

IMPACT OF COVID-19 ON UTILIZATION OF ELECTRONIC GADGETS**Mr.Rhitik Gopinath Thavai , Mr.Nikitesh Devdas Vengurlekar & Mrs. Isha Sachin Thakare***Changu Kana Thakur Arts , Commerce and Science College, Department of Information Technology, New Panvel, Navi Mumbai.***Abstract:**

Over one and a half years have now passed since the world has been on edge due to the COVID-19 pandemic. COVID-19 began affecting a multitude of sectors including medical, food, cosmetics, automobiles, and electronics in 2020. A study has been conducted to determine the impact of COVID-19 on utilization of electronic gadgets. For this, the questionnaires were designed to elicit a response from customers (including students, teachers, etc.) to learn what difficulties they faced. The purpose of this research paper is to study the difficulties faced by the customer while buying electronic gadgets during lockdown and also to identify the most purchase electronic gadgets in the period of COVID-19 lockdown. It is intended to offer an analysis of the different impacts on electronic gadgets during the COVID-19 lockdown period.

Key words: *Gadgets, COVID-19, Lockdown, pandemic, Electronic Industry.*

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Introduction

The world has been in lockdown for more than one and a half year now to deal with the COVID-19 pandemic. Almost year ago, most of us were unaware of concepts such as “Lockdowns”, “mask mandates” and “social distancing”. Today, they have become part of our everyday lexicon as COVID-19 pandemic continues to affect all aspects of our lives. When COVID-19 was introduced to the globe in 2020, it affected on various sectors such as the medical, food, cosmetics, automobiles and electronics. Electronic industries were also shut like other industries for almost 2-3 months. Almost in the mid of June 2020, some electronic companies were trying to restart their work in an environment which was full of rules and restrictions due to COVID-19. These companies were facing multiple problems such as 50% employees were allowed in companies that’s why human power, production and research and development, transportation was reduced so supply chain was broken. As supply chain was broken the dealers were also getting affected. Only essential services were allowed and electronic stores were closed due to government guidelines. As stores were closed sales of electronic gadgets were stunted and companies were being suffering from losses.

Covid-19 has affected on each and every part of our society in an adverse way so it led to boost down our nation’s economy. Common people were also suffered due to unable of getting their essential things which

are required to their day-to-day life in-time. Customers were not allowed to purchase any electronic gadgets as government had imposed some restrictions on the physical and online stores so the sale of electronic gadgets were reduced and it resulted in the loss for manufacturing companies and simultaneously it affected our country's economy. As soon as restrictions were removed, sale of electronic gadgets such as headphones, webcams laptops mobile phones and mic slowly started increasing but sell of home appliances and other electronic gadgets remained low.

As we all know, *necessity is the mother of the invention*. In the period of COVID-19 which was full of difficulties and restrictions, some people have developed new inventions and try to help out our society in a better way and has done some positive things in negative environment.

Objectives

- To study the impact of COVID-19 on utilization of Electronic Gadgets.
- To identify the most purchase electronic gadgets in the period of COVID-19 lockdown.
- To identify the difficulties faced by the customers while buying electronic gadgets in COVID-19 lockdown period.
- To compare the sale of electronic gadgets with the sale of home appliances during pandemic.

Literature Review

In the survey article “An impact of COVID-19 on six different industries: Automobile, energy and power, agriculture, education, travel and tourism and consumer electronics” by Janmenjoy Nayak, Manohar Mishra, Bighnaraj Naik, Hanumantha Swapnarekha, Korhan Cengiz, Vimal Shanmuganathan describe that several aspects of the Electronic Industry have been affected, including increased counterfeiting, shipping delays, consumer behavior, and environmental matters. Also, production disruptions and low demand of smartphones will impede efforts to develop affordable 5G phones, which will be critical to the wide-scale adoption of the 5G technology [1].

In the research article “COVID-19 and Indian Economy: Impact on Growth, Manufacturing, Trade and MSME Sector” by Pravakar Saho and Ashwani state that with COVID-19, the largest decline i.e., around 21% is expected for electronic equipment and also the electronics industry imports about 67% of electronic components from China. Due to factory shutdowns and shortages caused by the Chinese lockdown, certain Chinese vendors increases prices of certain components. Also, the manufacturing sector is also slow down because of exports slowing down. Therefore, imports restrictions will severely affect India's manufacturing and exports [2].

In the paper “Impact of Covid-19 on Manufacturing Sector in India” by Ms. Jinu Mary Varghese and Dr Sudeep B. Chandramana describes that an automotive sector sale had already dropped 15% and production had dropped 10% before the pandemic. The Purchasing Managers Index (PMI) fell from 51.8 in March to 27.4 in April 2020, lowest in over 15 years [3].

In the paper “Effects of Excessive Usage of Electronic Gadgets during COVID-19 Lockdown on Health of College Students: An Online Cross-Sectional Study” by Tamilselvan Pachiyappan, Kousalya V. Kumar¹, Preethi Mark, Ragukumar Venugopal, Divya Jilumudi and Bharathi Palanisamy describes that the use of electronic gadgets, especially mobile phones among youth, has been a growing global concern. The worldwide COVID-19 lockdown has only amplified the issue. College students spend more time on their electronic devices due to the long lockdown period and virtual classes. It has been well established that excessive use of gadgets can lead to debilitating health effects [4].

In the paper “Strategic implication of the global mobile phone industry: Analyzing COVID-19 impact from competitive viewpoint” by Samsul Alam state that the effect of COVID-19 on global mobile phone industry is not as alarming in comparison with other industries like ready-made garments, footwear, apparel, jewelry, accessories etc.; service sector like education, restaurant, tourism, transport, film and media etc.; are badly affected due to COVID-19 where as some sectors like technology, treatment, medicine, e-learning, social media, working at home have been increased [5].

In the article “Impact of Coronavirus (COVID-19) Pandemic on Consumer Electronic Industry” by COHERENT MARKET INSIGHTS describes, The Comparative Analysis-1, Pre-Covid-19 vs Post-Covid-19 - Market estimates, 2020 – 2021. In 2020 market value of consumer electronic industry in pre and post covid was 1,478.0 US\$ Billion and 1,265 US\$ Billion respectively while in 2021 market value in pre and post covid was 1,612.0 US\$ Billion and 1,310.0 US\$ Billion respectively. In this way, it shows industry had faced loss in post covid phase as compared to pre-covid phase in 2020 and 2021 financial year. Also, Comparative Analysis, Top Gainers vs Top Losers shows, computers and peripherals, laptops had high sell while the sell of mobile phones were reduced. Home appliances like Televisions, Refrigerator and other white goods faced bad sell [6].

In the article “Impact of COVID-19 on The Manufacturing Sector In India” by Nexdigm Private Limited describes, The manufacturing industry was affected in several ways due to the pandemic leading to low scale operations and eventually a negative on production volumes. Over a period, this adversely affected the turnover and revenue. Index for Industrial production (IIP), manufacturing (%), FY 2018-2021 shows, positive growth of 4.6% in 2017-18 while in 2018-19 it dropped down to 3.9%. In 2019-20, it shows negative growth of -1.40% while in 2020-21, it drastically fell down to -9.6% [7].

In the article “The Impact of the Coronavirus (COVID-19) Epidemic on Electronics Manufacture’s” by results of an IPC Fast Facts Survey. According to this survey, 54% of electronics manufactures who participated in IPC survey reported they are somewhat concerned about the impacts COVID-19 will have on their businesses. On average, IPC members estimated that shipments would be delayed by just over 5 weeks from their suppliers [8].

In the news report “The top nine tech inventions born out of the Covid-19 pandemic” by The National. There are number of innovative solutions being developed to help individuals stay safe as they await mass

vaccination. Nine Covid-related inventions were shortlisted by the National including snorkeling masks turned into ventilators, Mercedes has developed an alternative to ventilators, LG's battery-run mask, Immutouch wristband, mask with opening for eating, Robo-dog, Lego robots to fight Coronavirus, Delivery on robo-wheels, UV wand to fight Covid [9].

Methodology

1. Primary Data

Data was collected by means of questionnaires that we distribute to people from different professions.

2. Secondary Data

Secondary data were gathered from various types of websites and after reading impact of COVID-19 on electronic gadgets and industry related news articles, research papers on the internet and obtaining information from various research articles.

3. Sample Design

The study used a sample of respondents from Panvel region, making a total of 118 responded who give responses to survey-based questionnaire. The respondents are students, teachers and from other professions.

4. Data Collection

A survey-based questionnaires is used in this study to collect reviews from students, teachers and people from other professions about the impact of COVID-19 on the utilization of electronic gadgets.

5. Scope

The research conducted includes only students, teachers and professionals living in the Panvel region.

6. Limitation

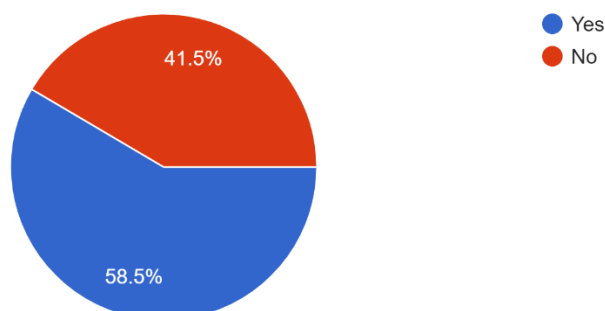
The research analysis is restricted to COVID-19 pandemic.

7. Data Analysis

Based on the responses to the survey-based questionnaires, the following chart is included in the study area. Chi-square test is used for profession of buyers and sale of category of gadget.

7.1. Graphs

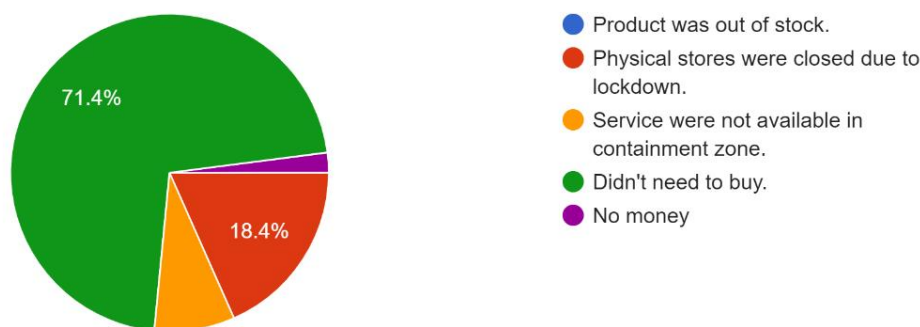
7.1.1 Could you purchase any electronic gadgets during COVID-19 lockdown?



Interpretation

From the above chart, it was observed that 58.5% respondents have purchased electronic gadgets during COVID-19 lockdown.

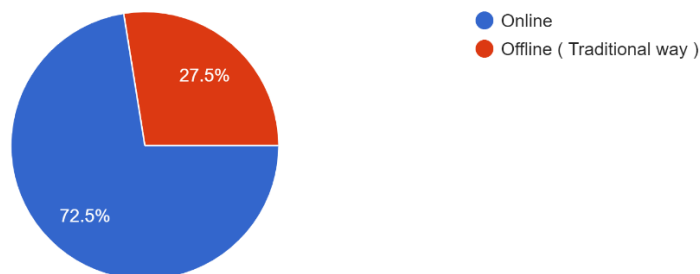
7.1.2 Is there a reason you couldn't buy electronic gadgets?



Interpretation

From the above chart, it was observed that 71.4% respondents didn't want to buy any electronic gadget during lockdown. The other 18.4% respondents not bought anything because physical stores were closed due to lockdown.

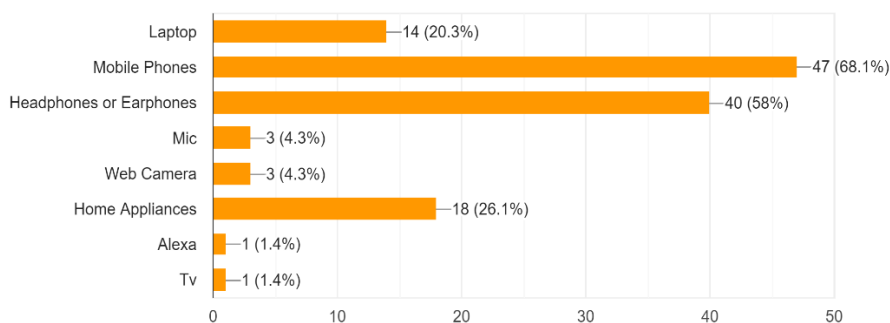
7.1.3 How did you buy it?



Interpretation

From the above chart, it is seen that most of the respondents have preferred online shopping instead of offline (Traditional way).

7.1.4 What kind of product did you buy in lockdown?

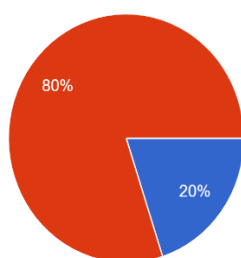


Interpretation

From the above chart, it is seen that most of the respondents i.e., 68.1% have bought laptops and 58% have bought Headphones or Earphones. Only 26.1% respondents have bought home appliances.

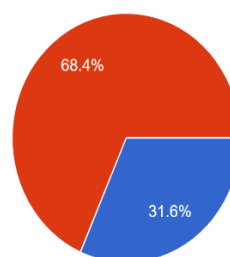
7.1.5 Have you faced any difficulties in online / offline shopping?

Have you faced any difficulty in online shopping?
50 responses



Have you faced any difficulty in offline shopping?
19 responses

● Yes
● No

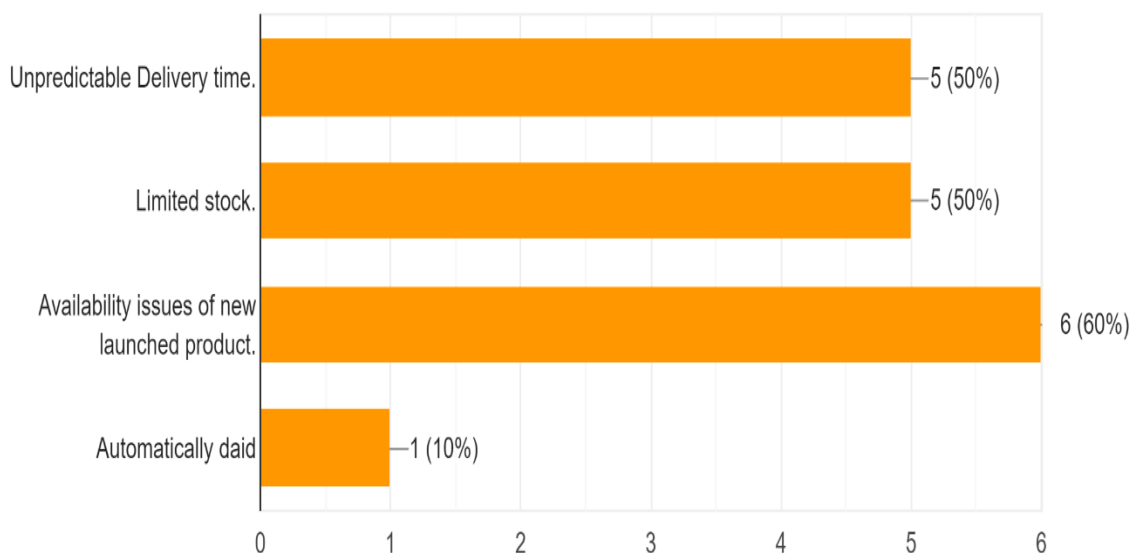


● Yes
● No

Interpretation

From the above charts, it is seen that most of the respondents haven't face any difficulties in online or offline shopping.

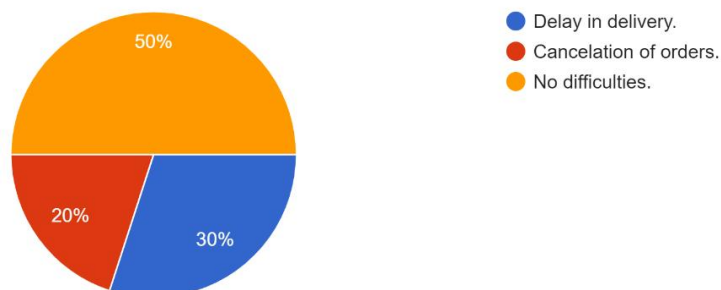
7.1.6 What kind of difficulties did you face while buying the product online?



Interpretation

From the above charts, it is seen that the 60% respondents have faced availability issue of new launched product while shopping online during lockdown. Also, 50% respondents have faced unpredictable delivery time and limited stock issue.

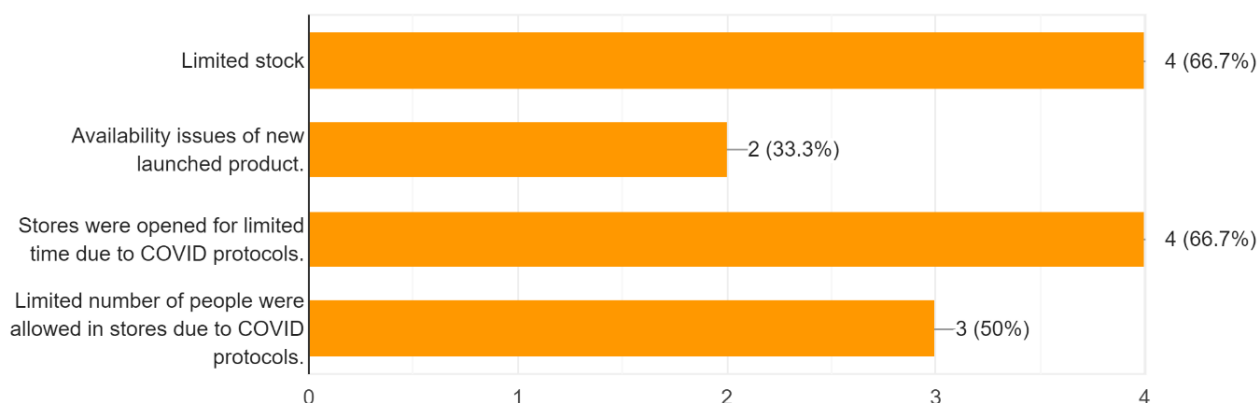
7.1.7 What kind of difficulties did you face after successfully placing your online orders?



Interpretation

From the above charts, it is seen that the 50% respondents did not face any difficulties after successfully placing online order but 20% respondent orders get canceled due COVID-19 restrictions.

7.1.8 What kind of difficulties did you face while buying the product offline?



Interpretation

From the above charts, it is seen that the 66.7% respondents have faced difficulty while purchasing an electronic product during lockdown because stores were opened for a limited time due to COVID protocols and products was available in limited stocks. Also, 50% respondents have faced difficulty while shopping offline because a limited number of people were allowed in stores due to COVID protocols.

7.2 Chi-square Test

H0: Sale of Type of gadget and profession of buyer is independent.

H1: Sale of Type of gadget and profession of buyer is dependent.

Gadget	Profession			Total	Chi-square test statistics	Interpretation
	Other	Teacher	Student			

	buy	Didn't buy	buy	Didn't buy	buy	Didn't buy	buy	Didn't buy		
Headphone	21	27	4	4	16	46	41	77	0.96	Accept H0
Mobile	24	24	3	5	18	44	45	73	0.08	Accept H0
Laptop	7	41	1	7	8	54	16	102	0.964	Accept H0
Home appliances	8	40	1	7	6	56	15	103	0.551	Accept H0

Interpretation

The above table shows no association between sale of gadget and profession.

8. Result and Discussion

In the survey, it is observed that 71.4% of the respondents did not wish to buy any electronic gadget during lockdown where as 18.4% of respondents who didn't make any purchases because physical stores were closed due to lockdown. However, 58.5% respondents have purchased electronic gadgets from which 72.5% respondents bought it online during COVID-19 lockdown. It is also seen that the purchase of mobile phones and headphones/earphones during COVID-19 lockdown was high as compared to home appliances. In addition, most of the respondents haven't face any difficulties in shopping during COVID-19 lockdown. Some respondents have faced difficulties when they are purchasing electronic gadgets online/offline.

Conclusion

In this research paper, the negative as well as the positive impact of COVID-19 on electronic gadgets is discussed and for this, the survey-based questionnaires has been successfully carried out and from that it was observed that most of the respondents as customers haven't faced any difficulties while shopping during COVID-19 lockdown. The most of the respondents prefer an online mode of shopping as it was the safest and convenient way of shopping during pandemic lockdown. During COVID-19 pandemic, the sale of the electronic gadgets such as mobile phones and headphones/earphones is comparatively high to the sale of home appliances since many companies were functioning as work from home and schools and colleges offered online lectures.

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