

PROBLEM STATEMENT:

Did Covid-19 affect the shopping trends of Grocery Shopping?

REASON TO CHOOSE THE TOPIC:

With Covid-19 wreaking havoc all over the globe and millions of people losing their lives because of it, it became absolutely important to avoid all possible contacts with others. To do the same my family started ordering groceries online and our online shopping increased significantly.

Grocery is something which everyone prefers to buy physically because there's a doubt about the quality of product when ordered online which might refrain one from ordering online groceries. So, I was wondering if this shift of grocery shopping was happening with other families as well which brings me to choosing this topic for the challenge.

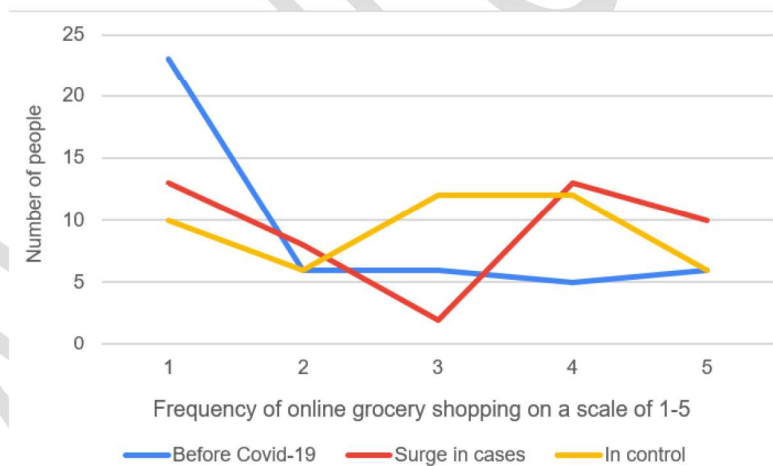
With this analysis we would get to a conclusion if covid-19 affected the shopping trends of groceries or not.

DATA COLLECTION:

For this analysis primary data was used for which I created a survey.

ANALYSIS AND VISUALIZATION:

Graph for number of people buying groceries online



(GRAPH 1)

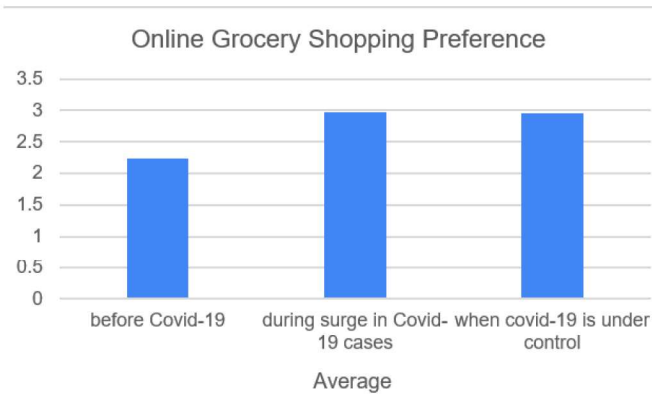
ANALYSIS:

With this line graph it can be seen that the number of people buying groceries online increased significantly with rise in covid cases and dropped slightly with decrease in covid cases though it didn't reach to the level which was before the pandemic. (In this graph the numbers 1,2,3,4 and 5 on the x-axis do not signify how many times a person actually bought grocery online instead it is just a rating on a scale of 1-5)

Graph and table for average of frequencies:

To confirm the analysis obtained from the above graph, I calculated the average of before covid, during surge in covid cases and when covid is under control with the data collected from the survey.

Average of before Covid-19	Average of during surge in Covid-19 cases	Average of when covid-19 is under control
2.239130435	2.97826087	2.956521739



(GRAPH 2)

ANALYSIS:

With the above table and bar graph it can be seen that the average of online grocery shopping increased with rise in covid cases and is almost similar when situation is under control.

Correlation between before covid, during rise in covid cases and covid under control :

	<i>before Covid-19</i>	<i>during surge in Covid-19 cases</i>	<i>when covid-19 is under control</i>
before Covid-19?	1		
during surge in Covid-19 cases	0.133716501	1	
when covid-19 is under control	0.236876272	0.394559436	1

(TABLE 1)

ANALYSIS:

With data collected from the survey, I calculated correlation between before covid, during rise in covid cases and covid under control. From the above table it can be seen there is a slight correlation of magnitude 0.39 between during rise in covid cases and when covid is in control. This shows that covid did had an effect on the trends of grocery shopping.

Graph for preferred mode for grocery shopping in future:

To analyse if people will continue with online grocery shopping, I created the following graph:



(GRAPH 3)

ANALYSIS:

The above graph shows that 34 out of 46 people would prefer either physical mode or delivery from nearby grocery stores in future when conditions are normal.

SUMMARY/ INFERENCE:

- From Graph 1 and 2, it can be inferred that there was a significant increase in number of people buying groceries from online stores when Covid-19 cases were on peak and it decreased slightly when Covid-19 came under control.
- From Table 1, it can be seen that “during surge in covid-19 cases” is slightly related to “when covid-19 came under control” with a magnitude of 0.39. This means that rise in covid infections is forcing people to buy groceries online.
- From Graph 3, it can be seen that more people prefer either physical mode of shopping or delivery from nearby grocery store over online shopping under normal conditions.

Therefore, from the above three statements it can be concluded that there was a shift in shopping trends of groceries due to Covid-19 pandemic. In order to minimise contact with outside world, people started buying groceries from online stores which continued even when Covid-19 is in control. However, once conditions are normal people would prefer either physical mode or delivery from nearby grocery stores over online shopping. This means that people still find it comfortable to buy groceries from their nearby stores. One of the reasons for this could be being sure of getting quality products.