

Research on Demand Patterns for Diyas in 2020

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Abstract:- The role of mathematical research is to serve as a tool for building research, analyzing its data and drawing conclusions about it. Many studies lead to a large amount of raw data that needs to be reduced to a minimum so that the same can be easily read and can be used for further analysis. Obviously the science of mathematics cannot be ignored by any research researcher, or who may not have the opportunity to apply mathematical methods to all the details and reorganization. The classification and design of the table, as mentioned earlier, achieves this objective to some extent, but we should gradually move forward and develop specific indicators or measures to summarize the collected / segmented data. It is only after this that we can embrace the process of standardization from small groups (i.e., samples) to individuals. If true, there are two major mathematical areas, namely, descriptive statistics and baseless statistics. Descriptive statistics affect the performance of certain indices from raw data, while unlimited statistics complicate the process of normalization. Unlimited statistics are also known as sample statistics and are mainly affected by two major types of problems:

- estimation of human parameters, as well
- The testing of mathematical ideas.
- The key mathematical measures used to summarize research / research data are:
 - Measures of inclination or statistical measurements;
 - Relationship measures
 - Among the measures of moderation, the three most important are arithmetic or mean, median and mode. Geometric and harmonic definitions are also sometimes used.
 - Among the correlation measures, Karl Pearson's equal value is the standard used in the case of variable variables, while the coefficient of association is used in the case of signals. The coefficient of multiplicity, the coefficient of correction, regression analysis, etc., are some of the most important measures commonly used by the researcher.
 - Index numbers, time series analysis, coefficient of contingency, etc., are alternatives that can also be used by the researcher, depending on the type of problem under study.
 - Below we provide a brief outline of some of the key steps (these are our steps listed above) that are commonly used in the context of research studies.

I. INTRODUCTION

With the recent ban in the selling of Diyas and the economy being affected because of the pandemic, will people of India still allocate the same budget to the light of the Diwali? To find that out, we did this by asking people in our research on certain fronts to find has there been a significant change in the consumption of Diyas in 2020.

II. QUESTIONS THAT WE PREPARED

We aimed to study the responses based on certain parameters, like how has the consumption been impacted post-pandemic or is there a particular age group or gender which is more inclined towards purchasing Diyas? Following are the variables we considered while designing the survey.

- A. *Questions that we prepared i.e. the dependent variables:*
- Do you light Diyas during Diwali?
 - From where do you usually buy Diyas during Diwali?
 - How many Diyas do you buy?
 - Did you witness a change in consumption of Diyas this year?
 - What's your take on environment friendly or smokeless Diyas?
- B. *Independent Variables we used in our research:*
- Age of the survey respondents
 - Gender of the survey respondents

A. What Were The Findings From The Research?

1. People majorly bought 0-10 Diyas. Almost 80% of the surveyed respondents bought less than 30 Diyas.

Class Interval	0-10	10 - 20	20 - 30	30 - 40	40+
Frequency	115	77	48	33	53
Cumulative Frequency	115	192	240	277	326

Fig 1:- Representation of Quantity of Diyas demanded to frequency of consumers per range

2. The percentage of men and women, who light Diyas is approximately 75% and 82% respectively. Hence as compared to men, majority of females tend to light Diyas.



Fig 2:- Chart answering the question ‘Do you light Diyas during Diwali’ for both the genders

3. Majority of people prefer to buy Diyas from roadside stands. This tells us that they are considerate towards the poor craftsmen. We can also infer from the table below that more men prefer to buy from big retail outlets, as compared to females.

Row Labels	Big retail outlets	NGO	others	Roadside stands	We don't buy diyas	Grand Total
Female	4	14	12	94	12	136
Male	28	8	11	110	24	181
Prefer not to say		1	2	2	4	9
Grand Total	32	23	25	206	40	326

Fig 3:- Representation in tabular form of sources of purchase of Diyas to the dependent variable of ‘Gender’

4. We found at that responses between age group 24-32, most of them preferred to buy 0- 10 Diyas.

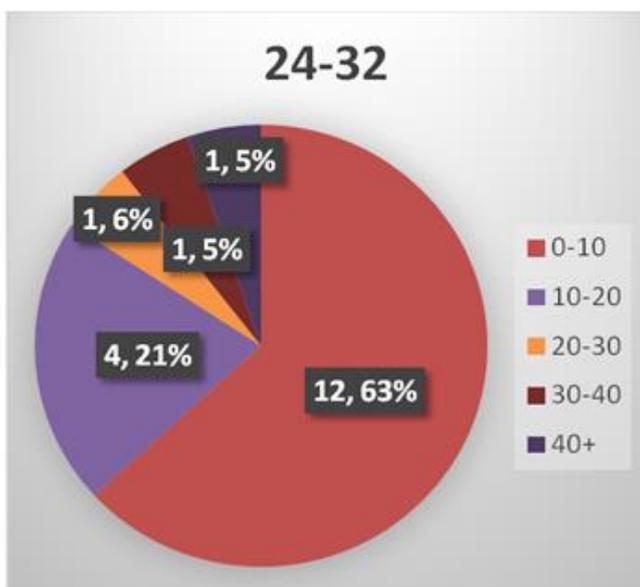


Fig 4:- Pie Chart distribution of quantity of Diyas purchased for the age group 24-32

5. We interpreted most of the young generation tends to buy more of eco-friendly Diyas over regular Diyas, which shows there care and awareness regarding environment.

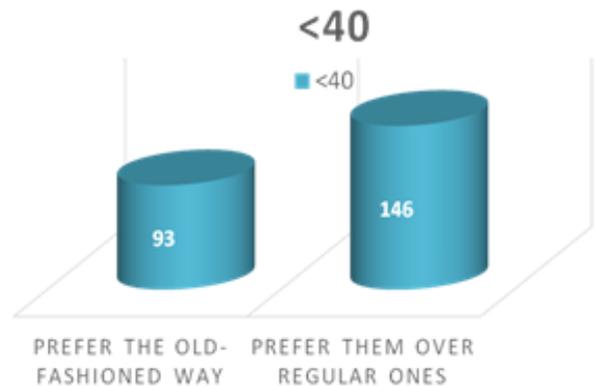


Fig 5(a):- Graphical representation of the data obtained for environmental preferences for the age group ‘<40’

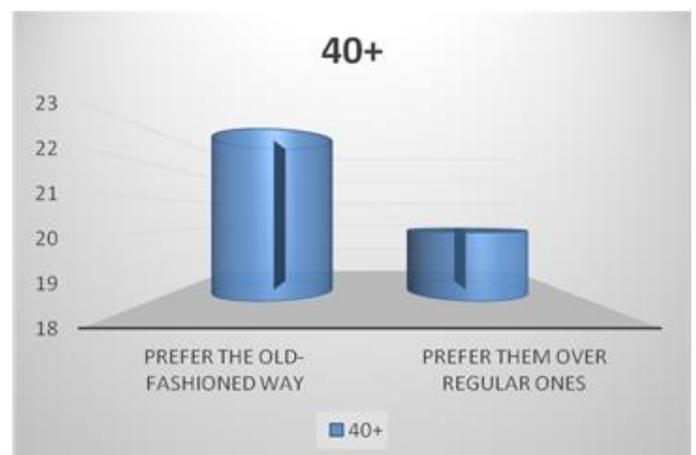


Fig 5(b):- Graphical Representation of the data for environmental preferences for the age group ‘40<’

6. From the data we obtained correlation for different age groups. We found a high positive correlation between the age groups 16-24 and 32-40, and a similar high negative correlation between <16 and 40-48 for the question ‘What’s your take on environment-friendly Diyas?’ The latter one suggests the shift that the new generation in bringing towards using environment-friendly measures.

	<16	16-24	24-32	32-40	40-48	48+
<16	1					
16-24	-0.592136908	1				
24-32	0.933256525	-0.842080965	1			
32-40	-0.406855423	0.977040566	-0.707836694	1		
40-48	-0.996615896	0.712116405	-0.900571358	0.3304	1	
48+	-0.826033188	0.968194087	-0.973359675	0.8509	0.86380672	1

Fig 6:- Tabular Representation of the data obtained for correlation for the variable ‘What’s your take on environmental friendly Diyas?’ for all the age groups

B. Specifications about the Research Data

	Mean	Median	Mode
Age (Independent)	26.56442	22	24
How Many Diyas do you buy? (Dependent)	20.84356	16	10

Fig 7:- Tabular Representation of Central Tendency data for the variables 'Age' and 'How many Diyas do you buy'

- The average age of a survey respondent was 26.6 years, and the average Diyas bought is around 21. As inferred from our survey data.
- A positive regression was obtained with the situation perfectly captured by the following equation. The variables used were 'How many Diyas bought' to the age of the respondent.

$$Y=18.1786+0.16099X$$

Y: Number of Diyas bought

X: Age of the respondent

III. CONCLUSION

During the pandemic-struck India, people decreased their spending towards Diyas and bought fewer than 30 in units. However, the feminine gender in our observation spent more towards the purchase of the product. A unique observation was the age group of 24-32, the working class, who spent very small portion towards purchase of Diyas. Finally, the younger generation, Millennials and Zillennials have shown a preference for eco-friendly Diyas.

REFERENCES

The research was conducted as a survey and primary data was collected. We recorded 326 responses during the month of November 2020 during the auspicious occasion of Diwali in India. Our responders were varied in occupation, age, and gender.