



# An Empirical Study on Consumers' spending on Hindu festivals and its impact on the informal sector with reference to Bengaluru Urban

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**Abstract:** *The present study aims to understand the various Hindu festivals celebrated and also tries to analyze the economic impact of consumer's spending during festivals on the informal sector. The primary data is collected using convenient sampling from 100 respondents from Bengaluru Urban. Regression and percentage method is used to analyze the data. Secondary data is collected from various journals and articles. The findings of the study states that nearly 75-80 percent of consumers spend on festivals that enhance employment opportunities and generate revenue to the informal sector. The study portrays a positive economic impact of consumer spending on the informal sector during festive season.*

**Keywords:** Consumer Spending, Informal Sector, Economic Impact, Employment, & Revenue.

**JEL codes:** D12, Z12

## 1. INTRODUCTION :

Festivals in India are an expressive way to celebrate culture and traditions. They create special moments and emotions in everyone's life. It provides the platform to transform religious knowledge and traditions for future generations. India celebrates different types of festivals including national, religious, and seasonal. The Hindu festivals originated long ago and are complementary to scientific, psychological, economic, cultural, and social reasons. Each festival is a combination of health benefits, it enriches family and friends bonding, provides job and business opportunities to many people, and is directly and indirectly linked to social welfare and economic development. Many research articles find that celebrating Hindu festivals can enhance economic activities, preserve nature, and create immunity to face any seasonal changes through its medical benefits but have not spoken about economic growth and development of the economy through celebrating Hindu Festivals. Hence, the study's objective is to analyze the economic growth of the informal sector through consumer spending on pooja articles, flowers, fruits, new clothes, and decorative items used to celebrate Hindu festivals. The present study aims to identify the Hindu festivals celebrated in Bengaluru Urban. It also attempts to analyze the consumers' spending on festivals and their economic impact on the informal sector.

## 2. LITERATURE REVIEW :

During every festival, particular herbs are used which act as preventive medicine for many health issues. According to Hindu traditional practices, festivals and rites are designed in such a way that it helps the human body to adjust to seasonal fluctuations (Hegde and Bhat 2012).

According to Hindu epics, several trees are considered sacred trees- The banyan tree, Neem, and Tulasi (*Ocimum tenuiflorum*). Hindus also believe in animals, birds, snakes, rivers, and mountains which are interconnected to each other generate chains, and form their ecosystem in the environment. This system is protected by religious festivals and rituals. Hindu festivals and rites are nature-loving and they worship nature since ancient times (Joshi and Pathak, 2020).

During Bhadrapada masa, 21 varieties of leaves are offered to a deity such as Malti, Maka, Bael, Durva, Bor, Dhitra, Tulsi, Shami, Aghada, Dorli, Kanher, Mandar, Arjun, Shankhpushpi, Dalimb, Devdaar, Marwa, Pipal, Jai,



Kewda, Jatti, and Hadga. Each leaf has its medical benefits and provides solutions to many health issues. (Fenn and Joshi 2021).

For daily worship and religious rituals, there is a huge market for incense sticks and dhoop. The Agarbatti and Dhoop segment is the fastest-growing market after the IT sector, in which investors are excited to invest. The current demand for Agarbatti is at 1500 metric tons per day (Deccan Herald, 2020).

**3. METHOD :**

Primary data was collected from 100 households through a questionnaire in Bengaluru Urban. SPSS and Microsoft Excel are used for the analysis of primary data. Regression analysis shows the cause and effect relationship between the dependent (consumer spending during festivals) and independent variable (Flowers, fruits, sweets, clothes, crackers, beauty parlour, religious articles). The percentage method is also used to analyze the data. Secondary data is collected from various newspaper articles, reports, and journals.

**4. OBJECTIVES :**

- To study the various Hindu festivals celebrated in the study area
- To analyze the consumer’s spending on festivals and its economic impact on the informal sector

**5. DISCUSSION :**

**5.1 Regression Model**

The regression model is applied using SPSS software to analyze consumer spending on the various necessary commodities during the celebration of Hindu festivals. An optimal linear regression model is used.

**5.2 Optimal Linear Regression Model**

The model involves the optimization algorithm to find the coefficients for each input that minimizes the prediction error. In the model, we specify the amount spent denoted as A S. This is the dependent variable under consideration. It is transformed into a natural logarithm form to use as an explained variable in the model.

$$AS = \alpha + \beta_0 + \beta_1FL + \beta_2FR + \beta_3SW + \beta_4CL + \beta_5CR + \beta_6BP + \beta_7RA + u_i$$

AS- Amount spent by the consumer during the festivals

The independent variables are

- FL- Flowers
- FR- Fruits
- SW- Sweets
- CL- Clothes
- CR- Crackers
- BP-Beauty Parlour
- RA- Religious articles

**F- Test**

F test in regression compares the fits of different linear models. It can assess multiple co-efficient simultaneously. The F-test is used to determine the variability between the groups.

**5.3 Model Summary**

Multiple R	R Square	Adjusted R Square
.979	.958	.950

R-value represents the correlation between dependent and independent variables. An R-value greater than 0.4 is taken for further analysis. In this case, the value is .979 which is excellent.

R squared shows the total variation for the dependent variable that could be explained with the independent variable. The R squared value is 95 percent and this shows that the regression model of a good fit for the given data.

Adjusted R squared identifies the percentage of variance in the target field that is explained by the inputs. A higher adjusted R squared value portrays that the model is a good fit. Here, the adjusted R squared value is .950 which shows the regression model of a good fit for the given data.

**5.4 ANOVA**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	95.76	16	5.986	117.62	.000
Residuals	4.224	83	.051	7	



Total	100.00	99			
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Dependent Variable: Amount Spent

Predictors: Flowers, Fruits, Sweets, Clothes, Crackers, Cosmetics, and Religious Items

F value is greater than 1 for the F- ratio yield model. In the above table, the F value is 117.627 is considered very good. The p-value is .000 which is statistically significant. Thus, there is an economic impact on consumer spending on festivals.

### 5.5 Coefficients

	Standardized Coefficients		df	F	Sig.
	Beta	Std. Error			
Flowers	.000	.032	1	.000	1.000
Fruits	.039	.944	2	.002	.998
Sweets	-.336	.099	2	11.585	.000
Clothes	.922	.025	3	1.3493	.000
Crackers	-.506	1.152	3	.193	.901
Cosmetics	.167	.391	2	.183	.833
Religious items	.692	.189	3	13.422	.000

Dependent Variable: Amount Spent

The regression model shows that the p-value for sweets, clothes, and religious items is .000 which is statistically significant. This shows that consumers spend more on varieties of sweets, new clothes, and also on religious items which are very essential during the festive seasons.

### 5.6 Optimal Regression Model

In the second model, the amount spent denoted as A S is the dependent variable. The independent variables are family type, annual income, donations, visiting temples, and visiting pilgrimage. The model is as follows

$$AS = \alpha + \beta_0 FT + \beta_1 AI + \beta_2 D + \beta_3 VT + \beta_4 VP + u_i$$

FT – Family Type

AI- Annual Income

D- Donations

VT- Visiting Temples

VP- Visiting Pilgrimage

### 5.7 Model Summary

Multiple R	R square	Adjusted R Square
.972	.945	.940

Here, the R-value is .972 which is excellent for the analysis. The R square value and the adjusted R square are 94 percent respectively which portrays that the regression model is a good fit for the given data.

### 5.8 ANOVA

	Sum of Squares	df	Mean square	F	Sig.
Regression	94.507	8	11.813	195.721	.000
Residual	5.493	91	.060		
Total	100.000	99			

Dependent Variable: Amount Spent

Predictors: Family type, Annual income (in Lakhs), Donations, visiting temples, visiting pilgrims



F Value is greater than 1 for the F-ratio yield model. In the above table, the F value is 195.721 which is very good and the P-value value is .000 which is statistically significant. Thus, we can say that there is a positive economic impact on consumer spending during the festivals.

Independent Variable	Beta	Std. Error	df	F	Sig.
Family Type	.098	.057	1	2.972	.088
Annual Income (in Lakhs)	.536	.097	3	30.510	.000
Donations	.178	.095	2	12.167	.000
Visiting temples	.003	.070	1	.002	.964
Visiting pilgrimage	.240	.078	1	9.450	.003

Dependent Variable: Amount spent

In the above table, it is observed that the p-value of annual income, donations, and visiting pilgrims are statistically significant since the p-value is less than 0.05. The p-value of annual income and donations is .000 and visiting the temple is .003. There is a positive relation between annual income and income spent. It is observed that as income increases the consumption pattern also increases. Consumers spend more during the festive season. Even the donations and charity activities are also more especially during the festivals. People visit pilgrimage centers to worship their family deities.

## 6. ANALYSIS AND FINDINGS

*Ugadi*: is celebrated as the beginning of the New Year. As per Hindu Pachanga, it falls in the month of March-April (Chitra Masa). *Sri Rama Navami*: is celebrated on account of Lord Sri Ram's birthday; this festival falls on the ninth day of the Chaitra masa, in this festival, they offer prayers to Lord Rama and listen to great stories to inculcate good philosophy in our lives. *Varamahalakshmi Festival*: is an important Hindu festival celebrated in Bengaluru by all women and Goddess Lakshmi is worshipped during this festival. *Sri Krishna Janmashtami*: The birthday of lord Krishna and according to the Hindu calendar in the month of the 8th day "Ashtami" Bhadrapada masa is celebrated. The celebration starts at midnight, The Krishna idol is placed in the cradle and five types of baths are performed using milk, curds, sugar, coconut water, and honey and also small footprint of Krishna is drawn. *Gowri and Ganesh Festival*: As per the Hindu calendar thirteenth day of the month of Bhadrapada masa Gowri and Ganesh festival is celebrated. On the first day, the Goddess Gowri festival is celebrated and followed by the Ganapathi festival. The festival is celebrated by buying Gowri Ganesh mud idols; flowers and fruits are offered. 21 varieties of leaves are offered to deities. Ayudha pooja and Vijaya Dashami- this festival is celebrated for 10 days and is one of the famous festivals of Karnataka famously called *Gombe Habba* (doll festival). As per the Hindu calendar, this festival comes in the month of Ashvija Masa which falls between September and winter season. First nine days all forms of Goddess Durga are worshiped. Artisans make lots of dolls and sell them. Prayers are performed in all the goddess temples and *Prasadham* is served to devotees. *Deepavali*: Festival of Lights- this festival celebrates the victory of light over darkness, good over evil, and knowledge over ignorance. The lights of Deepavali signify a time to destroy all our dark desires and thoughts eradicate dark shadows and evils and give us the strength to carry on with our goodwill for the rest of the year (Times of India, 2021). *Makara Sankranti*- is called the festival of Harvest, as per the Hindu calendar this festival comes in the Pushya Masa in January. According to astrology, there will be movement of the sun from one Rashi (constellation of the Zodiac) to the next. Sun god is considered as "Pratyaksha Braham" (can see god directly) he is the supreme knowledge, and spiritual light hence Sankranti is a special festival to offer gratitude and prayers. The Makar Sankranti is considered the most important festival because it marks the beginning of the harvest season.

In Bengaluru, some of the famous festivals that are celebrated only in Bengaluru are *Bengaluru Karaga* in Shri Dharmarayara Swamy temple, *Kadlekai Parish* in Basavanagudi, *Hanuman Jayanthi* in Raggi Gudda temple and *Poo Pallakki* in Halasuru Someshwara temple.

**Table: 1. Festivals celebrated as per Tradition**

Name of the Festival	Respondents
Ugadi	81
Sri Ram Navami	56
Varamaha Lakshmi Vratha	66
Sri Krishna Janmashtami	46
Gowri and Ganesh	71



Diwali	84
Vijaya Dashami	72
None of the above	4

Source: Compiled by the researcher from Primary data

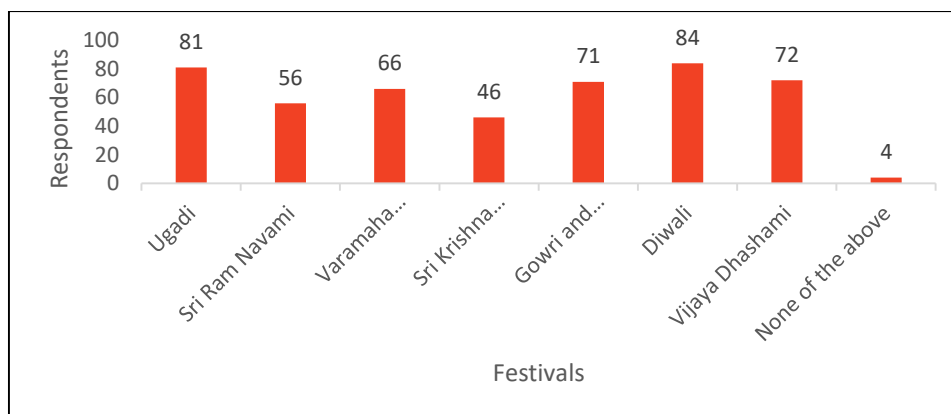


Fig.1. Festivals celebrated by the respondents as per the tradition

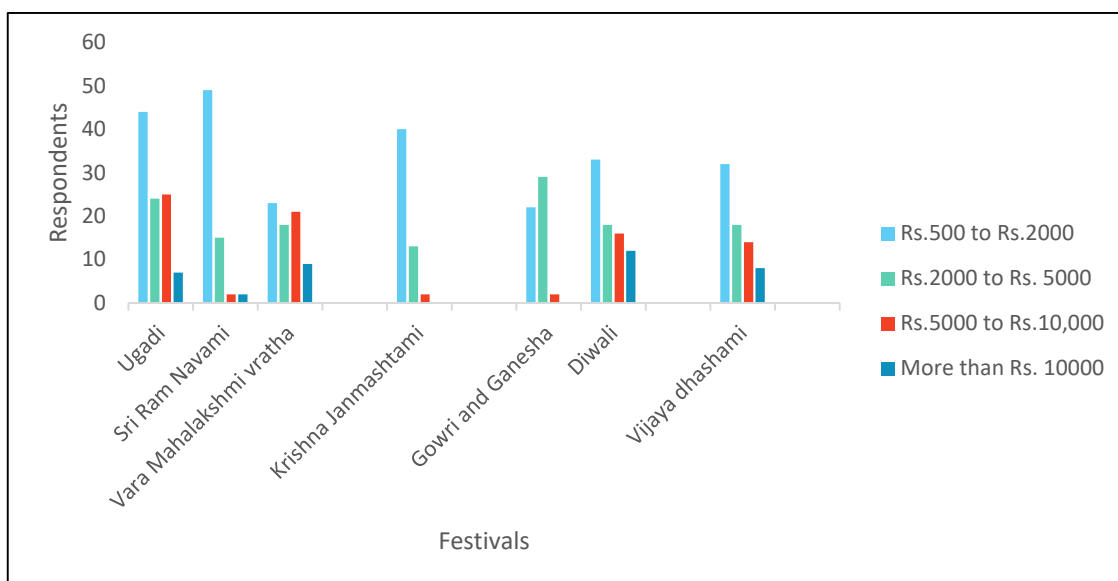
Source: Collated from the fieldwork

The figure portrays that respondents in Bengaluru celebrate different festivals as per their traditions. 81 respondents (81 percent) celebrated Ugadi, and 56 respondents (56 Percent) agreed that they celebrate Sri Rama Navami. 66 respondents (66 percent) said they celebrate Varamahalakshmi. Sri Krishna Janmashtami is celebrated by 46 respondents (46 Percent). 71 respondents (71 percent) said they celebrate Gowri and Ganesha festivals very grandly. Diwali is celebrated by 84 households (84 percent). 72 respondents (72 percent) agreed that they celebrate Dussehra, and Only 4 (4 percent) said they do not celebrate any festivals. From the above analysis, it is proved that the majority of the respondents celebrate Hindu festivals and by doing so Hindu traditions are kept alive, the culture is passed on to the young generation and the festival celebrations have positive impact on the economic activities.

Table: 2. Money spent by the respondents on the following festival

Festival	Rs.500 to Rs.2000	Rs.2000 to Rs. 5000	Rs.5000 to Rs.10,000	More than Rs. 10000	Never spend money
Ugadi	44	24	25	7	0
Sri Ram Navami	49	15	2	2	32
Vara Mahalakshmi Vratha	23	18	21	9	29
Krishna Janmashtami	40	13	2	0	45
Gowri and Ganesha	22	29	2	0	47
Diwali	33	18	16	12	21
Vijaya Dashami	32	18	14	8	28

Source: Compiled by the researcher from Primary data



**Fig.2.** Money spent by the respondents on festivals.

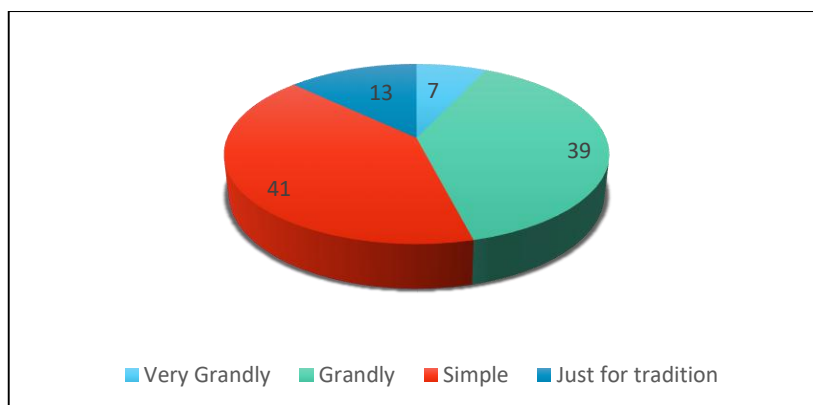
**Source:** Collated from the fieldwork.

The figure portrays the consumer’s spending on different festivals. The majority of the respondents spend Rs.500 to Rs.2000 celebrating Ugadi, Sri Ram Navami, Krishna Janmashtami, Diwali, and Vijaya Dhashmi. When we observe the celebration of the Gowri and Ganesha festival Rs. 2000 to Rs.5000 is spent by the respondents. The study also shows that few people spend more than Rs.10,000 to celebrate the festivals. This clearly shows that the consumer’s expenditure is the revenue to the sellers. The sellers earn huge profits during the festive season.

**Table: 3. Celebrating festival**

Celebration	Response
Very Grandly	7
Grandly	39
Simple	41
Just for tradition	13
total	100

**Source:** Compiled by the researcher from Primary data



**Fig.3.** Celebration of the festival by respondents

**Source:** Collated from the fieldwork.

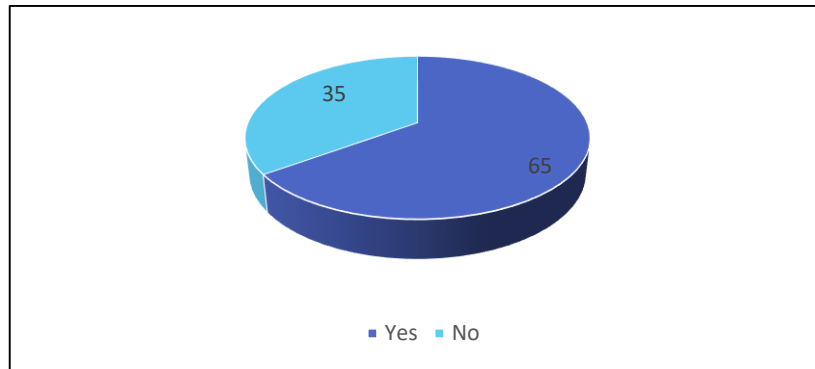
The figure explains the celebration of festivals by respondents, out of the 100 respondents 7 of them (7 percent) agreed that they celebrate festivals very grandly, 39 respondents (39 percent) said they celebrate grandly, 41 respondents (41 percent) simply celebrate festivals and 13 members (13 percent) celebrate festivals since it is a tradition. 96 respondents (96 percent) agreed that they enjoy the festival and only 4 respondents (4 percent) don't enjoy festivals due to the acute rise in the prices of fruits, flowers, and other articles during the festive season.



**Table: 4. Donations and charity during festival time**

Donations and Charity	Responses
Yes	65
No	35
Total	100

**Source:** Compiled by the researcher from Primary data.



**Fig.4.** Donations and charity during festival times

**Source:** Collated from the fieldwork

The figure represents the respondent's donations and charity during festival times, out of 100 respondents 65 agreed (65 percent) that they give donations and charity during festivals to purohits, temples, and poor people. By doing charity the welfare of society will improve, and allocating of resources will make people better off without making anyone worse off.

## 7. RESULT

### Factor Analysis

#### Regression Model

Here festival celebrated is a dependent variable while flowers, fruits, food/sweets, clothes, crackers, beauty parlor/salon, and other religious articles are independent variables.

**Table 2. Regression Model**

Mode	R	R square	Adjusted R Square	Std. An error in the Estimation	Change Statistics					
					R square	F change	df1	df2	Sig F Change	Durbin Watson
1	.912	.833	.820	.10130	.833	65.367	7	92	.000	.916

**Source:** SPSS

R-value represents the correlation between dependent and independent variables. An R-value greater than 0.4 is taken for further analysis. In this case, the value is .912 which is excellent.

R squared shows the total variation for the dependent variable that could be explained with the independent variable. The R squared value is 83 percent and this shows that the regression model of a good fit for the given data.

Adjusted R squared identifies the percentage of variance in the target field that is explained by the inputs. A higher adjusted R squared value portrays that the model is a good fit. Here, the adjusted R squared value is .820 which shows the regression model of a good fit for the given data.

**Table 3. ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	4.696	7	.671	65.367	.000
Residual	.944	92	.010		
Total	5.640	99			

**Source:** SPSS



F value is greater than 1 for the F- ratio yield model. In the above table, the F value is 65.367 which is very good. The p-value should be less than 0.05. In the above table, it is .000. Thus, we reject the null hypothesis as the result is significant. This shows that there is an economic impact of consumer spending on festivals in the study area.

According to Hindu festivals, Fruits play an important role, during the season the demand for fruits increases. Many fruit seller's income increases, Pluck, Gourmet Garden Bengaluru, Farm Fresh, and Nature's Basket are some of the online portals enjoying income opportunities.

Demand for food articles increases during the festival season because consumers prepare different varieties of food to offer god. Diwali is the festival of lights many artisans get job opportunities by producing diyas and decorative items and consumers also create demand for sweets so many food industries like MTR foods, Haldiram, Maiyas food, and many local sweet shops sell a lot of sweets and generate profits.

Buying new dresses and sarees is tradition of festival seasons, discount sales are provided by many garment shops like Reliance Trend, Max, Central Mall, Mantri Mall, Vijayalakshmi Silks, Varamahalakshmi Silks, and so on. Many garment industries, wholesalers, retailers, and online merchants generate a lot of income during the festive seasons.

The majority of the women agreed that they spend money on beauty-related products like bangles, bindis, hair decorators, and makeup items, and visit beauty parlours. Many beauticians, wholesalers, and retailers earn huge revenue during the festival seasons.

During festivals, many religious articles are required to perform pooja like saffron, turmeric, cotton *diya* sticks, sandalwood paste, oil, incense sticks, camphor, etc, and decorative items like candles, mud lamps, designer garlands, plastic flowers, show items are highly in demand. To perform daily prayers and religious rituals, there is a huge market for incense sticks and dhoop. The study reveals that consumer spending on festivals has a positive impact on the economy as it creates employment opportunities, and increases supply and demand for many goods and services in return huge revenue is generated for the informal sector in Bengaluru Urban.

## 8. RECOMMENDATIONS

- The government should support consumers during festivals by regulating the rise in prices of fruits and flowers.
- The government can support sellers to sell directly to buyers, especially during festivals, and avoid the intervention of the middleman.
- More online shopping portals should be introduced to provide good quality and quantity of products at a reasonable price to encourage consumer spending.

## 9. CONCLUSION / SUMMARY:

India is the home to many religions and every religion has different rites and rituals but ends with the same goal. The Hindu religious celebrations generate sales, employment opportunities and income to the goods and service providers. Although the transactions are not officially recorded the collective impact of the small-scale economic activities contribute significantly to the Gross Domestic Product. Few consumers in the study area felt the fruits and flowers were too expensive during the festival season. The Government should support the consumers by creating an additional supply of goods and support the sellers to sell the products directly to buyers at reasonable prices.

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