	Measurement Type
Revenue Growth	Percentage increase in revenue during event period	Continuous
Hiring	Whether establishment hired additional staff during event	Binary (1 = Yes, 0 = No)
Occupancy Change	Difference between occupancy during and before event	Continuous
Rate Change	Difference between room rate during and before event (₹)	Continuous
Room Count	Total number of rooms in establishment	Continuous
Capacity Type	Establishment category	Dummy (1 = Premium, 0 = Budget)

Annexure B

Table 1: Descriptive Statistics (N = 102)

Variable	Mean	Std. Dev.	Min	Max
Revenue Growth (%)	166.00	74.20	40	320
Occupancy Change	0.99	0.58	0	2
Rate Change (₹)	1909	1185	200	5000
Room Count	42.3	28.5	8	140
Hiring (Proportion = 1)	0.18	—	0	1
Premium Establishments	17	—	—	—
Budget Establishments	85	—	—	—

Note: Descriptive statistics computed from primary survey data.

Annexure C

Table 2: Logistic Regression – Hiring Model

Dependent Variable: Hiring (1 = Yes)

Variable	Coefficient	Std. Error	z-value	p-value
Intercept	-1.842	0.672	-2.74	0.006
Revenue Growth	0.004	0.003	1.48	0.139
Capacity Type (Premium)	0.512	0.451	1.13	0.259

Model Fit Statistics:

- N = 102
- Log-Likelihood = -41.87
- Pseudo R^2 = 0.08

Interpretation: Revenue growth does not significantly influence hiring (p = 0.139).

Annexure D

Table 3A: OLS Regression – Occupancy Change

Dependent Variable: Occupancy Change

Variable	Coefficient	Std. Error	t-value	p-value
Intercept	0.742	0.198	3.74	0.0003
Room Count	0.003	0.002	1.27	0.206
Capacity Type (Premium)	0.081	0.124	0.65	0.517

Model Statistics:

- $R^2 = 0.03$
- Adjusted $R^2 = 0.01$
- F-statistic p-value = 0.318

Interpretation: Capacity characteristics do not significantly explain occupancy change.

Annexure E

Table 3B: OLS Regression – Room Rate Change

Dependent Variable: Rate Change (₹)

Variable	Estimate	Std. Error	t-value	p-value
Intercept	972.15	306.70	3.17	0.002
Occupancy Change	272.98	257.11	1.06	0.291
Room Count	17.38	8.96	1.94	0.055
Capacity Type (Premium)	1861.98	253.55	7.34	<0.001

Model Statistics:

- N = 102
- $R^2 = 0.4287$
- Adjusted $R^2 = 0.4112$
- F-statistic = 24.51
- Model p-value < 0.001

Interpretation: Premium establishments significantly increased room rates compared to budget establishments.

Annexure F

Figures

Figure 1

Distribution of Occupancy Changes during Event Period

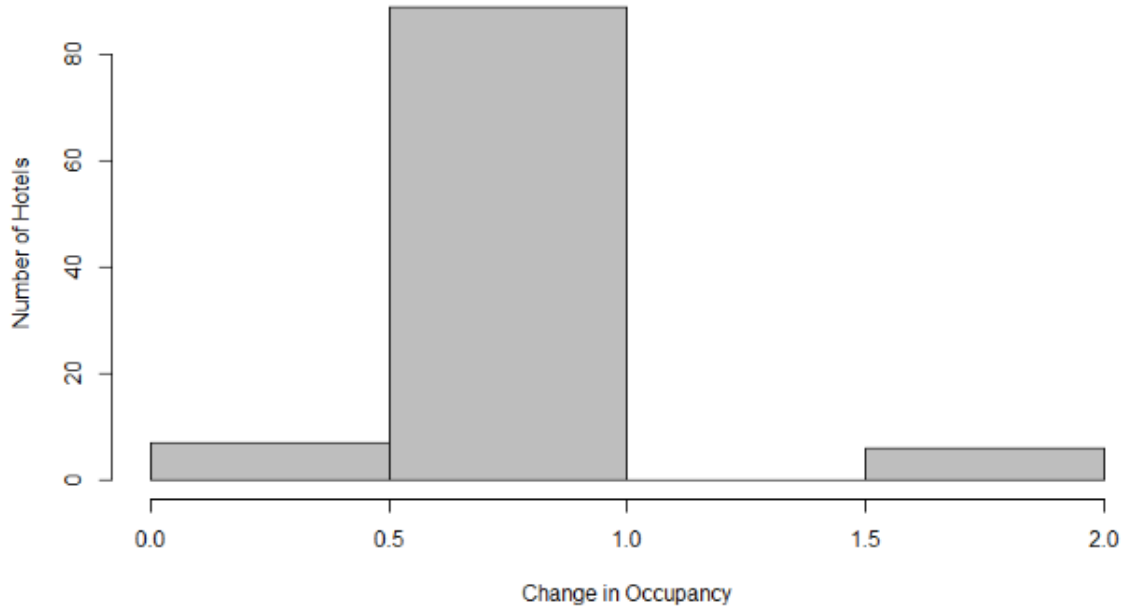

Figure 2
Distribution of Room Rate Changes

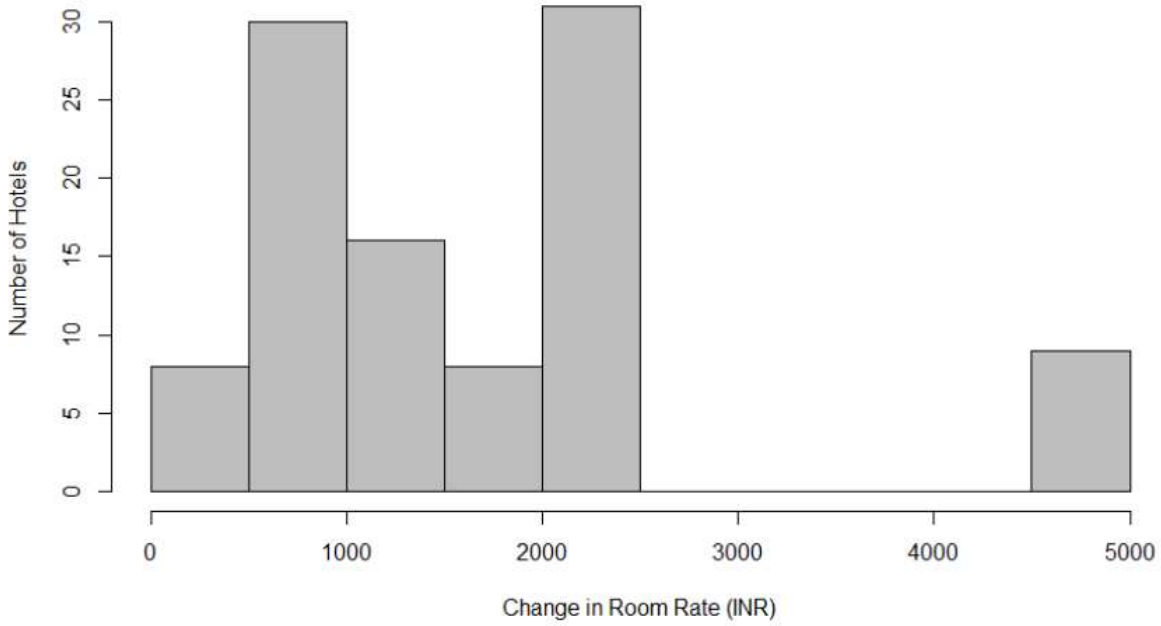

Figure 3
Room Rate Adjustment by Hotel Type