

# Issues Confronted By Street Food Vendors During COVID-19 First Wave In India- Word Cloud Analysis

Vandana Dubey<sup>1</sup>, Priti Kumari<sup>1</sup>, Shatrughna Ojha<sup>2</sup>, O. P. Singh<sup>3</sup>, G. R. Mishra<sup>4</sup>

<sup>1</sup>Ashoka Institute of Technology and Management, Varanasi, U.P., India.

<sup>2</sup>Axis Bank, Mumbai, Maharashtra, India.

<sup>3</sup>Amity School of Engineering and Technology, Amity University, Lucknow, U.P., India.

<sup>4</sup>Dr RML Avadh University, Faizabad, U.P., India.

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## ABSTRACT

COVID-19 pandemic has hit the weaker sections of Indian society the most. The street food vendors who sell ready-to-eat food mostly come from the weaker sections of society. They are usually illiterate, unskilled, and migrants from the rural and undeveloped regions. The street food vendors are an intrinsic part of the unorganized sector of Indian economy. Hence, it is imperative to learn about their problems and other concerns due to COVID-19 pandemic. This paper also touches on the key issues of street food vendors of Lucknow during the first wave of COVID-19 in India using a visualization tool- word cloud with the help of Python 3.8 as the word cloud is also a library in python programming language. Apart from that, the general opinion of the street food vendors along with their other sources of income before and during pandemic are discussed in this paper. This paper also demonstrates the usefulness and relevance of word clouds.

**Keywords:** Street food vendors, Word Cloud, COVID-19.

## 1 INTRODUCTION

The field of data science studies focused primarily on the storage, visualization, management, interpretation, analysis and manipulation of data using a galore of data that is impossible to be manipulated or chiseled by simple database management tools. In the current era, the data is available plentiful and the need for its analysis and manipulation in the large scale makes data science a very demanding field of study(UCB-UMT, 2021). This paper has utilized one of the subsets of data science, data analytics, to understand the problems and issues of street food vendors in Lucknow during the first wave of COVID-19 in India(Times of India, 2021).

Street vendors mostly belong to the vulnerable, marginalised and poverty-stricken sections of the informal labour market in urban economies(Sarker et al, 1969). Street vendors sell all kinds

of consumer products from prepared foods to vegetables, from clothes to jewels, from electronics to snacks. And, street food vendors are an integral part of street vending business. Street foods are foods or beverages that are prepared for the purpose of selling by the hawkers or the vendors (Kotwal et al, 2018).

COVID-19 has disrupted the small businesses the most. The street food vendors live on their daily earnings, usually they do not plan their savings for a long duration of time. They are mostly dependent on their daily income. This makes them highly vulnerable in a situation like COVID-19 pandemic. The series of lockdowns disrupted the businesses of street food vendors completely. And after the lockdowns, the problems were not sorted for the food vendors as there was a decline in the number of tourists, office-goers, school students, college students, etc. Also, the fear of COVID-19 infection among the people played the role of an impediment to the street food vending business.

In this paper, we have analysed and discussed the problems faced by the street food vendors while continuing their business during the first wave of COVID-19 in India. The problems and issues of the street food vendors are presented visually using the word cloud library in python programming language. Word Cloud is a special visualization tool which is used to figure out the terms with maximum frequency. In a word cloud, the size of a word is related to the number of times it has been used in a given textual data (Jin, 2017). Further, the relevance of word clouds for research purposes is discussed.

## **2 LITERATURE REVIEW**

Chen(2020) has presented the cases of waste pickers and street vendors to showcase how informal workers have been treated by the cities pre-COVID-19 period and during COVID-19 period. Chen(2020) has also given some examples, from India, Brazil and South Africa, of how the treatment of waste pickers and street vendors could be improved. Chen(2020) has concluded with some ruminations on how the relief to recovery adjustment in policy responses to COVID-19 brings the two contrasting opportunities- positive transformation of informal workers and a probability of negative reversals for them.

Morano et al(2018) have elucidated how the perception of food quality is positively influenced by the perception of the services and the perception of healthiness. Morano et al(2018) advocate the efforts made on personal hygiene and training by the street food vendors as they represent the overview of the quality of food they sell.

Depaolo and Wilkinson(2014) have emphasized on the need to understand how word clouds are impactful and useful graphical representations for formative and summative assessment purposes. They have considered word clouds to be visually appealing and interesting.

## **3 METHODOLOGY**

A structured data analytics process was followed using Python 3.8 to analyze the data. The steps taken were following:

- a) Data Collection- The street food vendors of Lucknow were chosen as the targeted group for data analysis purpose. The lack of information regarding their conditions after the first wave of COVID-19 prompted us to collect the data primarily. The data was collected during the months of January 2021 and February 2021. A google form was

used for the collection of data and each google form was filled and submitted manually by taking the consent of each street food vendor.

Sample Size = 60

Apart from the basic information, the street food vendors were asked a set of 4 questions especially curated for analysis using the Word Clouds of collected inputs. Following were the four questions-

- i) How did you get your food and basic needs during the lockdown period?
- ii) Other sources of Income before COVID-19?
- iii) Other sources of Income now?
- iv) Any remarks?

The data was converted into a textual format for text analysis using word cloud.

- b) Data Preprocessing- The survey data was further cleaned and preprocessed by removing the rows with columns consisting of null values. Further, the irrelevant and redundant content were also removed from the survey data.
- c) Data Exploration- The survey data was explored to find out its characteristics and features. All the possibilities were explored to find the best way to understand and present the data.
- d) Data Visualization- Data was visualized using Word Cloud, a technique for data visualization. In this technique, the size of the words are indicative to the frequency of data. Word Cloud comes handy in taking a gist of any dataset.
- e) Data Interpretation and Analysis- After the visualization of data, the data was interpreted and a thorough analysis was done to understand the issues faced by the street food vendors of lucknow during the first wave of COVID-19 in India.

#### **4 KEY INSIGHTS AND DISCUSSIONS**

As per the observation, during the first wave of COVID-19 in India, the street food vendors of Lucknow were least concerned about COVID-19. Their major concern was to earn money during the lockdown period and post lockdown period. Street food vendors generally live hand to mouth as they are mostly dependent on their daily income.

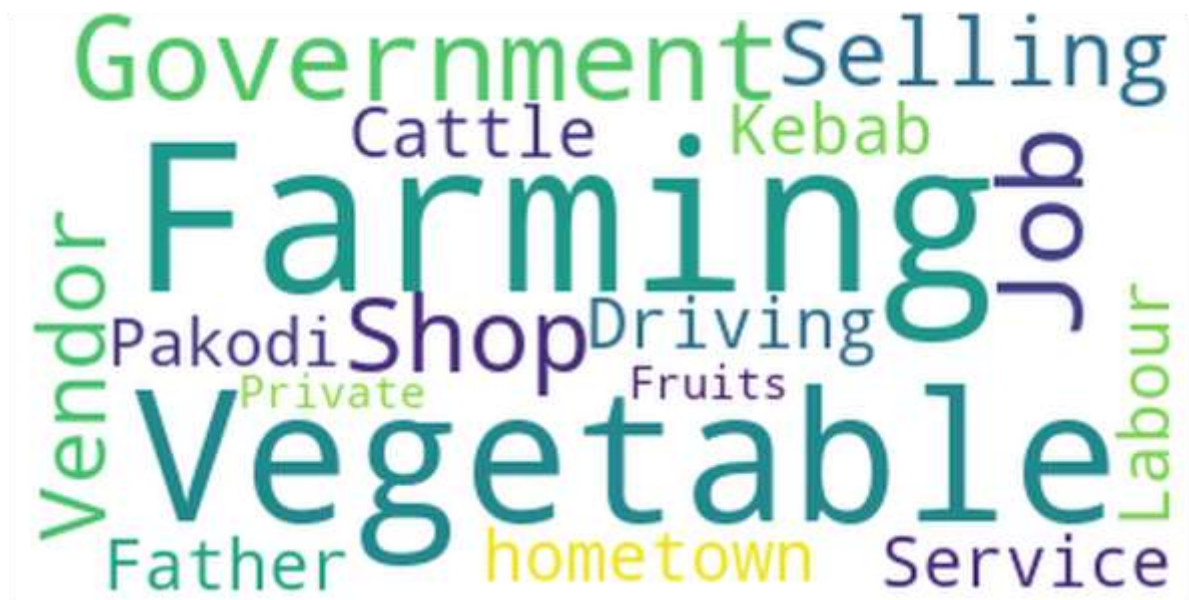
##### **A) Sources of income during lockdown period**



Figure 1: Sources of food and basic needs of street food vendors of Lucknow during lockdown period in 2020.

It is apparent from figure 1 that the street food vendors of Lucknow were majorly dependent on their personal savings and farming. They are mostly illiterate and unskilled (Tigari and Shalini, 2020). They come mostly from rural areas or under-developed regions to cities in hope of survival. In the above word cloud(Figure 1), the other terms with greater frequencies are “personal”, “loans” and “selling” which is indicative to the fact that the street food vendors of Lucknow were also dependent on the personal loans or assistance that they took from their family members, banks, or friends during the lockdown period. Apart from that, most of the street food vendors took this opportunity to sell vegetables and fruits to financially support their family.

**B) Other sources of income before COVID-19**





having adequate resources to support their lifestyle. Also, the word cloud analyses of the issues of street food vendors were very helpful in finding out their major concerns and activities.

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