St. Xavier's College Jaipur

InQuest

Inspiring Innovative Intelligence

Xavier's Research Projects Committee

Session 2020-21

www.stxaviersjaipur.org

Forward

Giving, touching other's lives, expanding the circle of our concern to include others, being authentic, and being open to receiving and giving. This book is a compilation of research works of scholars from different fields of knowledge.

While they have worked in different fields and on different topics, they all share the same giving philosophy. Living with a focus on contributing to the world of knowledge through research isn't just a nice goal but it can be a way of life.

This book provides for a number of papers that are excellent examples of empirical work applied to relevant problems on the impact of Covid Pandemic.

Research is ubiquitous in institutions of higher learning and this book is a testimony to various initiatives undertaken by the college to promote research at undergraduate level.

Research projects undertaken by the students will help them to get better in their own core subjects and explore in depth related topics. All the research papers included in this book are not only contemporary but also thought provoking.

Constructive comments and suggestions from our readers are welcome for further improvement of the quality and usefulness of the book.

Finally, we hope that the readers will make good use of this valuable research material and continue to contribute their research finding for publication in this book.

RESEARCH AND PROJECT COMMITTEE

Message

Research is the key parameter of an institution's academic growth. As a part of the team that was constituted to cater to the research-oriented needs of the students and to promote an environment of innovative learning in the college, it was a proud privilege to steer students towards the polyphonic area of critical thinking to discover new phenomena, arrive at novel conclusions and add to the existing treasure of knowledge. In the globalized context of today's educational scenario, the importance of research is ever more prominent. Xavier's Research Projects Committee is constituted with the aim to promote and instill a spirit of independent research amongst the students. The purpose is ambitious: a pursuit of methodical search for relevant problems and to seek solutions through intellectual creativity as well as to create an educational environment that fosters challenging researches. We believe that this tiny effort in a field of oceanic proportions will contribute to catalyzing a positive change in the lives of our students by nurturing versatility that is needed to succeed in this highly volatile global environment. The Committee has been successful in engaging young scholars in meaningful research activities through various projects and has utilized college education as a means to promote and foster out -of -the -box thinking capabilities of our students.

This exposure to an environment of creative thinking through pedagogical tools will eventually enhance students' knowledge of the field, writing skills and research ability thus preparing them for future. I applaud the faculty members for their untiring efforts and congratulate the students for their innovative work.

Rev Fr Dr A Rex Angelo SJ

Principal

St. Xavier's College, Jaipur

Xavier's Research Project Committee of St. Xavier's College, Jaipur, organized an Orientation Program on 13th Oct 2020 to steer and guide the students towards research-based activities in the college. The program was graced by the presence of Fr. Rex Angelo, Principal St. Xavier's College, Jaipur. Fr. Principal motivated the students to engage themselves in meaningful research and highlighted the importance of early induction into research in this competitive global scenario. Jaya Katta (BBA Batch 2016-18) and Lukansha Gopalan (MA Eco Hons Batch 2018-19) and Shantanu Sharma (BA Eco Hons Batch 2019) as member of Xavier's Research Projects cell shared their experiences of research and inspired the students to engage in the field of research.

Current students of different department (Manvi Agarwal (BBA III year, Mohit Singh Sisodia, BBA II) as young researchers shared their experiences with the new entrants, inspiring them to join this novel enterprise by the college. An overview of the previous session's activities along with the overview of upcoming activities planned by Research Project Cell was presented by the Coordinator, Dr. Leena Sharma. Session was moderated by Mr. Yashwardhan Singh, Assistant Coordinator of XRPC.

This year due to Covid-19 Pandemic, XRPC planned to publish a special issue of Research Project Book (with ISBN number) on theme: Impact of Covid-19 with subthemes on management, commerce, IT, economics, psychology, politics and literature. Research projects are being prepared by student of different departments based on online /telephonic survey format in spite of pandemic situation in the session.

XRPC also started its research on major project on Impact of Covid-19 on Livelihood of Vulnerable section of Society Xavier's Research Project Cell has collaborated with Department of Computer Science for the conduct of Short-Term Training Program (STTP) on Data Science using R Programming from 26th -31st October 2020 in collaboration under aegis of IQAC on virtual platform.

 Dr. Brijesh Awasthi, Adjunct Professor (Data Analytics and Research) Poornima University, Jaipur, Rajasthan, and Adjunct Professor (Data Analytics) Jaipuria Institute of Management, Jaipur was the resource person. The STTP was joined by

around 31 students and 5 teachers. The STTP started with basic knowledge understanding of statistical data with the help of interesting examples and the crucial role of statistical analysis in the field of research and development.

XRPC has collaborated with Department of Business Administration for the conduct of Research Methodology workshop .The 3- day National Workshop on "The Art of Writing Research Papers" . Workshop began with the blessings and encouragement of Rev. Fr. Dr. A. Rex Angelo S.J, Principal who motivated the young researchers by emphasizing on the significance of learning the art as well as the science of writing good research papers, dissertations and thesis. The three different days of the workshop were curated by three different and eminent resource persons. On the first day, Dr. Meenal Agarwal, an academician at DAVV Indore University started with the basics of research and shared her ideas on the "Introduction to Research Paper and How to Write Research Paper".

Day 2 began with the enlightening session by the renowned Professor, Dr. Manvinder Singh Pahwa, Professor, Department of Business Administration at School of Business and Commerce at Manipal University, Jaipur, who gave a detailed insight on "Qualitative and Quantitative Research Tools". The third day focussed on the ethical concerns and focussed on plagiarism which was discussed by Prof. Anil Mehta, Professor, Department of Legal Studies, Banasthali Vidhyapeeth, who gave his presentation on "How to Write Bibliography and Referencing in Research Papers".

Dr Leena Sharma
Coordinator, Research and Project Committee

Special Thanks and Gratitude

Xavier's Research Project committee express our gratitude and conveys a special thanks to the Management of college for the Academic session 2020-21 for the support and guidance in publishing this endeavor of research.

Index

10	IMPACT OF COVID 19 ON INDIAN ART CULTURE AND ARTISANS	NITIKA SINGH, VANSHIKA ARORA	DR ATIQA KELSY	122-126
11	IMPACT OF COVID-19 ON TECH INNOVATION	SAMEEP RUNGTA JUBI RANKA JUSTIN THOMAS BHARAT SONI	MS KEREN L DANIEL	127-135
12	EXCLUSIVE OVER THE TOP MEDIA ORIGINALS VS. MAINSTREAM TELEVISION SOAP OPERA CONTENT: A COMPARATIVE ANALYSIS OF THE TWO FROM CONSUMERS' PERSPECTIVE	SRISHTI SHRIVASTAV RAHUL LUNAWAT DEVANSHI JAIN ANUSHKA SHRIVASTAV	MS. NEETU SHARMA	136-141
13	CORONA VIRUS PANDEMIC AND THE BROKEN SYSTEM OF BIO-MEDICAL WASTE MANAGEMENT	AASHUTOSH SINGH NEHA PASCAL VAIDEHI RIYA KHANDELWAL	DR. MEETA SHARMA	142-153
14	E-LEARNING: THE NEW NORMAL	SURAKSHA KESHWANI YASHIKA BHALLA SNEHA SONI SHAILI GUPTA GUNJAN GUPTA	DR. EKTA PURI	154-170
15	COVID 19 AND VOTING BEHAVIOUR DURING ELECTIONS OF JAIPUR MUNICIPAL CORPORATION: AN ANALYSIS	AVI SHARMA RAJ DHYAWANA KEERTHI SHAWAL UMAIR HAARIS BHAVIKA CHAUDHARY	DR. PREETI SHARMA	171-183
16	SURVIVING PANDEMICS: EVOLVING LITERATURE	NEETU THAKURATHI GAURAV GARG NAVREEN KAUR VASUDHA SHARMA	DR RAMA HIRAWAT	184-199
17	IMPACT OF COVID ON THE NON-GOVERNMENT ORGNAISATION (NGO)	ANJITA JESSICA CASTELINO ANSHU MAHESHWARI KAJAL MOONDRA KHUSHBU TOLANI KHUSHI AGARWAL NEHA JOHARI	DR. LEENA SHARMA	200-208
18	IMPLEMENTATION OF IOT & AI IN HEALTHCARE DURING COVID-19	BHANU PRATAP SINGH CHETANYA MAHESHWARI DAKSH HARSHITA RATHORE	DR.ARPITA BANERJEE	209-221
19	BOOMING ENTREPRENEURSHIP: PRE AND POST COVID 19	DIPIKAA JOHARI RINKI GURJAR GAURAV BAID	DR SHIKHAARORA BAKSHI	222-230

CHAPTER 1

STUDY ON LEVELS OF HOPE AND RESILIENCE AMONG COLLEGE STUDENTS ACROSS GENDERS DURING THE PANDEMIC

Abstract

The current study will investigate the levels of hope and resilience among college-going students during the Pandemic. As various countries across the globe introduced measures to restrict movement as part of their efforts to reduce the number of people infected with COVID-19, several sections of society had to undergo huge changes to their daily routines. One such segment is that of students - both school-going and college-going. The new reality of the home-schooling of students and lack of physical contact with friends, non-immediate family members, and teachers in real time did take time to get used to. Adapting to lifestyle changes such as these, as well as managing the fear of contracting the virus and worrying about people who are particularly vulnerable, has been challenging for everyone. It can be particularly difficult for people with pre-existing mental health conditions and can also lead to mental health illnesses in others. During such difficult times, it is important to find healthy ways of coping. Keeping this in mind, the current study will measure resilience and hope in college going students to ascertain at-risk students and recommend alternatives for improved and enhanced coping during such unprecedented times.

Hope refers to the capacity of a person to identify pathways to goals and harness agency to achieve desired outcomes of goal-oriented pursuits (Snyder, 2000 & 2002). The pathway dimension involves the perceived capacity to generate effective and useful ways of accomplishing desired goals, whereas the agency dimension represents an individual's self-efficacy in executing desired goals that support well-being. The agency and pathways dimensions of hopeful thinking are the experience of (both trait and state) hope itself (Chang et. al., 2013). Trait hope, which is one's dispositional tendency to experience hope, can be built alongside state hope, which is one's current state of hopefulness (Snyder, 2000). Research indicates that both trait and state hope have a positive effect on well-being (Barkus, et. al., 2015; Madan & Pakenham, 2014).

Psychological resilience is the ability to mentally or emotionally cope with a crisis or to return to pre-crisis status quickly. Resilience exists when the person uses "mental processes and behaviors in promoting personal assets and protecting self from the potential negative effects of stressors". It is important to realize that resilience does not only exist at the individual level, but also at the community level. In any societal ecosystem, there is a certain level of shared resilience needed to be able to overcome the stress of the coronavirus pandemic and recover to normal levels of functioning.

Considering that there will probably be a recurrence of coronavirus in most countries, an important question is what the impact will be of the eventual

reoccurrence of the pandemic on the mental health of people? Moreover, can the first outbreak inform us to be better equipped to handle the response to a second or even more subsequent outbreaks? As such, it is crucial to be aware of stress management at the societal level. Given that parts of the population with lower socio-economic status are more likely to be prone to stress-related negative outcomes, they may benefit from specific short-term and long-term resilience enhancing interventions at a societal level including guaranteed access to online education
and information, providing adequate access to economic and health infrastructure, as well as stimulating communities.

Keywords: hope, resilience, COVID-19, pandemic, mental health

Introduction

The novel coronavirus disease 2019 (COVID-19) pandemic is a serious health threat that has infected more than 153 million people worldwide and resulted in the death of more than million individuals (World Health Organization, 2021). The virus has widely spread across many countries like India. The government of India enforced many measures to mitigate the spread of COVID-19, such as enforcing social distancing, the use of medical face masks, closing schools, encouraging self-isolation, and quarantining individuals returning from abroad. With COVID-19 spread globally, the absence of a scientifically proven cure, and the difficulty in controlling it, the resulting situation has led to devastating economic, social, and psychological effects. One of the most important issues regarding COVID-19 is preventing adverse psychological effects among individuals. Research carried out at the start of the pandemic in China showed that symptoms of depression, anxiety, stress, and panic disorders had increased compared to levels prior to the COVID-19 outbreak (Qiu et. al., 2020; Wang et al. 2020). COVID-19 can also trigger panic and fear among some individuals(Ahorsu et al., 2020).

The coronavirus pandemic has spurred the adoption of distance learning at all education levels. Thousands of colleges and universities, as well as hundreds of thousands of K-12 institutions, closed nationwide. The mass transition will be a proving ground for online education. In face of such dire mental health consequences, it becomes imperative to study variables linked with positive psychology that enhance happiness and well-being. An important variable in this regard is hope. Hope is a feeling of expectation and desire for a particular thing to happen. It is the belief that the paths to reach one's goals can be found in the motivation in trying out those different paths (Snyder et. al. 2002). The pathways dimension involves the perceived capacity to generate effective and useful ways of accomplishing desired goals, whereas the agency dimension represents an individual's self-efficacy in executing desired goals that support well-being. Hope can be seen as a protective factor in mental well-being in relation to the difficult conditions created by COVID-19. The pandemic has forced individuals to adopt many new modes of behavior in relation to areas such as personal hygiene, working conditions, and social relationships (Ahorsu et al. 2020; Anderson et al. 2020). One aspect of hope is that it encompasses positive expectations for the future (Snyder 2000), so naturally

an individual may have hopeful expectations that COVID-19 will pass. This motivates the individual into making an effort regarding both the present and future.

Another noteworthy variable is resilience. Resilience is the capacity to recover from difficult life events. It refers to the speedy recovery and the ability to return to daily functioning, after having experienced stressful life events that have resulted in functional breakdown (Carver, 1998). It is also the ability to stay strong during challenging times (Jackson et. al., 2007). The resilience of individuals may have decreased while their vulnerability may have increased during the pandemic (Sadati et. al., 2020). There are several risk and protective factors on which Resilience relies which are related to individual differences, family context, and community characteristics. Although the severity of exposure can influence outcomes, a number of factors have been shown to promote resilience, including personality as well as external factors such as social and interpersonal resources. These factors include optimism (Bonanno & Galatzer-Levy, 2014; Berument & Gunes, 2005), social support and bonding (Bonanno et. al., 2006; Bonanno et. al., 2007; Bonanno & Mancini, 2008; Beau- lieu et. al., 2015; Bonanno & Mandavia, 2019), staying informed without overindulging in media consumption (Ahern et. al., 2002 ; Bernstein et. al., 2007; Fair-brother et. al., 2003), employing distraction strategies such as finding ways to have fun and laugh (Bonanno & Keltner, 1997), and reducing social isolation with online communication (Bonanno, 2020).

An enormous number of 1.54 billion students worldwide, including those in college, are reported by UNESCO to be a menace by the closing of institutions (Albrectsen & Giannini, 2020). Hence, the lockdown has profound consequences on the students (Sahu, 2020). Thousands of colleges, universities and institutions were closed nationwide. Mass transition to the online medium of learning has exerted an unprecedented effect on the students (Baloran, 2020). Undeniably, students are wrestling with unwanted changes.This causes considerable pressures on college students both internally and externally, which might trigger negative emotions, including stress through undergoing studies from home. Colleges started to implement distance or online learning so that learning activities can be conducted as per usual. According to Purwanto et. al., (2020), every student wasn't congenial to the new method of learning. Consequently, the students faced a number of challenges and difficulties, especially regarding adaptation to the new learning method that is less effective than that of face-to-face learning. According to a study done by Basthomi & Mubin (2020) 55.8% of college students were stressed during the COVID-19 pandemic due to the online learning process related to the competitive academic pressure that overwhelmed them with more lesson contents and less leisure time. Albeit those challenges and difficulties in online learning, the students are still obliged to follow the government's policy. They are trying to adapt and survive in this condition, which might trigger an increase in negative emotions such as stress, that further causes a low level of subjective well-being in students.

Both hope (Griggs, 2017; Trezise et. al., 2018) and resilience (Reyes et. al., 2019; Shin et. al., 2019) are seen as protective factors in helping prevent

psychological disorders and will also play important roles in countering the negative effects of COVID-19. Resilience, hope, well-being, and happiness are very effective in developing good mental health (Peterson, 2006; Peterson & Seligman, 2004).

Rationale

Given these circumstances, it was imperative to find a coping strategy and it was important to know the approach of the students to make plans and change the practices accordingly. The uncertainty of the pandemic affects individuals negatively and it becomes more important for individuals to deal with negative situations in this period. At this point, it was thought that determining the relationships between hope, meaning in life, life satisfaction, Covid-19 fear, intolerance to uncertainty, psychological trauma history, the presence of the individuals diagnosed with Covid-19 around and resilience is important in terms of planning mental health services for the society. Therefore, it was important to identify the factors affecting college students' resilience during the pandemic. Keeping this in mind the current study will measure the resilience and hope in college-going students to ascertain at risk-students and recommend alternatives to enhance and improve coping during this pandemic.

Methodology
Statement of problem

The present investigation attempts to study levels of hope and resilience among college students during the Covid-19 outbreak.

Conceptual clarifications

The variables used in the present study are defined below-:
1. Hope: As defined by researchers, hope is a positive attitude towards life and ability to have optimistic views (Greer & Moorey, 1989; Strang & Strang 2001; Sawatzky et. al., 2009)
2. Resilience: It is most frequently defined as positive adaptation despite adversity (Luthar, 2006)

Objectives

The broad objective of the study was to investigate levels of hope and resilience during the world-wide outbreak of Covid-19. The specific objectives were as follows-:

1. To study hope levels in college-going boys and girls.
2. To study resilience levels in college-going boys and girls.
3. To study gender differences if any in hope levels in college-going boys and girls.
4. To study gender differences if any in resilience levels in college-going boys and girls.

Hypothesis

1. There is no significant difference between mean scores of boys and girls attending college with reference to hope.

2. There is no significant difference between mean scores of boys and girls attending college with reference to resilience.

Research Design
The present research adopted a survey design of two between group study.

Variables
Two categories of gender i.e., girl and boy college students were selected as independent variables for the present research work, whereas, hope and resilience among college students were selected as dependent variables.

Sample
For the current investigation, data was collected from 60 college going students between 18-25 years of age from the city of Jaipur. Further, they were classified into two groups i.e., girls (30) and boys (30). The method of convenience sampling was adopted for the study.

Tools
1. Adult Hope Scale (Snyder et. al., 1991) - It is a 12-item measure of a respondent's level of hope. In particular, the scale is divided into two subscales that comprise Snyder's cognitive model of hope: (1) Agency (i.e., goal-directed energy) and (2) Pathways (i.e., planning to accomplish goals). Of the 12 items, 4 make up the Agency subscale and 4 make up the Pathways subscale. The remaining 4 items are fillers. Each item is answered using an 8-point Likert-type scale ranging from Definitely False to Definitely True. Snyder et. al., (1996) tested the reliability of this scale in four studies that sampled 444 American students, thus demonstrating strong support for the internal reliability (Lopez et. al., 2000). They found test-retest correlations and carried out factor analysis which found support for the two-factor structure hypothesized in Snyder's hope theory.

2. Resilience Assessment Questionnaire (Mowbray, 2011) - It is a 35-item questionnaire that measures emotional resilience. Items are measured on a 5-point Likert-type scale and the overall scores indicate the ability to cope with stress effectively.

Procedure
Each subject was given a questionnaire of hope and resilience online through Google Forms, after collecting their demographic data to ensure they qualify for the study. The subjects registered their responses by choosing appropriate options for each statement provided to them in the google form. The data collected was analyzed with due confidentiality.

Scoring
In the present study, scoring of the obtained data was done with help of respective manuals available for the test. The data was arranged in the respective tables according to the statistical t-tests applied.

Statistical Analysis
In the present study, to find out the significant difference in the two groups of college students, t-tests were applied using Google Sheets.

Ethical Considerations

Confidentiality and anonymity of the respondents was maintained throughout. All ethical protocols were followed in the collection and handling of the data. The research conductedmaintained the needed objectivity and no responses were altered and the whole procedure was performed without any manipulation of data or results.

Results and Discussion

The present research is a descriptive and inferential study on the levels of hope and resilience in college students during the pandemic. The objectives of the research are to study hope levels, resilience levels, and the gender differences of each variable for
college-going boys and girls. For this purpose, a questionnaire consisting of the Adult Hope Scale and Resilience Assessment Questionnaire was used to collect data from 68 respondents (37 female and 31 male participants). The results of the questionnaire are as follows:

Table 1: Total Mean Scores and Standard Deviations (SD) for the Levels of Hope andResilience for Male (N=31) and Female (N=37) Participants

Variable	Male		Female	
	Mean	**SD**	**Mean**	**SD**
Hope	54.33	15.44	62.68	9.41
Resilience	120.71	28.98	132.95	19.86

Table 1 depicts the overall average scores of the respondents on the full scales of hope and resilience. The scores on the Adult Hope Scale ranged from 8 to 64, and those on the Resilience Assessment Questionnaire ranged from 35 to 175.
According to the manual for the Adult Hope Scale, the male students' score translates into a moderate level of hopefulness, meaning that while they do not suffer from complete loss of positive approach towards the future, they only have an average level of motivation to find new routes to reach their desired goals. Such a state can be characterized by a slight lack of energy and enthusiasm, and worrying, however only at certain times and not frequently. The female students' score translates into high levels of hope, meaning that they are not only generally content with their abilities but also direct this energy toward forming and pursuing goals. Additionally, according to the handbook for the Resilience Assessment Questionnaire, both male and female college-going students obtained the mid-range of scores indicating a "substantial amount of resilience". It can be inferred that the respondents can positively cope with most events in their life with room for improvement in some dimensions.

CHAPTER 2

AUDIO BRANDING; THE NEW BRAND PERSONALITY

Abstract

Definition of marketing have changed many folds. Traditionally, advertisements focused more on product details. Slowly this trend made a paradigm shift towards being consumer centric. Now with the rapid advancement in technology, media has entered into a new digital age, it has become audio-enabled.

Why are the brands going to the trouble of framing their audio identities?

Because Audio/Music is a language that people all round the world can understand. No matter the cultural differs, people are similar in the way they decode the intention of music & other sound. The time is now, where the brands are using the exceptional power of sound to be recognized & understood across the globe. They are treating sound with the same care & discipline as they do their graphic standards & visual-brand building.

This paper describes the strategy of aligning sound & music to create difference in brand image and customer value. The objective of this paper is to show the relevance of using sound & music in a line of creating brand personality for building strong brand image. Understanding the way that consumers themselves use music is crucial to successful brand management in this area. This study will give a clear framework depicting the delta between sonic branding and consumer purchasing behaviour. In Addition, this paper will emphasis on the need for using a common set of Audio Branding concepts in order to unify the field. However, for scholars and specialists, the immediate challenge lies in developing the concepts and ideas for Sonic Branding that will unite the field and thereby increase the future impact of this paper.

Introduction

During the last decades, the concept of branding has gained an importance for companies and corporations. Strong consumer brand facilities the choices for customer, provide a certain quality of services and reduces the risk of selecting a competing offer. Brand Convey the whole experience consumer have with a company's product and services[1].

In recent years, the concept of Digital Audio Branding has experienced unprecedent changes. Given today's omnichannel, Audio-enabled, interconnected marketing environment, as a brand leader it is important to ask,

"Can the consumer identify the brand with their eyes closed?"

If the answer is no, the brand is not competitive enough to fit in the dynamical changing marketing world.

"Audio branding is an approach of using unique, proprietary sound and music to convey a brand's essence and values. Just as visual branding defines a brand using colour and shapes, audio branding defines a brand through sound and music.[2]"

The notion of audio branding is not new but has developed more in the past 12 months and has now taken a definite look in line of strong brand personality. Brand-oriented company across the world are just beginning to realise that, they must use visual audio elements where ever they come into contact with their prospects and customers. Marketers used2 to bring more emotion & style into its brand image, but now brands have begun to re-think their approach to audio branding and to sound based emotion and lifestyle. Audio branding is equally important to the environment, as a communication element.

"Marketing of the sense"
The origins of sonic branding or Audio branding involves a seminal concept used in the literature: 'Atmospherics' which is described by Philip kotler as marketing of senses. Marketing with senses is defined as when a corporation make a use of many different senses to create a positive impression on a consumer and a strong brand identity and marketing with sound is a strategy explored.

Audio Marketing is now a part of strategic outlook which involve audio planning that is aligned with the brand identity across all touch points from a product sound to brand logo sound. How customer interact with a brand is very important and the experience that music or sound give's, can't be neglected.

Audio branding is a part of the multi-sensory brand communication and holistic brand design. It leads to building a strong brand sound that will be capable of transmitting the brand identity and values in a distinctive manner.

The Research Problem And objectives

Through this paper, we will try to investigate how sounds influence and enhance brand preference. Do they affect consumer perceptions and behaviours by giving actual? examples, parallel trends and its consequences and implications for Marketing and Management. In fact, even though marketers still have a preference for the visual channel, audio communication is getting more important, and it will have something more to say in the near future

Through this paper we will also focus on how the strategic use of sound can represent a positive step in order to differentiate a product or a service better, enhancing recall, creating preferences, building loyalty and trust, and eventually helping to increase sales and production.

It is known regarding the human history that music was established first than speech. The human brain always reacts when exposed to any kind of sound, so much that some music effects are well known for being real instruments to" lull the masses". Aware of this fact corporates have started to use music as vehicle between brand and customers in order to create better experiences.

The Hypothesis of the present paper will be as follows:
1. Is Audio branding competitive enough to influence the consumer behavior, or not?
2. Are audio branding changes the consumer psychology in making purchasing decision as compare to other branding tactics, or not?
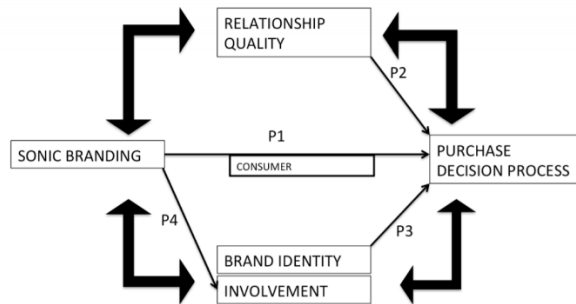
Fig 1

Objectives

The objective of this paper are as follows:

- To analyses the impact of audio content on consumer's purchasing decision
- To study the concept & technology-shift of sonic branding in audio OTT universe
- To determine the success factors for podcasting & audio-marketing campaigns.
- To study the influence & psychology behind Audio Content

Statement of the problem

Our key concern will be on the:

- Changing Consumer behavior due to audio branding
- Studying the robust supply of audio content in interactive marketing
- Deep analysis will be done on audio marketing & sonic branding
- Studying the existence of audio-only advertisement of products and services

Usefulness

Since research is a systematic investigation and analysis of various aspects, by researching on this topic we would be able to learn all relevant data, background information, opposing viewpoints, and arguments that support our opinions. Through this research we aim at:

- The outcome and the result of the research undertaken, is going to provide immense knowledge about marketing conditions and its operations to students.
- Before adapting marketing practices to the internet, it is important to understand the characteristics of customers for online advertisement which is revealed by the study.
- The Government from this study will understand the importance of Audio Branding from both entrepreneurs and customers aspects, which ultimately impact the overall economy and help them to regulate laws accordingly.
- For scholars and academic researchers, the current study would provide the basis for future study.

Methodology

(The research project method includes both primary as well as secondary data)

While defining the procedure for the market survey it is advised to base the research on the strong foundation of widely collected database and then moving towards new heights. The steps for the research are adopted as follows:

This study is based on primary and secondary data, following these sources we shall complete our research.

Primary Data Methods: Analysing the first source data and gathering information from the main source with the purpose of addressing the research problem at hand. For analysis of audio branding, a primary survey will be conducted, using structured questionnaire. The research will be conducted in the Jaipur city and outskirts within its popular areas.

Secondary Data Methods: The data already been collected and analysed by others with the credibility and potential for cumulative knowledge with the possibility of further use (Reanalysis of data). To ascertain the trends and development, especially the contribution in GDP growth and scope in e-commerce. Secondary data will be collected from the official sources such as Newspapers, Magazines, Case studies, Annual reports, etc. Tables, figures, graphs and charts are prepared from the data collected.

- A survey was conducted among different age groups people distributed throughout the city and also from various sources available
- The questionnaire included demographic section and preference, awareness and attitude section. Analysis is based on the preferences made by 150 respondents and other researches available.

S. no.	Questions	
1	Name	Open question
2	Gender	Closed Question
3	Age	Closed Question
4	How much audio do you think you consume in a day?	Closed Question
5	When do you usually listen to the audio content?	Closed Question
6	Why you consume the audio content?	Closed Question
7	Do Audio identities & elements of a brand ever make you feel excited about the product or services they offer.	Closed Question
8	Which feature of audio do you find more convenient as compare to other branding (videos, print, Email, Display)	Closed Question
9	How influential do you feel audio branding is on consumer behaviour?	Closed Question
10	Do music and different sounds in shopping centres and restaurants affects your mood?	Closed Question
11	Is audio related to brand able to a leave an impression of that brand in your mind?	Closed Question
12	Do you find any scope in the growth of audio marketing	Closed Question

Fig 2: A copy of Questionaries Structure
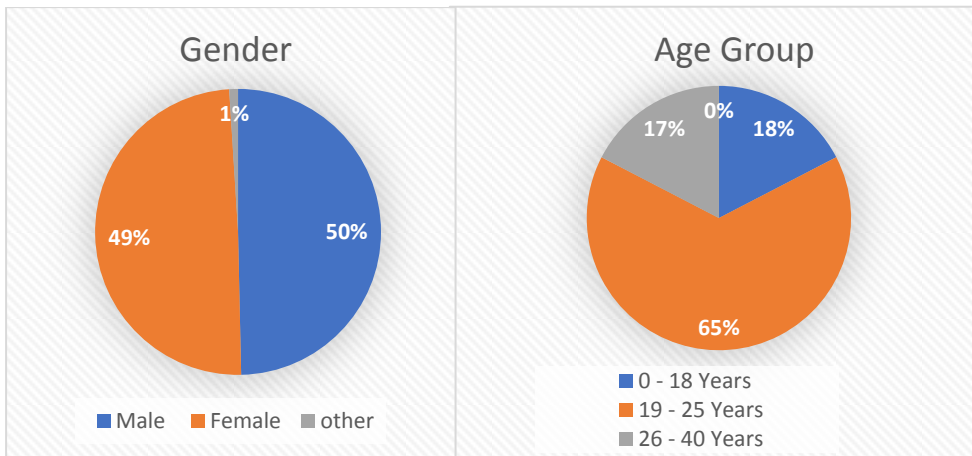
Content

1. Gender/Age Group

Fig3.1

The gender distribution is relatively balanced, with no significant difference between male and female respondents. Concerning age distribution, respondents of the survey were mainly in the age group of 0-18 and 19-25 with older respondents having progressively less representation in the sample

2. How much audio do you think you consume in a day?
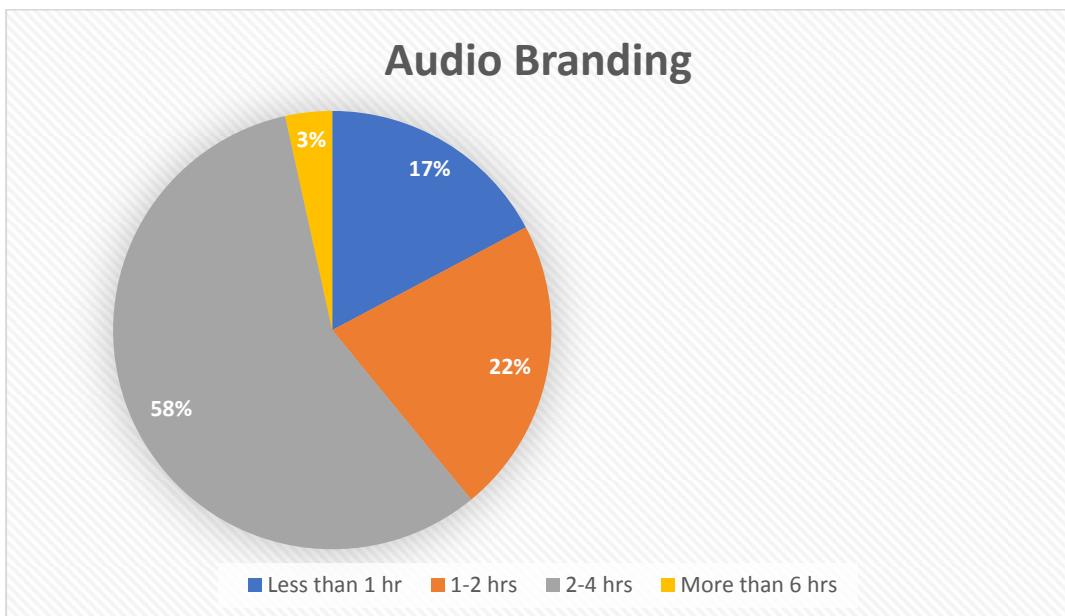
Fig 3.2

Consumption of audio has been increased in past few years. People are spending 2 to 4 hours consuming Audio content in a day i.e., 10-20% of a day. This result shows that people are ready to consume content and companies have a great scope to exploit this source for making strong relations with its consumers. Creating a trustworthy brand is the most important task for marketers to achieve strong brand loyalty and repeat and this can be made done through strong customers relations.

3. **How often, if at all, do you listen to any of the following?**
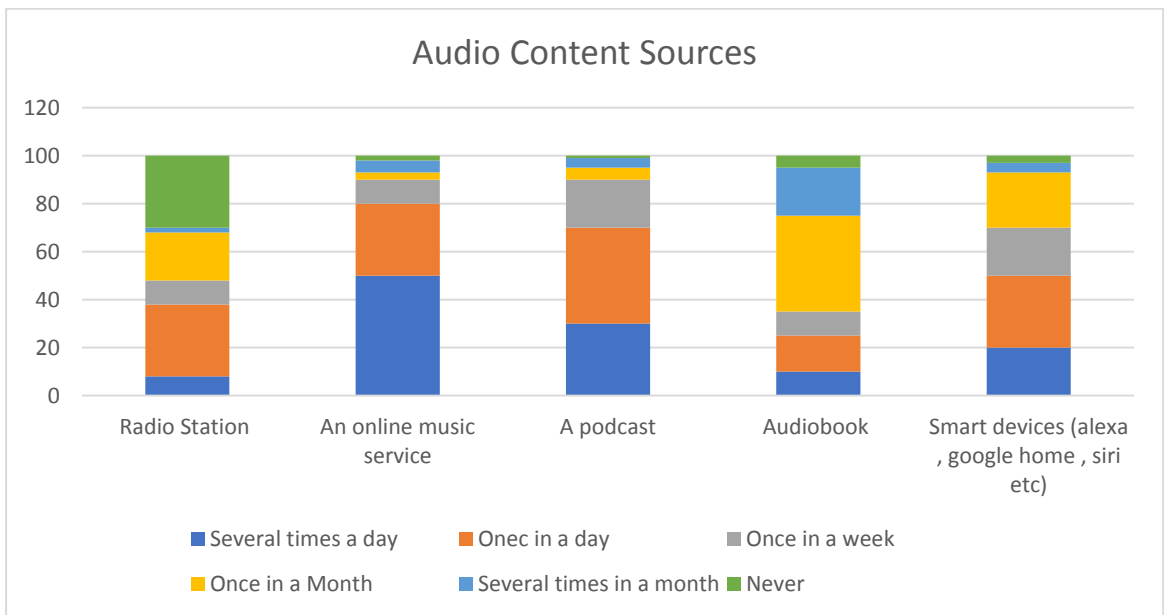
Fig 3.3

Branding is a Strategic Tool that opens a new possibility for marketers and to steer customers in a retail setting. Through this chart we can analysis that new music and sound sources (online music services, podcast, alexa etc.) are gaining attention. The Medium of sound content used by companies for advertisements purposes need to evolve. In the post digital world sources to deliver sound or music content of a brand needs to be effectively selected and executed. A new potential customer's base is ready on these new sources.

4. **Why you consume the audio content?**
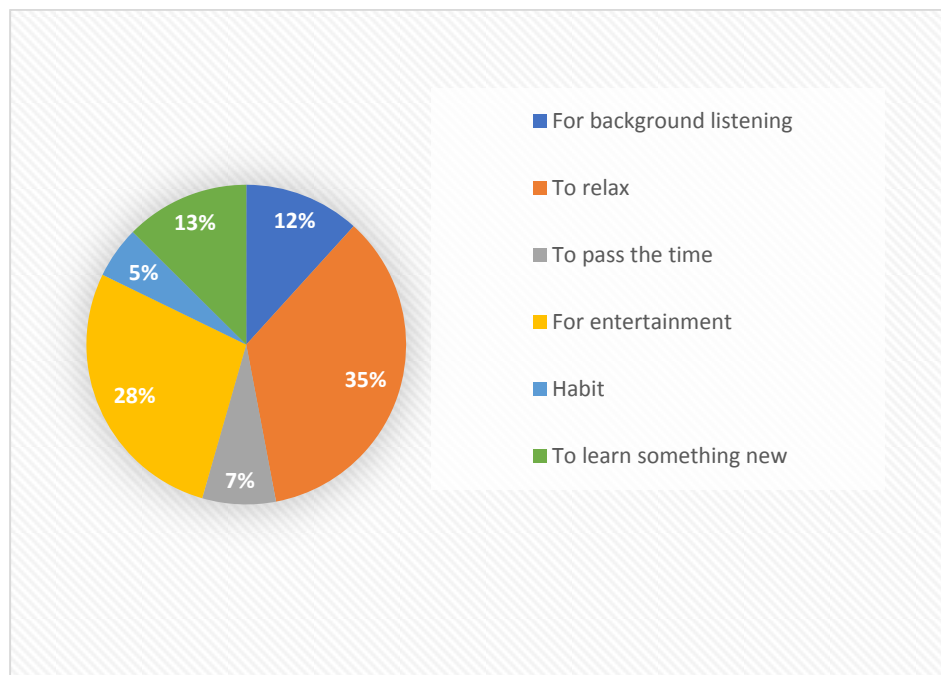
Fig3.4

5. **Do Audio identities & elements of a brand ever make you feel excited about the product or services they offer.**
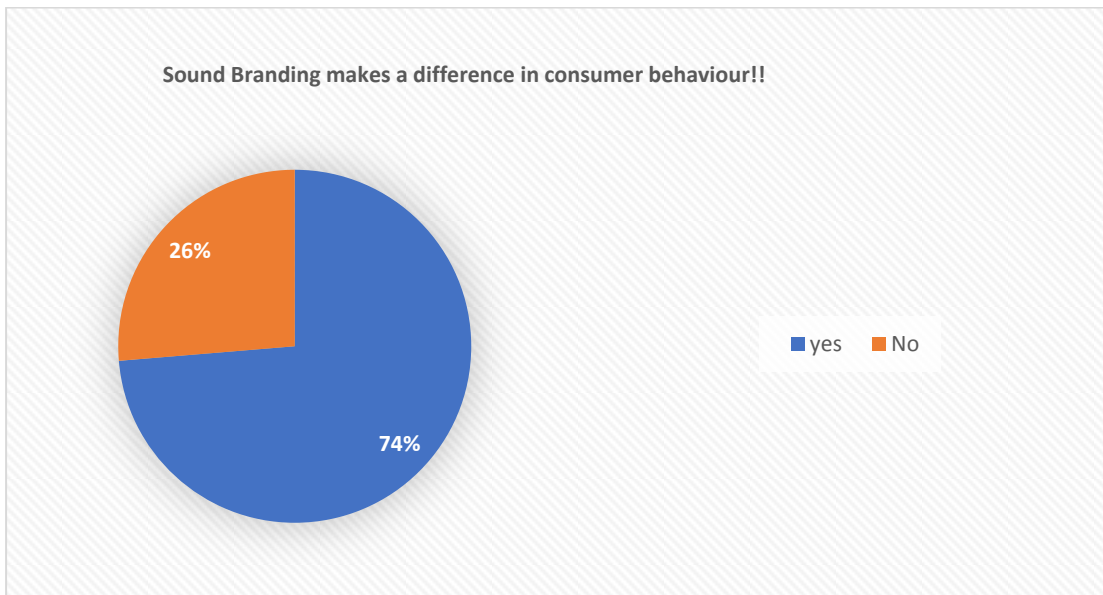
Fig3.5

6. **Which feature of audio do you find more convenient as compare to other branding (videos, print, Email, Display etc.)?**
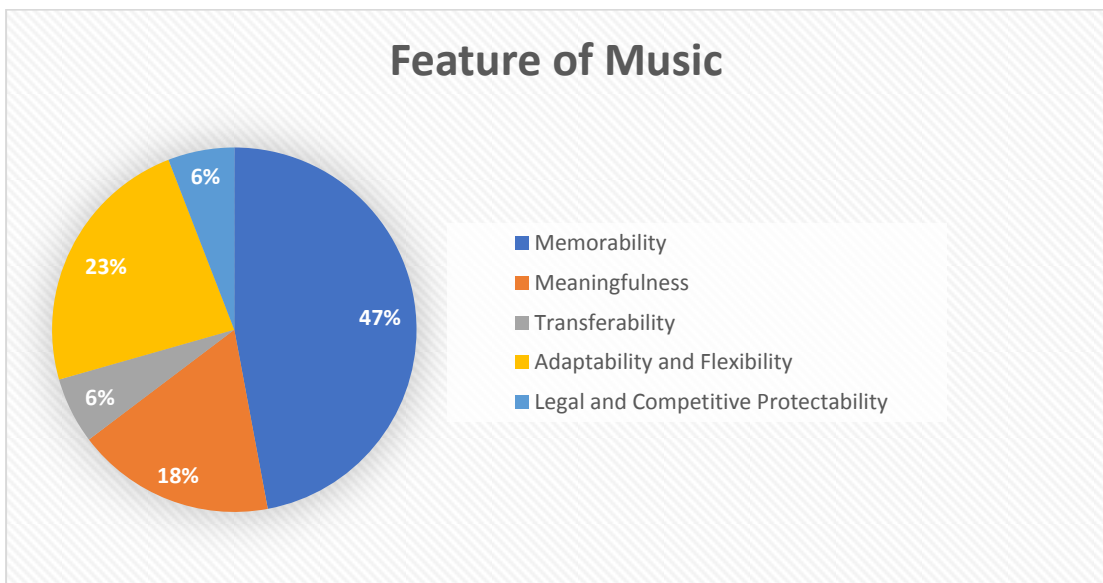
Fig 3.6

People find music interesting because we do not know how music works (Treasure, 2007). The brand becomes a retail experience through the use of music. Some argue that music even makes people do things they would not otherwise do, because of a subconscious reaction to the music – like moving faster or slower through a store. With the analysis of this customer-oriented viewpoint chart we can conclude that sound have some key feature that need to be studied deep and have great potential to

create brand identity. We find that music is vitalizing. It has some great power of memorability, adaptability and entertainment. Most of the respondents believe that music increase brand recognition with the efficiency in memorability feature. Music also increases the impact of visual branding.

- *Congruent sound and video enhance the emotional impact of visual communication by 1207%. Prof. Charles Spence of Oxford University (2006).*
- *Ads that closely LINKED their SOUND AND VISUALS delivered, on average, 14% HIGHER MEMORY ENCODING at end branding than more passive soundtracks. Neuro-Insight (2018), Tuning into sound*

7. How influential do you feel audio branding is on consumer behavior?

Impact of Audio Branding on Consumer Behaviour

- 11% Excellent
- 51% Good
- 28% Average
- 10% Below Average
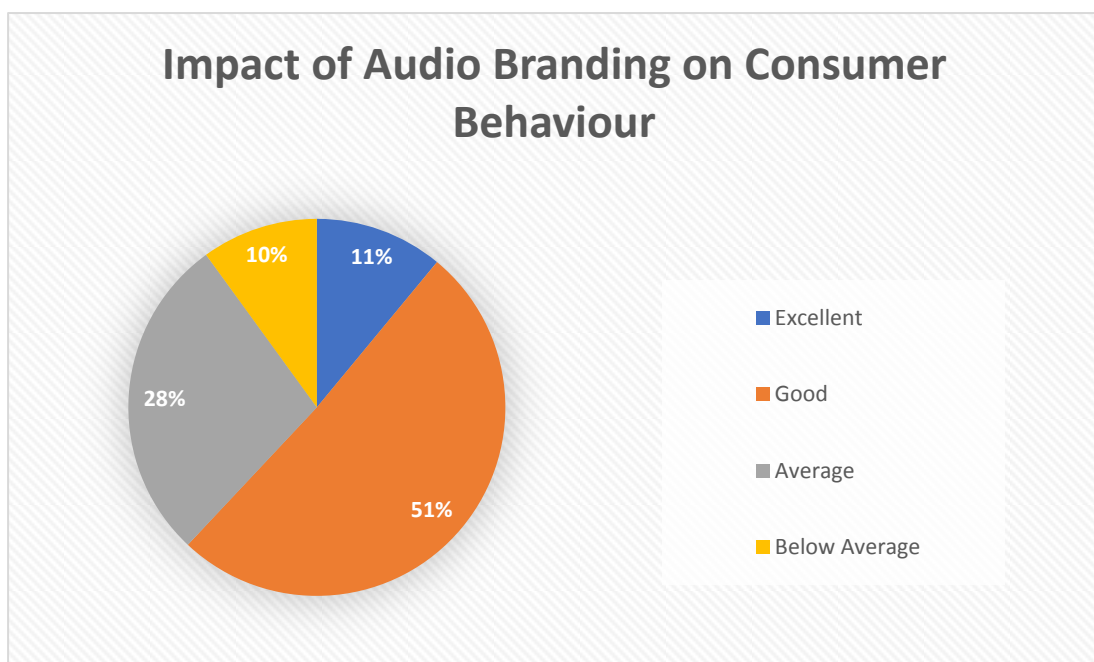
Fig 3.7

This represents that 51% of respondents believes that audio branding has a positive impact on consumers purchasing decision and 11% are of view that audio branding is highly effective medium for creating brand identity and loyalty. In total 62 % of respondents are with positive viewpoint thus proving the hypothesis of the research paper in affirmative aspect. Sonic branding is the creative and emotional process of brand identity, in which brand characteristics and values are mixed into an audible form both distinct and recognizable to the organization. Mixing sonic branding strategies with other used marketing practices gives companies unrealized potential to transmit messages at touch points where sound is in the centre of the experience. Thus, Sonic branding can create memorable brand experiences and lasting brand memories that are stronger than its visual concept.

8. Is audio Content able to a leave an impression of the respective brand in your mind?
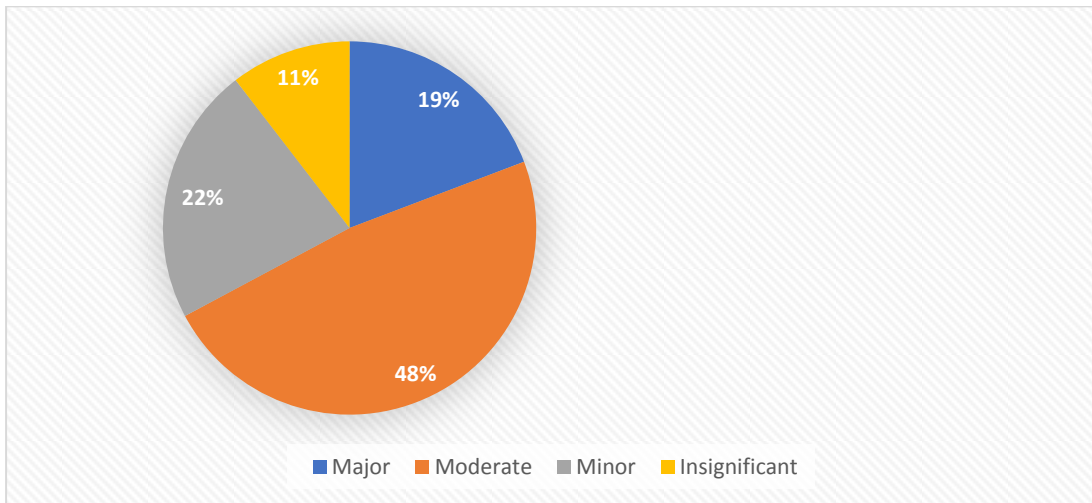
Fig 3.8

Through this consumer-oriented data, we can conclude that majority of the respondents (48%) still believe that audio content is able to leave an impression in consumer mind moderately. The present review gives us an idea that the concept of Audio Branding is still underdeveloped. There is a need for deep study and research to fully exploit the branding benefits through sonic medium.

The brands that use sonic branding today will stand out and receive goodwill because the majority of businesses do not yet understand sound branding as a consumer-oriented practice where the consumer is always interested in such experiments.

9. **Do you find any scope in the growth of audio marketing?**
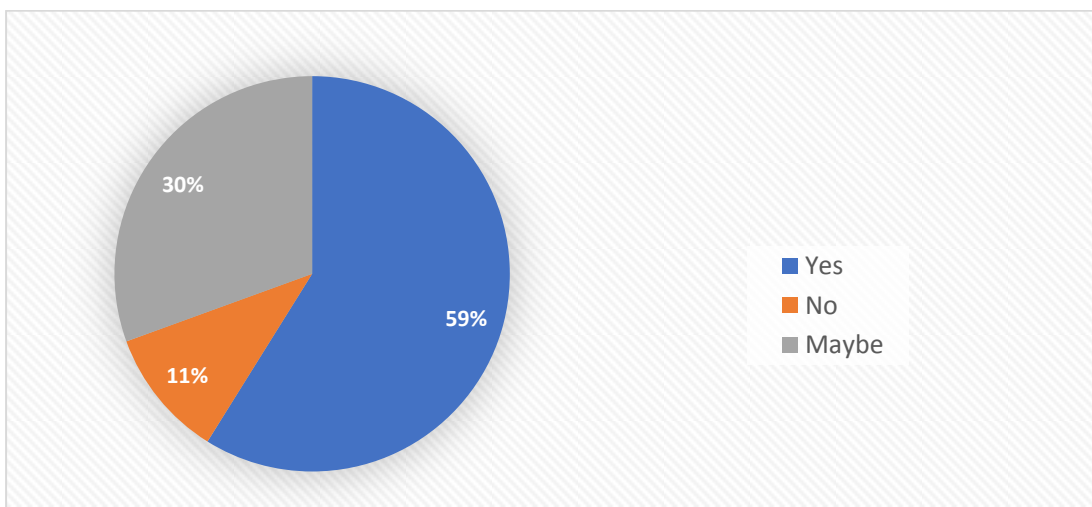
Fig 3.9

Form this research we can conclude that majority of respondents believes that there is a huge scope in growth of Audio Branding. This means that the strategy of alleging sound with the identity of brand is competitive enough to capture the future market. This result proves another hypothesis correct that Audio Branding is competitive enough as compare to other marketing and branding strategy. Sonic branding needs to effectively identified and implemented in the practices used by marketers to gain competitive edge in the mere future.

Conclusion

As a conclusion, the present dissertation has contributed to build a consumer-oriented review of the audio branding literature and provided an overview of the sensorial sonic environment to benefit brand management, research and practice. The framework of this article points out that the field has multiple approaches to the consumer of music (for example, as a listener, consumer or agent).

This research proves that Audio branding is competitive enough to influence the consumer behaviour and it calls for a theoretical approach to sonic branding as a critical area to keep study in the future. Through this research we were also able to prove that yes audio branding changes the consumer psychology in making purchasing decision as other branding tactics do. Audio branding have few advantages firstly customers can easily be intrigued by music or sound. The transmission of emotions plays a vital role. The ability to grab attention is given as it is easier for customers to look away than it is to turn a deaf ear to an advertisement. Furthermore, an increasing loyalty behaviour of customers can be observed.

Audio branding is a way **to further strengthen the company's values in communication and branding**. Several companies are already strategically using the power of audio branding. Increasingly, Consumer often perceive Audio Branding as an interesting and strategic practice. There is a really potential in the use of sonic branding in a line of customer and companies. It is something which benefits both consumer and brand, so there is an urge to use this tool to create a strong brand personality and customer loyalty.

What if the brands were more involved?
The brands need to begin investing time and right resources in the strategic use of Audio branding. The truth is that their love for music is yet to translate into a strong brand connectivity and identity. This analysis shows that music and the use of Sonic branding are still seen as a complementary element in branding. The reason why brands are not making significant investment in this practice because it is still underdeveloped and uncommon. The companies that had already started implementing in this new practice stands a competitive edge over other.
There are many questions that yet to answered in respect of sonic branding and if companies invest more in it, they will be able to move strategically in forward direction.

References
1. Cf. Keller & lehmann 2006
2. Hayzlett, 2014

CHAPTER 3

IMPLEMENTATION OF VIRTUAL REALITY MODEL DURING COVID-19 PANDEMIC

Abstract

In this time of pandemic followed by the decision of lockdown has coerced us to get creative and extraordinary about every little thing including how we convey with one another. Certain connective, cutting edge technologies have become essential part of our lives for the day to day working, these innovative ideas execution just feels like overnight and has left us amazed, from video conferencing software like Zoom, Skype and Google Meet being used for everything from college lectures to collaborating on projects from cultural events to ceremonies from seminars to webinars, even the international official meeting and much more.

To fill in the loopholes, a range of completely new technologies are being developed in an attempt to revive and relive the feeling of interconnecting with others face-to-face or in person. In this COVID-19 pandemic, students are missing their ceremonies, events which are disheartening, especially the first-year students who haven't seen or visited their colleges.

Talking about this virtual world, they are simulated environments with digital resemblance of animated actors and their physical surroundings where they can engage in interactive activities through computer generated tools, isn't that amazing? In the graphical context, an avatar or more precisely it is the visual representation of our self in a virtual world. For this innovative idea, we are making an application for students who receive degrees or awards ceremonies on a virtual stage to use mixed reality technology by making digital avatars of the full scenario.

Now comes the part about how this is being executed. So, for this application, we are merging real avatar and digital avatar. The virtual reality start-up space-faring, which is actually as "Zoom meet stack", we are making a predefined avatar, where we give options to users and users can choose their own avatar by their choice. The unique purpose of this virtual reality isn't bounded by simply just helping out us to collaborate as if we're close together in an office or classroom, but also when we're all isolated in our lodging. And this feature makes this virtual reality more relatable and reliable.

This minor research project mainly discusses about the "how can we virtually conduct a convocation ceremony and other award giving Ceremonies using the digital avatar, that will represent the students having some predefined characteristics with some kind of motion or movement and receiving the awards from teachers (virtual avatar characters). All this could be experienced and utilized while using some online meeting platforms and the software will be available as a website-based software where the users will enter their details that will be stored in our database which will be used to create the project.

1. INTRODUCTION

Aim: To develop a Virtual Reality Model for Award giving Ceremonies.
Software and Programming Languages used: JAVA ID, SQL, Illustrator etc.
Objectives:

Virtual reality (VR) is a simulated experience that can be alike to or completely different from the real world. Applications of virtual reality include entertainment, education and business. Other distinct types of VR-style technology include computer-mediated reality and mixed reality, sometimes referred to as extended reality or XR.

Currently, standard virtual reality systems use multi-projected environments to generate realistic images, sounds and other sensations that simulate a user's physical presence in a virtual video. A person using virtual reality tools or equipment is able to look around the artificial world, move around in it, and interact with virtual features or items

Meeting another person is one of the most astonishing experiences you can have in Virtual Reality. It is quite contradicting communicating through any other medium except a real-life face-to-face conversation. Because the other person is life size and shares a virtual space with you, body language works in a way that cannot be done on a rear projection. It can be done as realistic social interactions in VR. Make sure you create basics of 3D character animation and create body language in VR. Here anyone can create some characters that can respond to speech and body language. By making avatars: the virtual representation of our virtual ceremony we implement.

Significance:
In this research project, firstly, enrol about the role of human-like characters in VR. However, they are the very foundation of social interaction in VR.

Virtual Reality is an artificial environment that is built with software which temporarily build the user suspends their belief and make them accept it as a real environment. Virtual Reality is fundamentally experienced through two of the five senses on the Computer Version.

Picture is worth an opulence word but Virtual Reality is opulence a million.

Virtual Reality (VR) abet the user to experience anything, anywhere and anytime. It is the most immersive type of reality technology that can blandish the human brain that it is somewhere it is really not.

With the most important tech firms on planet earth (Facebook, Google, and Microsoft) currently investing billions of dollars into Virtual Reality companies and start-ups, the future of Virtual Reality is set to be an assist of our everyday lives.

Methodology:
Virtual Reality immersion is that the conscious of being physically present during a non-physical world. It encompasses the sense of presence, which is the purpose wherever the human brain believes that's somewhere it's not very, and is attained through strictly mental and/or physical suggests that. The state of total immersion exists once enough senses are activated to form the conscious of being gift during a non-physical world.

Two common types of immersion are mental immersion and physical immersion.

Mental Immersion: Deep mental sense of engagement, with a state of disbelief that one is in a virtual environment is known as Mental Immersion.

Physical Immersion: Physical engagement in a virtual world, with a state of disbelief that one is in a virtual environment is known as Physical Immersion.

Virtual worlds are 3 dimensional environments during which you'll be adequate to act with others and make objects as a part of that interaction.

We will do this as an avatar in the virtual world: an avatar is a virtual representation of you which can take on any shape or form as you so wish. There are a range of virtual worlds to select from which include fantasy, sports, historical and science fiction anything the user want.

Some are mainly depended upon the important world although others like fantasy worlds are because the name says: they're wholly disconnected from the important world that is also part of their attraction.

With virtual worlds, women appear as men and as well as men can appear as women. Some folks choose animal as their friend.

Whatever you select the aim is to socially interact with others in new and exciting techniques. This all sum to the experience.

You can communicate with another person's details, sound, graphical images and gesture. Some of the lot of advanced worlds grants you to use voice or bit.

The common matter with many of these in this world is the ability to meet, chat and interact with other people. Every world should still exist even once somebody has left and any changes created by an individual are expedient to stay in the situation. Some although not all of those, virtual worlds permit multiple users. Virtual worlds are employed in alternative methods that like education and analysis. One such use is a virtual classroom which is based upon interaction and permit students to try new things in a safe environment. A virtual world is a three-dimensional environment that is frequently, but not necessarily, realized through a medium where one can connect with others and create objects as part of that interaction.

In a virtual world, visual views are aware of changes in movement and interactions mimic those affectionate.

System Design:

In our research project the scheme includes the basic workflow and the system design.

The Workflow involves the entire process of data analysis including our planning and documentation of work, cleaning data and creating new variables, producing and replicating analyses, presenting findings and archiving our work.

Being able to reproduce the work presented or publishing is the cornerstone of any workflow.

How projects are planned, work documented and results saved should anticipate the need to replicate.

In our planning process we thought of creating a software which would take input and convert the input into a video specially for award functions. Let us understand this with an example of a college award function. Suppose A has participated in a competition and has won the first prize then, a will have to fill a form which would include name, class, gender and also an option to upload a picture suppose A is a male and uploads the picture as soon the image is processed it will be converted in an animated sort of an image and will be played in a video in which A is receiving an award.

The execution part includes coding of different computer languages we have used html and CSS for designing and taking input from the user.

2. CONTENT

Algorithm:

It is a computer science term which is generally used by coders before they begin their coding. In short it can be said that it is a way of solving a problem, and it also refers to the instructions given to the computer to solve the problem. The algorithm of the research project simply explains how and when the working is taking place. This gives a clear understanding of the project.

The flow of the virtual reality models for giving awards is as follows.

Step 1: Call login module

Step 2: Accept input from user

Step 3: Call validate module

Step 4: Call preview image module

Step 5: Call Video Award Module

Explanation of each triggered event:

1. *Login Module*: It has been defined to verify and authenticate users before entering into the system.

2. *Accept input from user:* The user has to enter different parameters of data like name, Student Id etc.

3.*Call validate module*: Before the submit button is pressed the data entered by the user is to be validated and for this the user has to upload an image.

4.*Call preview image module*: when the user has uploaded the image the user gets a chance to preview the image.

5.*Call Video Award Module*: Now as soon as the submit button is pressed the last module is triggered and the video of the avatar receiving an award is played

This is the simple algorithm explaining the instructions given to the user and the inner working.
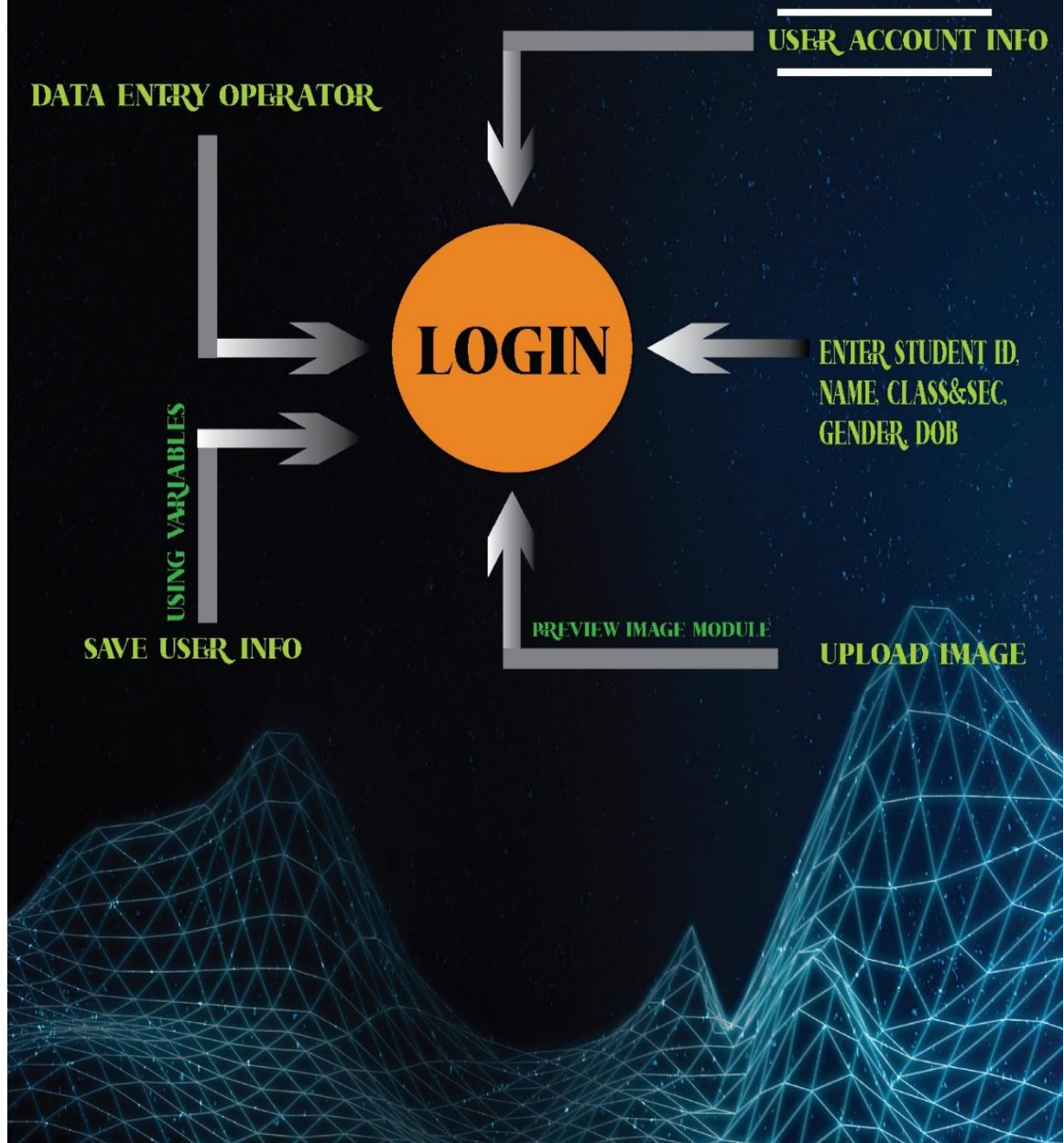
Figure 1.1 DFD of Login Process
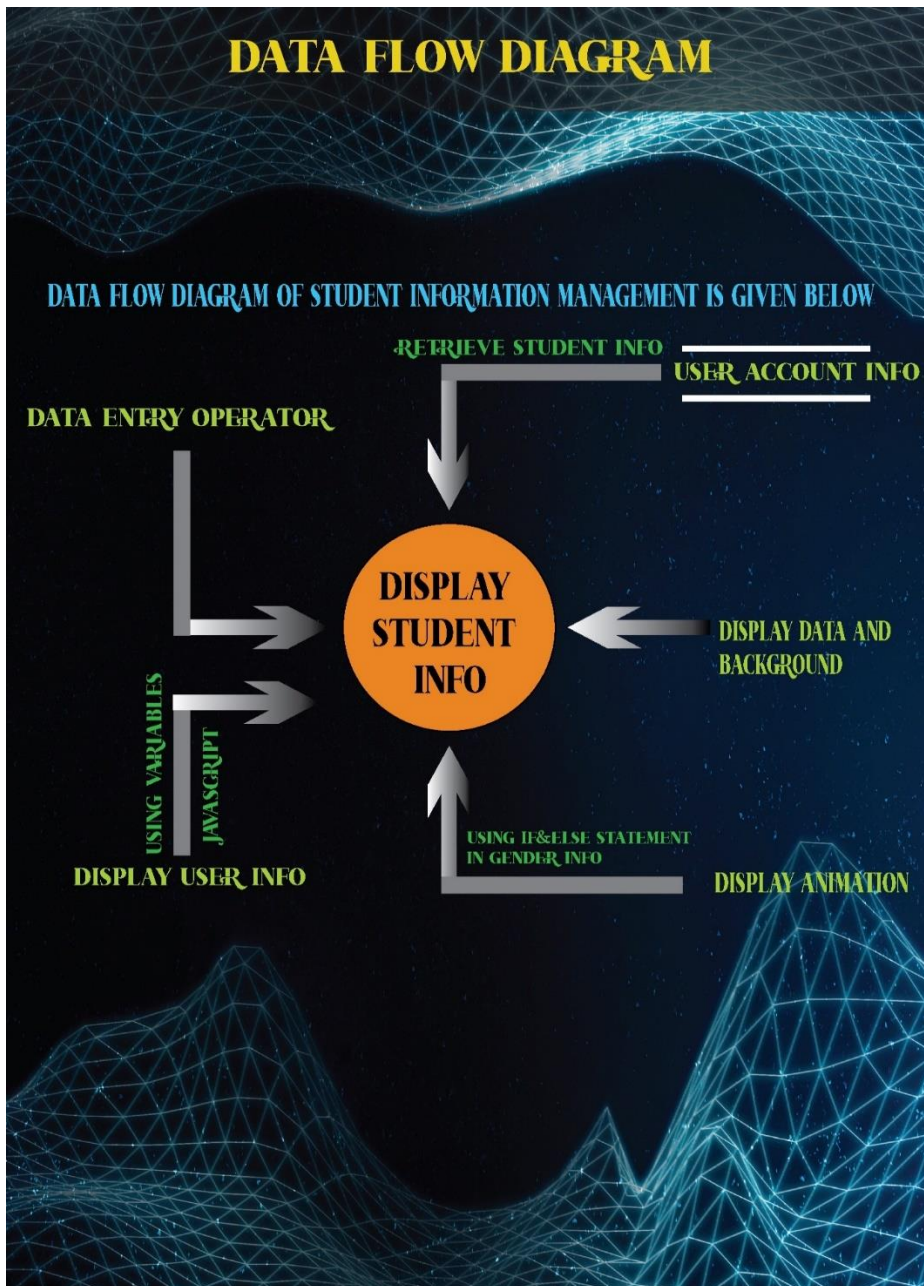
Figure 1.2 DFD of Student Information Management Process

3. RECOMMENDATIONS

SOFTWARE USED:

- **JavaScript:** JavaScript which is abbreviated as JS, is a programming language that acclimate to the ECMAScript specification. JavaScript is high-level, often nick of time compiled, and multi-paradigm.

  Alongside HTML and CSS, JavaScript is sole of the core technologies of the World Wide Web. Over 97% of websites use it client side for webpage behavior, frequently incorporating third-party libraries. All major web browsers have a devoted JavaScript engine to execute the code on the user's device.

JavaScript advocate event-driven, functional, and imperative programming styles as a multi-pattern language. It has application programming alliance for working with text, regular expressions, data structures and the Document Object Model.

The ECMAScript standard does not contain any input/output, such as networking, storage, or graphics facilities. In practice, many web browsers and runtime systems provides JS APIs for I/O.

1. **Color customization:** The avatar comes with default background color. This can be easily personalized to desired color by straitly choosing the avatar class from the CSS.

2. **Customizable avatar sizes:** Even though the avatar comes with five predefined sizes, at times it's not enough. So, it is designed in such a way that the height and width will be respective to font-size. By changing the font-size of the avatar element, you can substitute the width and height automatically.

3. Utilize various media in avatar: Avatars with a wide variety of media formats such as SVG, font-icons, images, letters, words, etc.

- **HTML:** HTML is the standard markup language used for documents designed to be show in a web browser. HTML requires styling and scripting languages such as CSS and JavaScript.

- Web browsers basically receive HTML pages from a web server or from local storage and proffer the documents into multimedia web pages. HTML is used to define the structure of a web page including cues for the appearance of the document.

HTML elements are the constituent of HTML pages. HTML is used to embedded images and other objects such as collective forms into the rendered page. HTML enables the user to erect structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. Tags such as<IMG/> and<INPUT/> directly initiate content into the page. Other tags such as <P> near and provide information about document text and may include other tags as sub-elements. Browsers do not delineate the HTML tags, but use them to illuminate the content of the page.

HTML can insert programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Insertion of CSS defines the look and layout of content. The W3C, former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

- **CSS:** Cascading Style Sheets (CSS) is a style sheet language used for delineating the presentation of a document written in a markup language such as HTML. CSS or Cascading Style Sheets is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is drafted and used to permit the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .CSS file which reduces complexity and repetition in the structural content similarly enabling the .CSS file to be cached to improve the page load speed between the pages that usually share the file and even its formatting.

Separation of formatting and content also makes it attainable to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice, and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is approached on a mobile device.

The CSS specifications are maintained by the W3C. Text/CSS is registered for use for internet media type with CSS by RFC 2318.

In addition to HTML, other markup languages assist the use of CSS including XHTML, plain XML, SVG, and XUL.

In this research project, generally created convocation ceremony in a virtual reality mode in view of coronavirus pandemic. Why we created this virtual ceremony? Because of student's health which is very risky at the same time, not deprive them of the sense of achievement and pride of passing out from their college. Avatar (personalized) of each student received the certificate from the customized avatar of the Director.

Speaking on the occasion, it is organized very definitely in virtual ceremony. Firstly, our director as an avatar came on the stage and then one by one avatar of the students came on the stage and received their certificates from the Director.

For this ceremony, we took:

1. Users Details
2. Users Photographs
3. Users id

4. FUTURE SCOPE

Although this may seem extremely modernistic, its genesis is not as recent as we think. In point of fact, many people contemplate that one of the first Virtual Reality devices are called Sensorama, a machine with an integrated seat that played 3D movies, gave off odours and generated vibrations to make the experience as evocative as possible. The invention dates back antecedent the mid-1950s. Ensuing technological and software developments over the following years brought with them an intensifying evolution both in devices and in coherence design. But over the next few years, in Virtual Reality mode, we're going to see things that make what is avant-garde today look like Space Invaders. Today's most Virtual Reality applications involve total

control of a user's senses and create a totally hypnotic experience that places the user in an utterly virtual environment that feel a whole lot realistic.

5. CONCLUSION

Virtual reality is a widen industry. PC and specialized hardware are getting prominent, rapid and economical because of development in Virtual Reality. In the past, computing power has doubled round about every 18 months. If this is the case then we should have a computer powerful enough to run immersive virtual reality programs in our own homes by the year 2040.

Because VR tech build a completely 3-D environment, you can visualize the amount of software involved. VR software works together with VR hardware to immerse the provider into the virtual world. Developers also have to design interactive components within the environments that look and even feel like the real deal.

REFERENCES
 1. Available: http://www.oxforddictionaries.com/definition/english/avatar.

2. [online] Available: http://secondlife.com/.

3. [online] Available: http://us.bladeandsou/.com/en/.

4. Barry Schwartz, Ecco New York: The paradox of choice, 2004.

5. Ankit Gupta, Kumar Ashis Pati and Krithika Venkataramani, "Sketch to photo matching", *Indian Institute of Technology Kanpur Tech. Rep*, 2010.

6. Kamal Nigam, Andrew McCallum and Tom Mitchell, "Semi-supervised text classification using em", *Semi-Supervised Learning*, pp. 33-56, 2006.

7. Ralph Gross, Iain Matthews, Jeffrey Cohn, Takeo Kanade and Simon Baker, "Multi-pie", *Image and Vision Computing*, vol. 28, no. 5, pp. 807-813, 2010.

8. Gary B Huang, Marwan Mattar, Tamara Berg and E. Erik Learned-Miller, "Labeled faces in the wild", *A database for studying face recognition in unconstrained environments*, 2007.

SYSTEM'S PROGRAM CODE
Below is the coding used in designing and execution of our project:

```
<html>
<head>
<title>
SIGN UP PAGE
</title>
<script type="text/javascript">
        function data()
                        {
var student_id=document.getElementById('STUDENT ID').value
var name=document.getElementById('NAME').value;
var class_sec= document.getElementById('CLASS&SEC').value;
```

```
var gen=document.getElementById('CHOOSE YOUR GENDER').value;
var dob= document.getElementById('DOB').value;document.write("<body
bgcolor='lightblue'>");
//document.write("<img src='me.jpg' width='200px' height='200px' align=right alt='alt
tag'> ");
document.write("<h1>Welcome ",name);
document.write("<br>");
document.write("<br>");
document.write("<h2>STUDENT_ID: ",student_id);
document.write("<br>");
document.write("<br>");
document.write("NAME: ",name);
document.write("<br>");
document.write("<br>");
document.write("CLASS&SEC: ",class_sec);
document.write("<br>");
document.write("<br>");
document.write("Gender: ",gen);
document.write("<br>");
document.write("<br>");
document.write("DOB: ",dob);
//document.write("Image", image);
document.write("<br>")
document.write("<br>")
        if(gen=='Male')
        document.write("<center><video autoplay width=100% height=35% muted
loop> <source src='Male.mp4'> </video> </center>");
        else
        document.write("<center> <video autoplay width=100% height=35% muted>
<source src='Female.mp4'> </video> </center>");
}
</script>
<script>
   function previewImage() {
      var file = document.getElementById("file").files;
      if (file.length > 0) {
         var fileReader = new FileReader();

         fileReader.onload = function (event) {
            document.getElementById("preview").setAttribute("src",
event.target.result);
         };
         fileReader.readAsDataURL(file[0]);
      }
   }
</script>
</head>
<body>
        <h1 align="center"> SIGN UP PAGE </h1>
        <br>
```

```html
<link rel="stylesheet" type="text/css" href="page2.css">
<div align=center>
        <pre>
                <form>
 STUDENT ID:-<input type="text"
size="30" maxlength="15" id="STUDENT ID"
name="textbox1"
placeholder="Please enter your student_id"><br><br>
        NAME:-<input type="text"
size="30" maxlength="15" id="NAME"
name="textbox2"
placeholder="Please enter your name"><br><br>
     CLASS&SEC:-<input type="text"
size="30" maxlength="15" id="CLASS&SEC"
name="textbox3"
placeholder="Please enter your class&sec"><br><br>

     CHOOSE YOUR GENDER:
<select name="gender" id="CHOOSE YOUR GENDER">
 <option value="Male">Male</option>
 <option value="Female">Female</option>
 </select>
 <br>
           DOB:-<input type="text"
     size="30" maxlength="15" id="DOB"
     name="textbox5"
     placeholder="Please enter your DOB"><br><br>

           INSERT IMAGE:- <input type="file" accept=".jpg,jpeg,.png"
name="file" id="file" onchange="previewImage();">
  <img id="preview">
     <button onclick="data()" >Submit</button>
     </form>
     <!--<form action="PAGE 1.html">
       <input type="submit" name="submitbutton" value="SUBMIT" >-->
      <br>
</div>
</pre>
</body>
</html>
```

CHAPTER 4

IMPACT OF WORKING FROM HOME

Abstract

This research work aimed to study the impact of 'Work from Home' on employees and employers. The study explained how the work from home model affects the efficiency of the whole management. We aim to find out what is the significant impact of this work from home culture, what are the challenges people are facing, who all are getting benefits from it, and what are the major differences between working from home and working in the office.
This research also analyses the possibilities of the future of work from home and the significant challenges faced during its practice. To accomplish these, the researchers generated primary data. The data were generated using questionnaires as the research instruments administered to various respondents in Jaipur city.

Introduction

In recent years especially in the times of COVID, working from home has shown massive growth. Before the pandemic, discussions on the future of work existence have been uncertain and frequently questioned. COVID-19 pressured a choice upon people, and with the arena having to evolve quickly, many businesses opted to try work from home. But over time, the definition of the term work from home had been evolved in favor of employees. Digitalization, advancement in technology, good internet connectivity, and user-friendly computers made the concept of working from home or remotely a success. From the employee perspective, the shift is huge and really consequential; people are making new choices about where they need to stay and creating new expectancies about flexibility, operating conditions, and existence balance that can't be undone.

Every sector in the Indian economy, ranging from education to finance to manufacturing, promoted automation and encouraged its employees to learn new skills to dwell appropriately in this new atmosphere. The backbone of this work from home operation was the telecommunication industry which provided every citizen with unparalleled and undisrupted connectivity to accomplish their tasks on time and with great efficiency and accuracy. But with everyday issues like poor connectivity in remote areas, illiteracy about the operation of electronic devices, not being able to afford devices and internet services, damage to eyesight due to prolonged periods of staring at the screens, etc., tackled all these problems slowly and surely. We established a good enough work from a home culture with solutions available to every situation. Services like Zoom, Google Meet, and Microsoft Teams were now the classrooms, conference halls, wedding gardens, and playgrounds.

Objectives

This research study is designed to check the acceptability and adaptability of the Work from Home pattern of working and its impact on the people experiencing it. Covering more aspects, we have the following objectives:

- To identify the impact and challenges of Work from Home on the employees Personal and Professional Life.
- To have a comparative study of the working styles of employees in both the environments (Working from Home and Working in Office)
- To assess the Pros and Cons of Working from Home
- To determine the efficiency and perception of the employees towards the Work from Home approach.

Statement of the Problem

Companies and organizations adopted a new approach to survive the pandemic without hindering their professional growth. The adoption of the telecommuting model was new for both the higher authorities and at the employee's level.
Our key concern for this research will focus on:
- Adaptability and flexibility while working from home
- Comparative study of efficiency in employees while working from home and office
- Future scope and motivation for working from home

Hypothesis

The hypothesis of the present research will be as follows:
H_0 Work from home is effective & efficient with good future growth and will accelerate the business world.
H_a Work from home is not effective & efficient, could become obsolete after this pandemic, and is challenging for the business world.

<u>Methodology</u>

This study is based on primary and secondary data; following these sources, we shall complete our research.

Primary Data Methods
Analyzing the first source data and gathering information from the main source to address the research problem at hand. For analysis, a primary survey was conducted using a structured questionnaire. The research was conducted in Jaipur city.

Secondary Data Methods: -
The data has already been collected and analyzed by others with the credibility and potential for cumulative knowledge with further use (Reanalysis of data). To ascertain the trends and development, secondary data will be collected from <u>official sources such as Newspapers</u>, <u>Magazines</u>, <u>Case studies</u>, <u>Annual reports</u>, etc. Tables, figures, graphs, and charts are prepared from the data collected.

DATA ANALYSIS

What is the impact and efficacy of Work From Home during this pandemic?

The onset of Covid -19 drifted more people than ever to Work from Home. Most of the companies adopted this working pattern to sustain in the circumstances of adversities. The shift in the work patterns updated and evolved working practices giving rise to numerous Challenges and Possibilities.

The adoption of the Telecommuting Model was new for both the higher authorities and at the employer's level. Adaptability and flexibility were a challenge while working from home. It, directly and indirectly, affected their working efficiency while mixing up their personal and professional life.

Where do you work more efficiently?
● Office ● Home

30.9%
69.1%
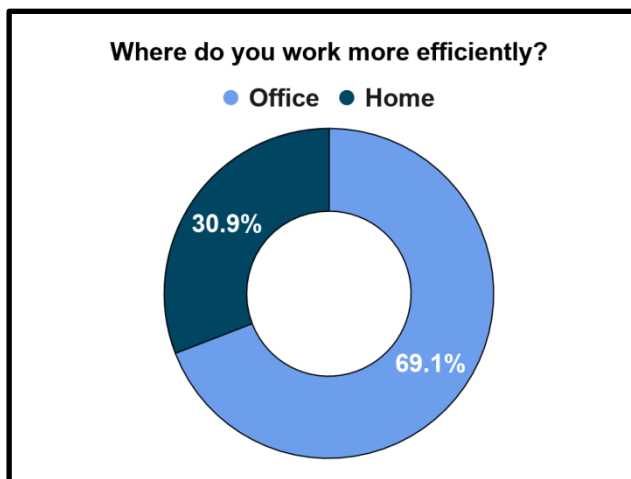
Survey shows that approximately 70% feel their efficiency is affected while working from home after almost a year working from home. This indicates that the working aura of their workplaces enhanced their effectiveness and efficiency of performing their allotted task, and the adoption of the new technology has affected their efficiency adversely.

But in the long run, employees have indicated that their perceived productivity will show an incremental rise. With the proper adaptability of the WFH practices, the increase in productivity is obvious. This impact is majorly attributed because of the higher autonomy, which ultimately boosts motivation among them.
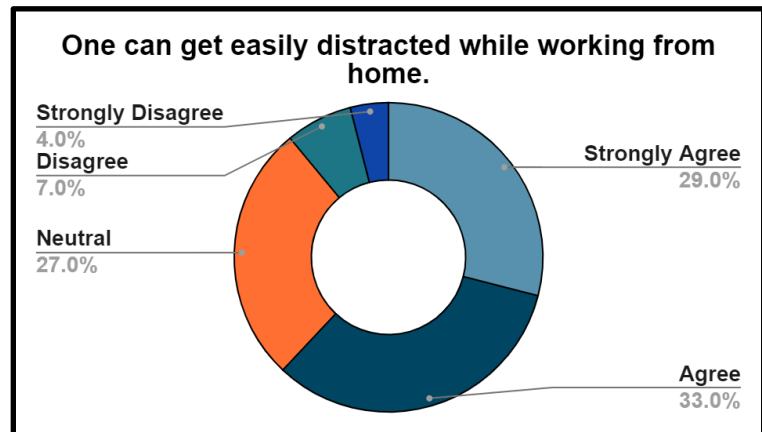
The ups and downs associated with a new working style and environment at the start of the pandemic are starting to normalize, and people find their groove. As people adapt to their long-term new normal, another aspect of being considered is the Pay-Scale. Previously, the employees' salary used to have allowances that required offline presence, like travel allowance, which includes travel and stay components and a lot more.

How your Work from Home affected your Pay scale?
● No Change ● Decreased ● Increased

6.0%
35.0%
59.0%

But in the Work from Home culture, companies have started evaluating salary reduction for employees who opt to move to smaller towns from metros and tier-I cities. Although on the other hand, companies have also begun reimbursing new components, including Wi-Fi and additional infrastructure costs, to their employees.
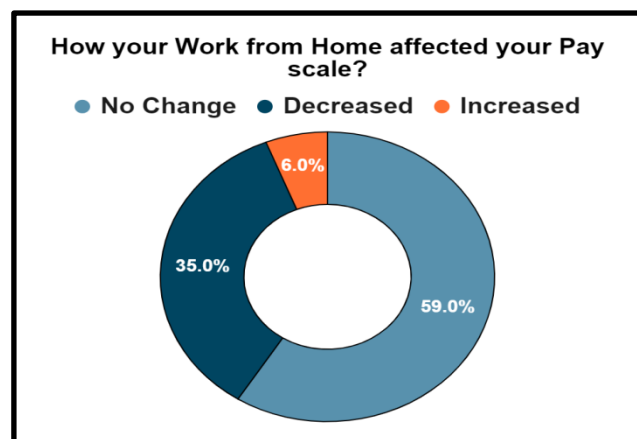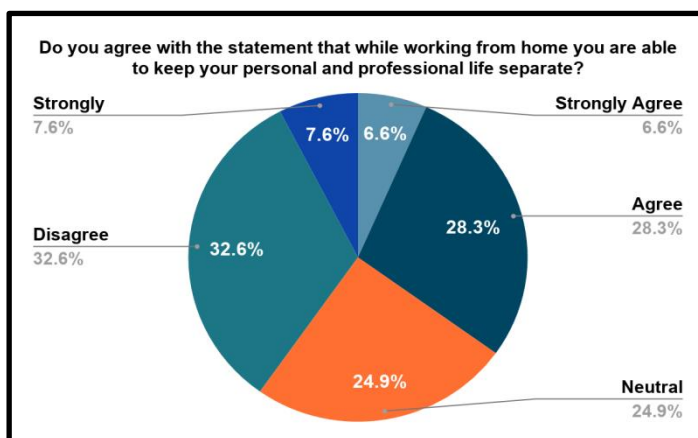
According to the research statistics, work from home hasn't affected the pay scale of the employees much. The majority of the respondents haven't faced any kind of changes in their pay scale, but 35% of people have seen a decrease, and 6% of people have seen a rise in their pay scale. This image can be more significant when seen on a larger scale. So, the pay cut can have a significant impact on some employees.

Working from home can enable you to have your flexible working hours, be your boss, and work in a more relaxed atmosphere, to name a few. In addition, working from home eliminates the stress of having to deal with overbearing, demanding, and demeaning bosses or coworkers. But on the other hand, there's no shortage of distractions like child care, household chores, and in-home entertainment options such as TV and radio. Though with a solid plan and an intentional focus, you can overcome those distractions and take control of your workday.

One can get easily distracted while working from home.

Strongly Disagree 4.0%
Disagree 7.0%
Neutral 27.0%
Strongly Agree 29.0%
Agree 33.0%

Studies say your workstation and energy directly affect your efficiency of working. According to the statistics, we can determine that more than 62% of people get distracted while working from home. Unlike the workstations and professional vibes of the workplaces, people found themselves distracted from home affairs while working from home.
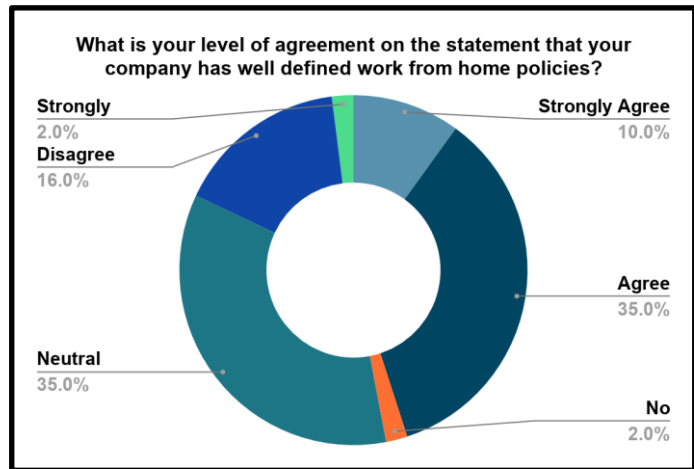
When you work from home, the workplace is inescapable. Bedrooms are converted into home offices. Our eating tables and kitchen countertops are now cluttered desks. The line between business time and private time will become blurred till you inevitably discover yourself answering emails on a mattress and taking conferences over bowls of cereal. Our work-existence balance is, well, quite unbalanced lately.

Do you agree with the statement that while working from home you are able to keep your personal and professional life separate?

Strongly 7.6%
Disagree 32.6%
Strongly Agree 6.6%
Agree 28.3%
Neutral 24.9%
7.6% 6.6% 28.3% 24.9% 32.6%

As depicted by the statistics, it is clear that employees find it difficult to separate their personal and professional life while working from home. The majority of the respondents disagree with the statement that 'while working from home you can keep your personal and professional life
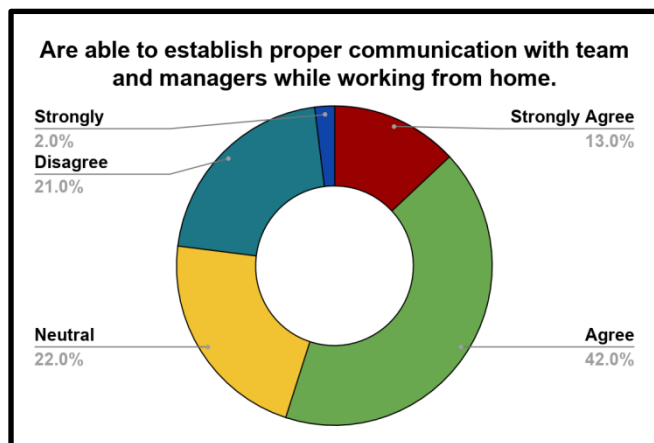
separate' due to the distractions caused in personal life. At the same time, 35% of people believe that one can keep both aspects separate by one's willingness and motivation.

Another aspect that impacts the efficiency of Employees is a well-defined Company Working Policies. During mandatory Work from Home situations (such as a health or safety crisis like COVID-19), it helps ensure that employees are set up for success and continue to remain healthy and productive.

What is your level of agreement on the statement that your company has well defined work from home policies?

- Strongly Disagree 2.0%
- Strongly Agree 10.0%
- Disagree 16.0%
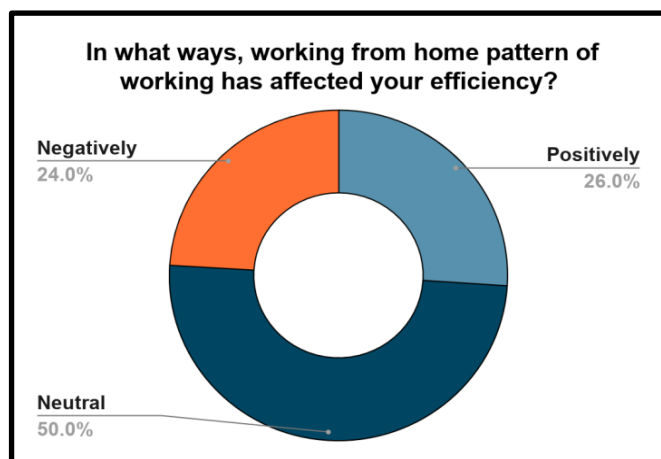- Agree 35.0%
- Neutral 35.0%
- No 2.0%

COVID-19 pandemic and the resultant lockdowns and many other factors have made remote working imperative for several companies. Looking at the statistics, it can be concluded that a large number of the population feels neutral and agree on the fact that their companies have well-defined work from home policies that make them responsible and eligible to work remotely. But several employees strongly disagree as well.

Communication is known to be the foundation of good remote work. Maintaining company culture and relationships while fighting isolation and loneliness during the coronavirus pandemic is equally essential. It helps the employees stay connected with the teammates and supervisors, which helps keep them cohesive and productive.

Are able to establish proper communication with team and managers while working from home.

- Strongly Disagree 2.0%
- Strongly Agree 13.0%
- Disagree 21.0%
- Agree 42.0%
- Neutral 22.0%

Based on the statistics, 42% of employees working from home agree that they can establish proper communication with teams and managers, while 21.3% of the population is neutral. A good number of people have also experienced an improvement in their communication due to work from culture. So that somewhere adds in positive impact.

In what ways, working from home pattern of working has affected your efficiency?

- Negatively 24.0%
- Positively 26.0%
- Neutral 50.0%

Working from home can be a more productive work environment than the typical office cubicle enhancing work-life balance. The current pandemic has changed the way we work, and more companies are turning to at-home solutions.

Based on the statistics, 50% percent of people have a neutral opinion about the change in efficiency when compared the office desk work with work from home culture. And on the other hand, an equal proportion of people have agreed and disagreed with the above fact. There is no doubt that the rush to provide the employees with the tools they'd need to work remotely was a little well sudden for many employers. Working from home has affected employees in both positive and negative manner. Still, based on the research and statistics, the ratio of the employee's efficiency that was affected negatively was slightly higher than those who were affected positively.

Future scope of Work From Home

Will Work from home would also be used as a working medium even after this pandemic gets over?

Due to the outbreak of SARS-Covid -1 globally, businesses have shifted to a new way of doing business by working from home. In the current prevailing situation, it is the best alternative to the companies to regulate their workings. Thus, work from home method would not lose its importance until the pandemic is curbed. But the future scope of work from home is not very clear due to various issues related to it such as connectivity issues, communication gap, extended screen timings, lack of working environment and motivation, distractions and due to these & many more challenges being faced in this method makes employees reluctant to choose work from home as a future working method after this pandemic gets over. Suppose this method needs to be continued in the future as well. In that case, this method needs improvements to feel comfortable with it, such as getting used to this way of working, good policies being made by companies, scheduled interactive sessions, etc.

Would you like to continue working from home?

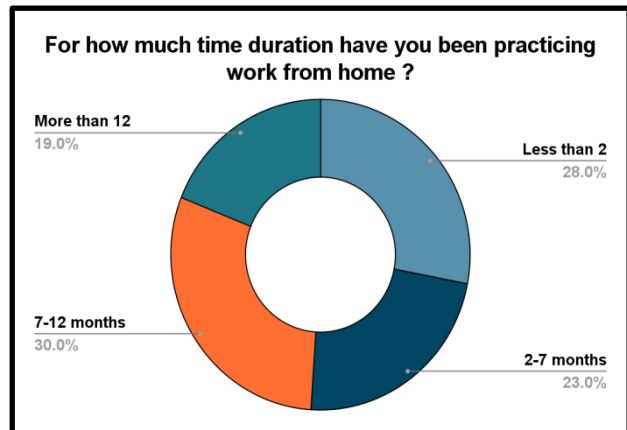● Yes ● No ● Maybe

26.0%   32.0%   42.0%
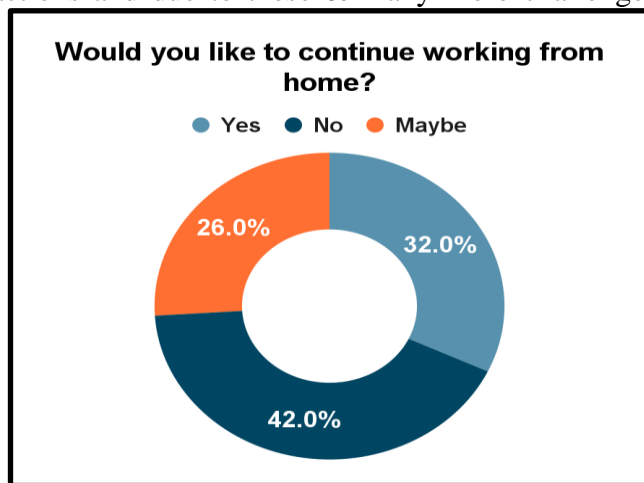
According to our research survey, the above graph was formed. Statistics reveal that most of the employees don't want to continue work from home; 42% of the respondents prefer not to continue work from home due to the challenges faced during it such as connectivity issues, communication gap, extended screen timings, lack of working environment and motivation, distractions. In comparison, 32% wish to continue work from home because of flexible working hours and health concerns.

Have you ever experienced work from home before corona pandemic?
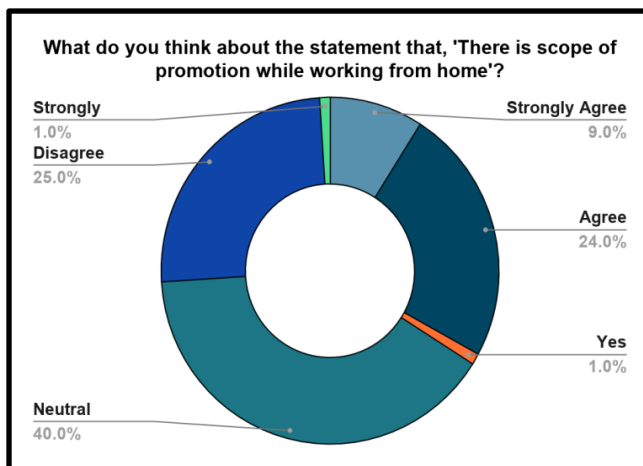
Yes 25.0%

No 75.0%
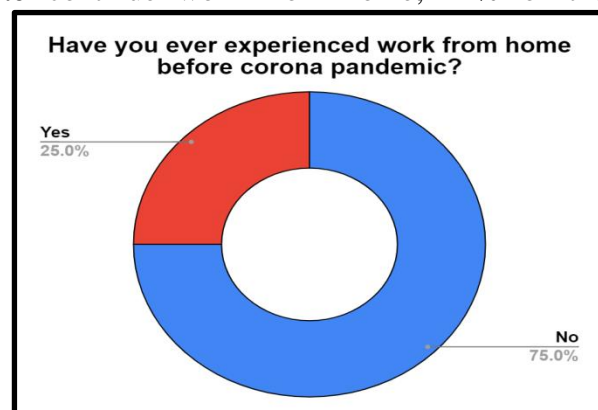
As our research stated that most of the respondents didn't want to continue work from home as their way of working, the reasons for that are as follows-

Work from home emerged during the corona pandemic. Employees haven't experienced work from home before this pandemic - During Covid 19, many companies had to transit them to the Work from Home model. Most people were experiencing the Remote Working concept for the first time, but their Digital adoption enabled them to continue working even during the adversities.

For how much time duration have you been practicing work from home ?

More than 12
19.0%

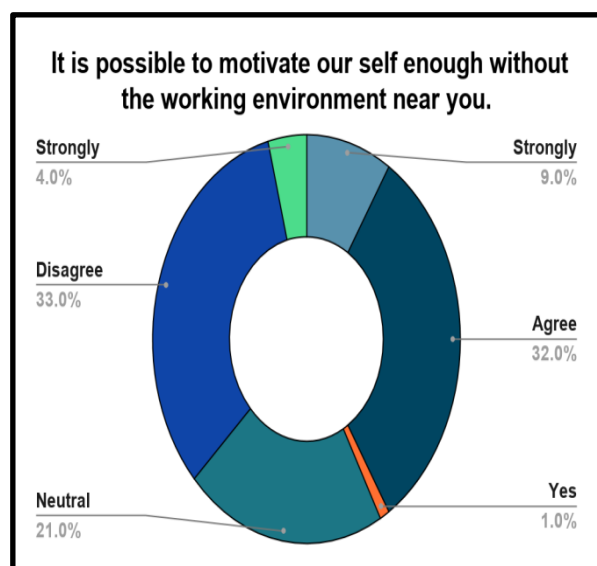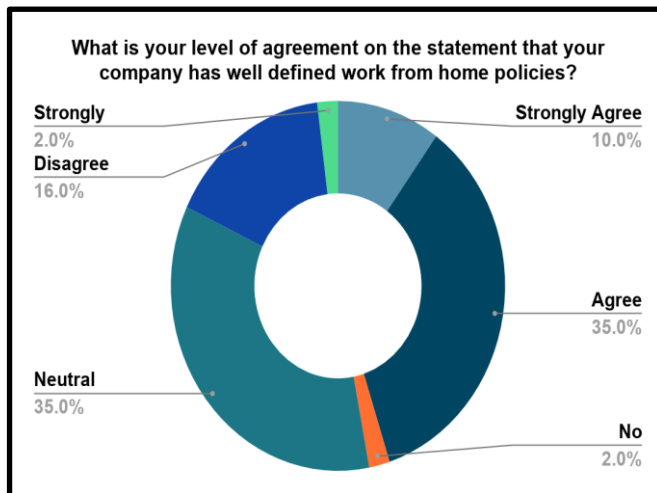Less than 2
28.0%

7-12 months
30.0%

2-7 months
23.0%

Employees haven't attained much time duration practicing work from home - The new trend of working from home was adopted by the companies to compact with the pandemic situations. Most of the people working who are remotely employed are new to this and have less than a year of experience.

What do you think about the statement that, 'There is scope of promotion while working from home'?

Strongly
1.0%
Disagree
25.0%

Strongly Agree
9.0%

Agree
24.0%

Yes
1.0%

Neutral
40.0%

Employees feel that there are very few chances of promotion while working from home. From the statistics, it is found that one-fourth of the respondents do not believe that there is a scope of promotion while working from home, but around 32% of the respondents favor that the employees can be promoted even when they are working from home.

Many of the employees do not feel motivated enough without the working environment near them. Most people find working from home to be the most challenging part, especially in the beginning. According to the statistics, working from home sounds a good idea only initially, and 33% of employees do not feel motivated without a working environment. On the other hand, 31.9% of employees set their homes as offices and practice the art of decluttering to keep themselves motivated when working from home.

It is possible to motivate our self enough without the working environment near you.

Strongly
4.0%

Strongly
9.0%

Disagree
33.0%

Agree
32.0%

Yes
1.0%

Neutral
21.0%

34

What is your level of agreement on the statement that your company has well defined work from home policies?

- Strongly Agree 10.0%
- Agree 35.0%
- No 2.0%
- Neutral 35.0%
- Strongly Disagree 2.0%
- Disagree 16.0%

Not well-defined work from home policies- COVID-19 pandemic and the resultant lockdowns and many other factors have made remote working imperative for several companies. Looking at the statistics, it can be concluded that a large number of the population feels neutral and agree on the fact that their companies have well-defined work from home policies that make them responsible and eligible to work remotely. But several employees strongly disagree as well.

More or less the conclusive point which can be summed up is that work from home would only be continued as a business working strategy till the Covid pandemic, after which most of the employees would shift to the previous working way, i.e., working from the offices.

CONCLUSION

Through our research, we conclude that the efficiency of the employees is affected while working from home, and it is not affected by one factor, but several factors contributed towards it.

Most people have experienced the remote working concept for the first time, so they find it difficult to separate their personal and professional life while working from home. People easily get distracted from homely affairs, which directly affected their concentration and focusing power. We also realize that people lack a working aura around them which directly affects the efficiency of working.

To sum up, we come to the point that in the current prevailing situation work from home is the best alternative available for the businesses to regulate their workings. But this reality will restructure the nature of work in the digital era for this time span for which most organizations are ill-prepared. Surely, the work from home method would not lose its importance till this pandemic continues, but the future of work from home is uncertain as it could not replace the actual way of working, i.e., working from offices. Evidently, we have seen this in the previous centuries that soon after the catastrophe ended, businesses started shifting towards their working from office patterns.

RECOMMENDATION

1. A separate Workspace is highly recommended to have the working environment at home. This reduces the chances of getting distracted and makes the person work with their total efficiency and concentration.

2. There should be virtual open spaces and frequent interactive sessions among the colleagues for better coordination and team spirit among the mates. This will also boost their bonding and might help in breaking the monotonous working schedule.

3. Companies and offices to formulate updating in policies in response to the work from home, ensuring well-defined working hours, salaries, breaks, and other necessary information.

4. Since the technique is new to many, proper training sessions and tutorials should be provided to understand the system and it's functioning better. A guide or a help desk should be available, which can guide and navigate wherever necessary.

5. Business world should keep work from home in mind and should work upon it to make better use of this way of working, as this way is not only helpful in times of pandemic but also during the situations that occur more frequently, such as during natural calamities (flood, earthquakes, heavy snowfall). Also Work from home is a viable option for the female employees during their maternity period so that their nine months' time is not wasted.

REFERENCES

1. https://www.tandfonline.com/doi/full/10.1080/25741292.2020.1863560
2. https://www.mindtools.com/pages/article/working-from-home.htm
3. https://www.cio.com/article/3332203/the-future-of-work-in-the-digital-era-may-not-be-what-you-think.html
4. https://www.quora.com/
5. https://www.forbes.com/sites/nathanpeart/2020/08/14/should-salaries-increase-because-everyone-is-working-from-home/
6. https://www.calendar.com/blog/distractions-work-from-home/
7. https://snacknation.com/blog/work-from-home-policy/
8. https://www.apollotechnical.com/working-from-home-productivity-statistics/

CHAPTER 5

THE NEW NORMAL IN THE RAMBAGH PALACE, JAIPUR

Introduction based on Literature Review

COVID-19 outbreak has presented unprecedented circumstances before the fragile tourism and hospitality industry. The highly infectious novel coronavirus continues to thwart the sector and raises serious questions about the present and future survival of the sector. Hotel industry has yet not recovered from the adverse impact of pandemic, but it is all set to serve customers again with stringent safety norms.

Hotel owners and operators are therefore strategizing to make up for the losses incurred and are anticipating a healthy rebound. According to Hotel Association of India, Indian Hotel industry contributes 9 per cent to India's GDP employing around 4.5 crore people and providing livelihood to 16 crore people. An estimation of HVS and Anarock states that India's hotel industry is likely to face a business loss of Rs 90,000 crore in 2020.

Seeing the level of the impact, leading hotel operators are apprehensive about an easy recovery of Revenue per Available Room or RevPAR. As per the JLL survey of 15 leading hotel operators, only 20 per cent of the operators will bounce back to RevPAR levels of 2019 within 6 to 12 months.

Whilst, 60 per cent of them say that their portfolio will be similar to levels of 2019 between 13 and 24 months. Interestingly, luxury hotel operators are expecting a slower recovery. Some of them are expecting that their portfolio may take more than two years to reach performance levels of 2019.

In such circumstances, hotel operators can gain back customer's confidence only by ensuring implementation of government guidelines and steps of detailed SOP stringently.

Revamping Protocols into Concrete Action Plans

Industry is continuously working on the damage control plans and building contingency plans to reduce the brunt caused by the crisis. To resume business continuity and consumer safety while re-opening, various hotel chains have transformed their service protocols for guests.

Technology to Boost Safer Business

Technology has become an indispensable aspect of hospitality sector as it gradually steps towards recovery. Industry experts now know that how willingness of consumers to travel depends upon caveats of hotels regarding hygiene and technology. Therefore, critical changes in protocols have given a boost to implementation of IT infrastructure in hotels and resorts.

Solutions such as contactless payment apps, digital messaging, and digital room keys activated by smart phones are some of the top changes that hotels have implemented. According to a survey by Oracle Hospitality, 70 per cent of the hotels already have adopted or are planning to implement contactless technology for check-in, food ordering, concierge services etc. Along with this, 90 per cent of them are planning to increase frequency of cleaning of facilities, disinfecting surfaces, and training of staff on sanitation procedures.

Technological solutions in the form of self-service tools help guests to skip front desk. The Oracle survey further states that 70 per cent of the respondent consumers prefer to stay at a hotel that has implemented these kinds of services. Among these, 23 per cent of customers wanted self-service check-in through a kiosk as that would increase their safety.

New Normal Infers Retrained Employees

The longevity of a hotel's business in post-covid era will be determined by its ability to survive during the course of this downturn. Readiness for recovery is a herculean task but Indian hoteliers are now resilient to lay the foundation for a strong comeback. According to experts, such a situation necessitates the re-training of staff working in this stressful time.

Most of hotel operators have designed their in-house training programs to re-train their staff. This becomes necessary when most of the hotel companies are working with skeletal staff which is covering front desk, housekeeping, restaurant, security, and maintenance. Along with this, reopening of hotels with new normal involves training of staff to adhere to new safety protocols.

 Moving forward, things will look different in post COVID-19 era for both hoteliers and guests. Considering this, hotel operators are enthusiastically embracing new and improved standards of safety by adopting reformed business policies and technology and digitalizing touch points with contactless technology. These standards were perhaps considered a luxury earlier which only gourmet hotels could afford but now these have become indispensable even for smaller restaurants.

OBJECTIVES OF THE STUDY

- Identify the New Normal adopted by Hotel Industry in Covid -19.
- Identify the New Normal adopted by Rambagh Palace, Jaipur in covid -19.
- To give the suggestions for better implementation of it.

RAMBAGH PALACE –NEW NORMAL

1) Covid 19 safety posters
   - Covid 19 safety and hygiene posters are kept in HOH areas to bring awareness among associates.
   - To maintain Physical distancing at workplace bunkers have been discontinued from lockers and physical distancing marks are made.

2) Virasat
   - A dedicated person stands at Buffet setup and serves the food for lunch/dinner to associates.
   - A pre poured water service for associates in staff dining area is start off.
   - The normal water tap is now changed into sensor one to avoid touch points.
   - The sitting of the staff dining has been reduced to half.
3) Hand Wash Station
   - Keeping in mind the Safety & Hygiene of associates, we have come up with Hand wash station which is set up at Time office.
   - Associates can wash & sanitize their hands before and after their work schedule.
4) Facial Recognition Attendance
   - We have come up with Face Recognition Attendance system wherein associates first needs to enroll via software and then he/she will mark the attendance through face reading machines placed near receiving area.
   - Facial recognition software can accurately track time and attendance without human error.
   - The touch-less biometric attendance thereby leading to safe hygiene practice.
5) Misting & Fumigation at Associates Accommodation
   - Keeping in view the current pandemic situation regular fumigation & misting is carried out at associates' accommodation to prevent the spread.
6) Person temperature of anyone entering the main gate will be checked and only people with correct temperature range will be allowed to enter.
7) At time office, hand wash station has been installed for washing hands and sanitization.
8) No frisking will take place; however, checking will be done via metal detector and frisking of bag will be done.
9) Multiple sanitation stands have been installed across all the offices for hand sanitization.
10) As per new normal, fresh uniform wearing is mandatory.
11) The lockers have been equipped with safe distance marking on the floor and reducing the gathering of the associates.
12) The resting area has been closed so that the bed is not used by multiple people.
13) In work place, all the common touch point needs to be disinfected every 45mins.
14) Every associate to wear mask and hand gloves at work station.
15) Only hand wash is allowed in the wash station. Gargling is prohibited.
16) Touch less and sensor-based taps have been installed to avoid common touch point.
17) The public area and restaurants to be cleaned in every 45 minutes cycle.
18) The work station is to be sanitized before handing over to next shift.
19) Departmental briefings to be done in open spaces.
20) Vendors to be refrained from entering the departments.

RESEARCH METHODOLOGY

Research Methodology is the pathway chosen by researcher to conduct their research. It shows the direction along which the researchers formulate their problems and objectives, and present the results of the data collected during the study period.

Sample Size- A sample size of 50 employees has been taken for the survey to get the overall information and all categories are covered.

A Sample Design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. Sample Design is determined before data are collected. The sample is a subset of a unit of a population, collected as a representation of it.

Sampling units are the portion of the population that researchers need to target and that represents the whole or entire population.

ANALYSIS OF DATA & INTERPRETATION

1. Are you strictly following the new normal guidelines in your organization?

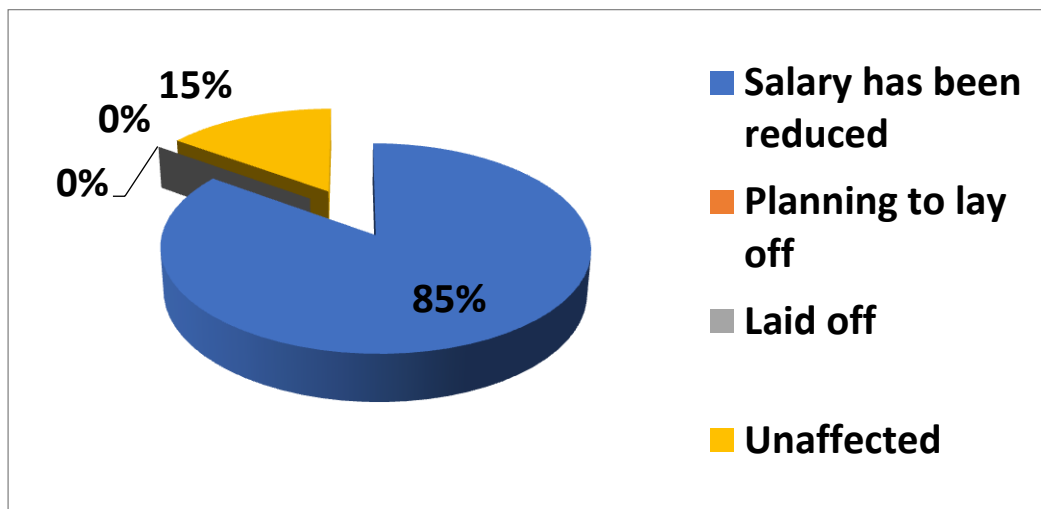| Yes	140
No	0
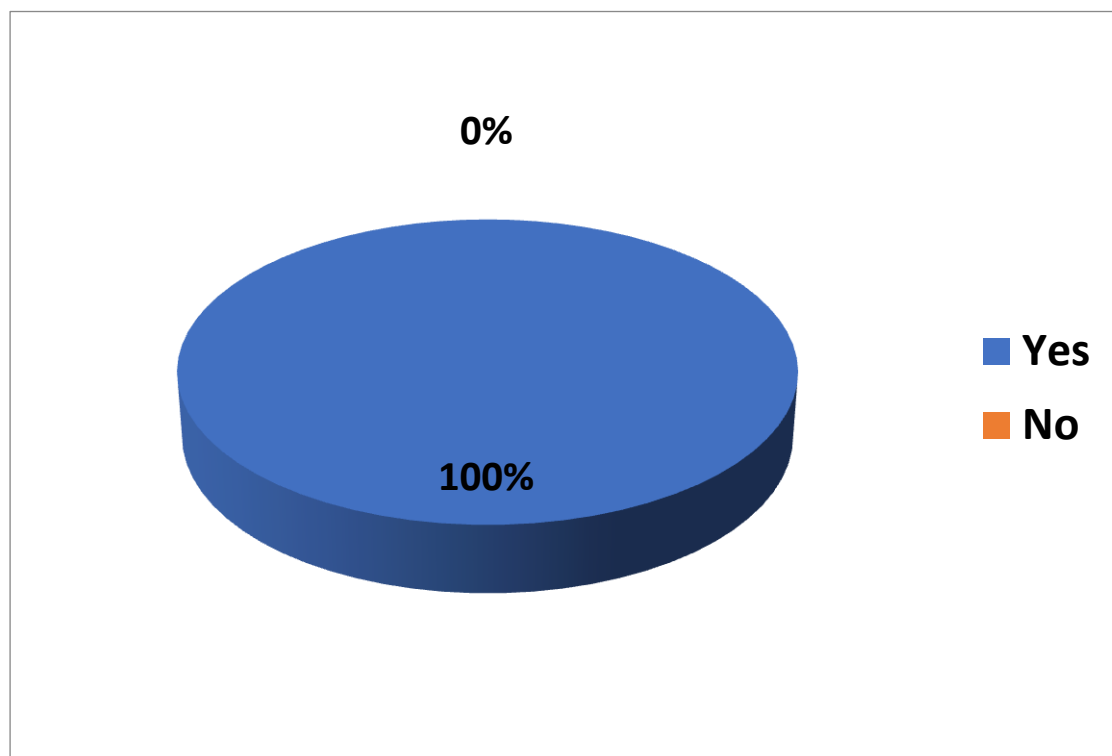
INTERPRETATION:-

From the above graph, it seems that 100% employees are strictly following the new normal guidelines. The respondents of Rambagh have positive response in this regard.

1) How has Covid 19 affected employment at your organization?

|	
Salary has been reduced	119
Planning to lay off	0
Laid off	0
Unaffected	21

INTERPRETATION:-

From the above graph, it seems that 85% respondents stated that their salary had been reduced as compared to the 15 % respondents who stated that Covid 19 didn't affect the employment at their organization.

2) While travel was on hold, how did you stay connected with past and future guests to maintain the brand value?

|	
Social media platforms	96
Emails and newsletters	40
Editorial contents	4
Webinars	0
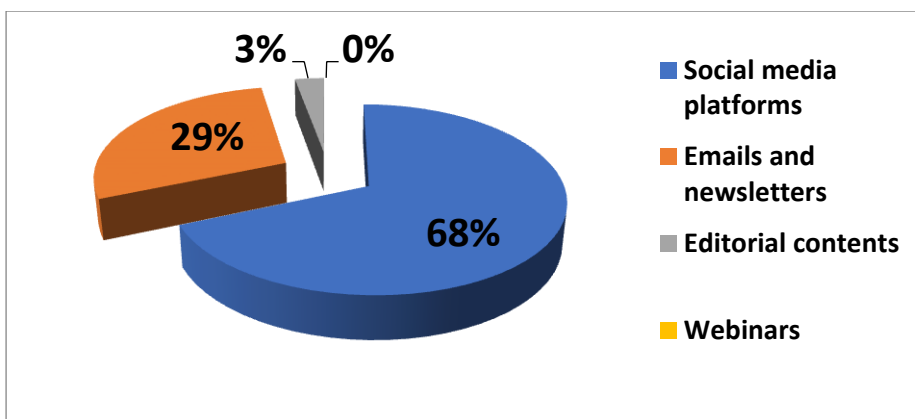
INTERPRETATION:-

From the above graph, it seems that 68% respondents stayed connected with the guests through social media platforms, 29% through emails and newsletters while 3% through editorial contents.

3) How has your business been impacted by the corona virus?

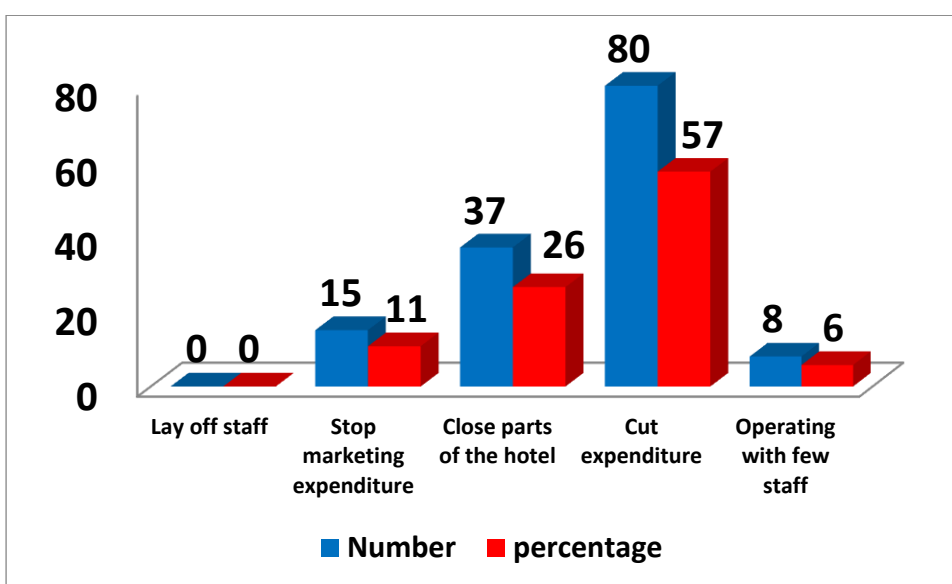| Not at all | 0 |
Slightly	3
Moderately	14
Severely	121
Not sure	2
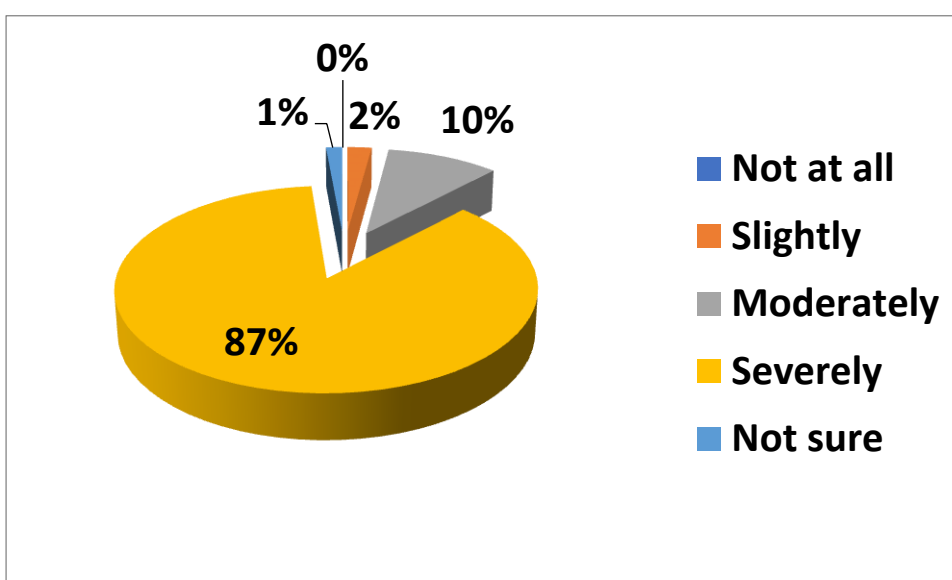
INTERPRETATION:-

From the above graph, it seems that according to 87% respondents, coronavirus has severely affected the business.

4) What have you done to cut costs and stay afloat?

|	
Lay off staff	0
Stop marketing expenditure	15
Close parts of the hotel	37
Cut expenditure	80
Operating with few staff	8

INTERPRETATION:-

From the above graph, it seems that according to 57% employees, cutting expenditure helped them to stay afloat as compared to close parts of the hotel (26%), stop marketing expenditure (11%) and operating with few staff (6%).

5) Did your hotel receive any government assistance?

|	
Paycheck assistance	0
Small business relief or loans	0
Both	0
No	133
Expect to receive in future	7
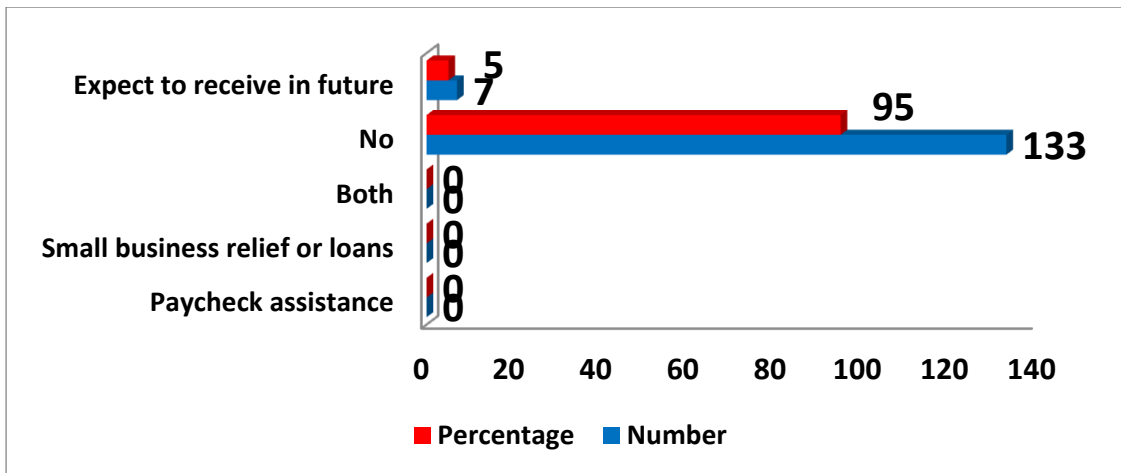
INTERPRETATION:-

From the above graph, it seems that according to 95% employees, the hotel did not receive any government assistance as compared to 5% who expect it to receive in future.

6) How much longer did you expect disruption to last in the hotel industry?

| More than 24 months	73
13 to 24 months	38
6 to 12 months	20
Less than 6 months	9
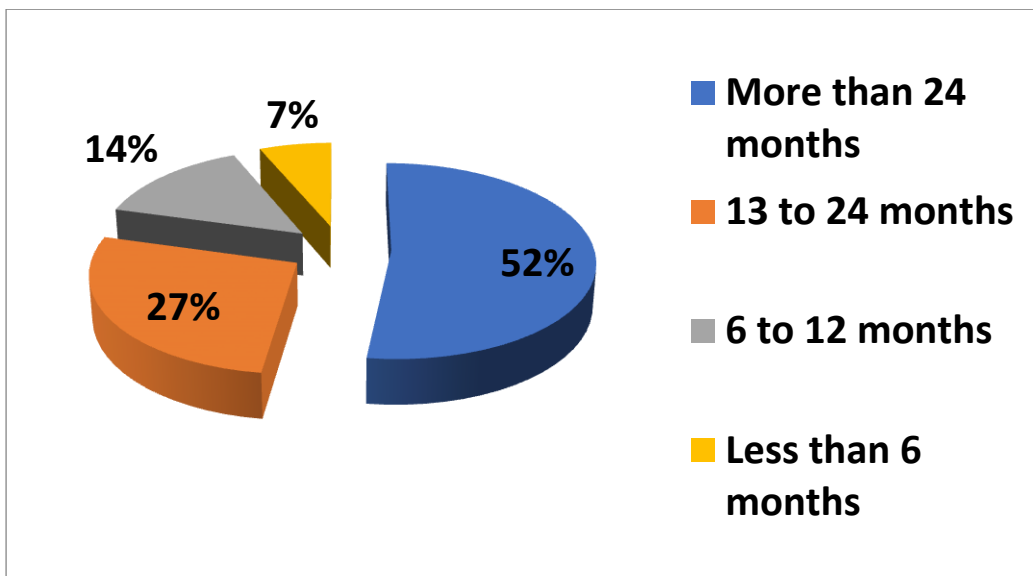
INTERPRETATION:-

From the above graph, it seems that 52% employees expected the disruption to last for more than 24 months, 27% employees - from 13 to 24 months, 14% employees – from 6 to 12 months and 7% employees – less than 6 months.

7) What has given you the most hope during the crisis?

|	
Colleagues lean on	33
Hospitality is resilient	63
Faith in travelers	30
Pick up in other markets	9
Positive predictions from news sources	5
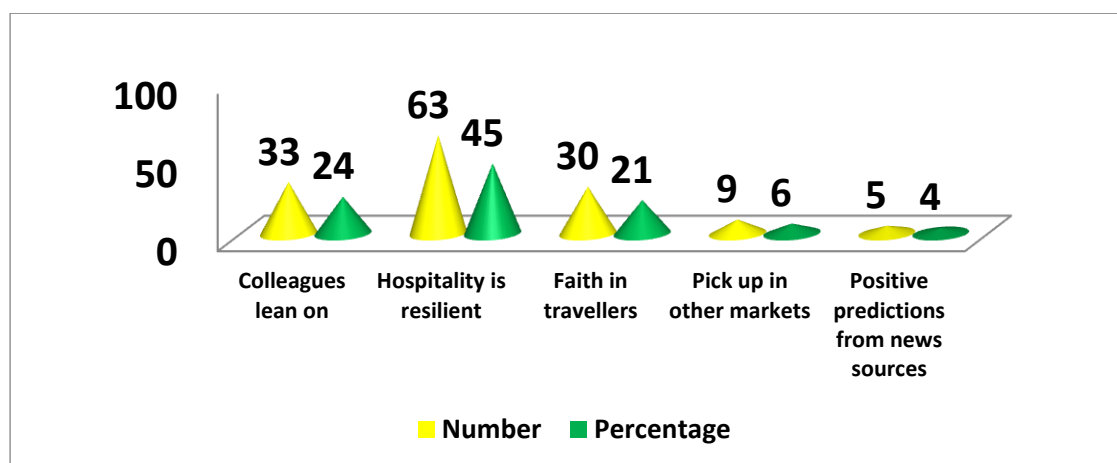
INTERPRETATION:-

From the above graph, it seems that 45% employees got hope from the fact that hospitality is resilient, 24% employees from colleagues lean on, 21% employees from faith in travellers, 6% employees from pick up in other markets and 4% employees from positive predictions from news sources.

8) What would you do to build the trust of your future guests?

|	
New health and safety measures	73
A differentiated brand promise	29
Loyalty programs	22
Competitive price	14
Unbundling of services	2
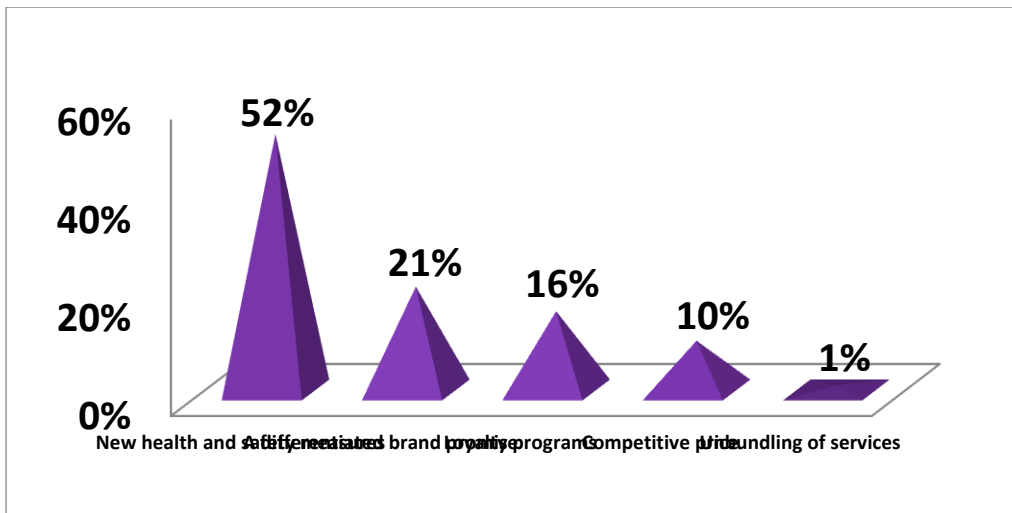
INTERPRETATION:-

From the above graph, it seems that 52% employees would include new health and safety regulations to build the trust of future guests, 21% employees through a differentiated brand promise, 16% employees through loyalty programs, 10% employees through competitive price and 1% employees through unbundling of services.

9) What are your marketing initiatives to improve brand perception and loyalty?

|	
Revisiting websites and content assets	17
Paying attention to new health and safety measures	53
Launching promotion campaigns	44
Promote safety campaigns	26
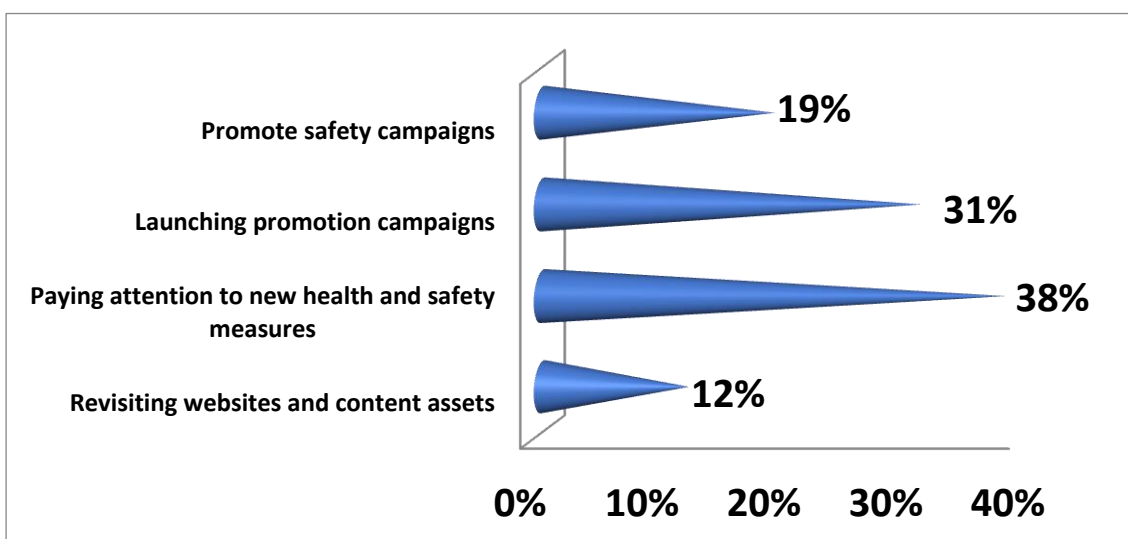
From the above graph, it seems that according to 38% employees, paying attention to new health and safety measures was the key to improve brand perception and loyalty as compared to Launching promotion campaigns (31%), Promote safety campaigns (19%), Revisiting websites and content assets (12%).

10) What do you believe is the impact of corona virus on the occupancy rate in the short term?

|	
Decrease by less than 10%	3
Decrease by 10% to 20 %	7
Decrease by 20% to 30 %	8
Decrease by 30% to 40 %	13
More than 40% decrease	104
Do not know	5
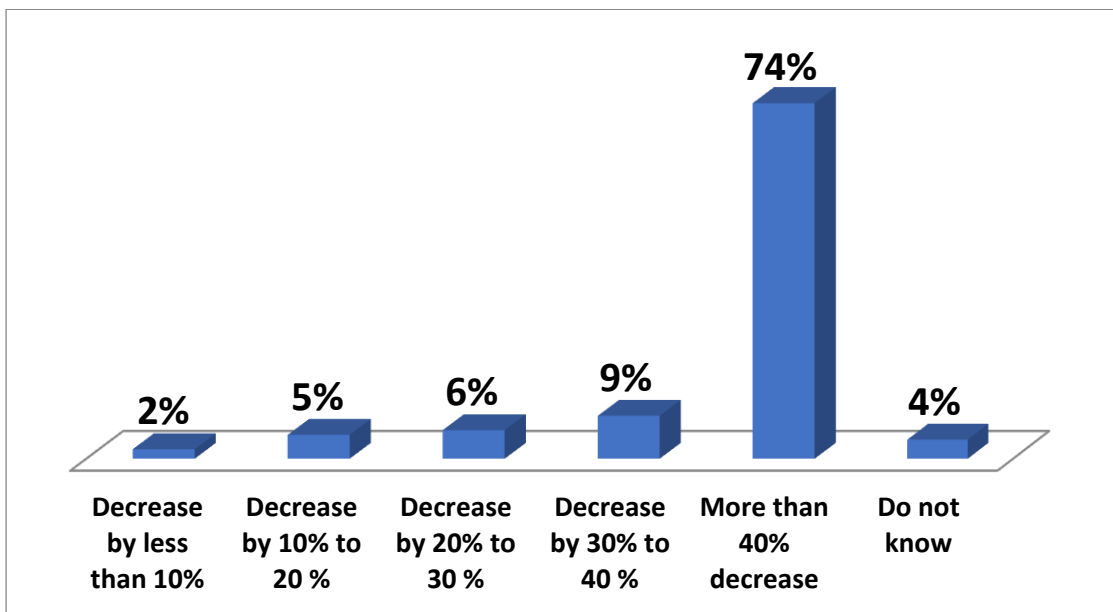
INTERPRETATION:-

From the above graph, it seems that according to 74% employees, coronavirus led to more than 40% decrease in the occupancy rate in the hotel.

11) What were the most critical challenges that were faced during hotel reopening's?

Guest confidence	23
Capital expenditure	3
New health and safety regulations	34
Talent retention	15
Financial implications	39
Availability of clients	26
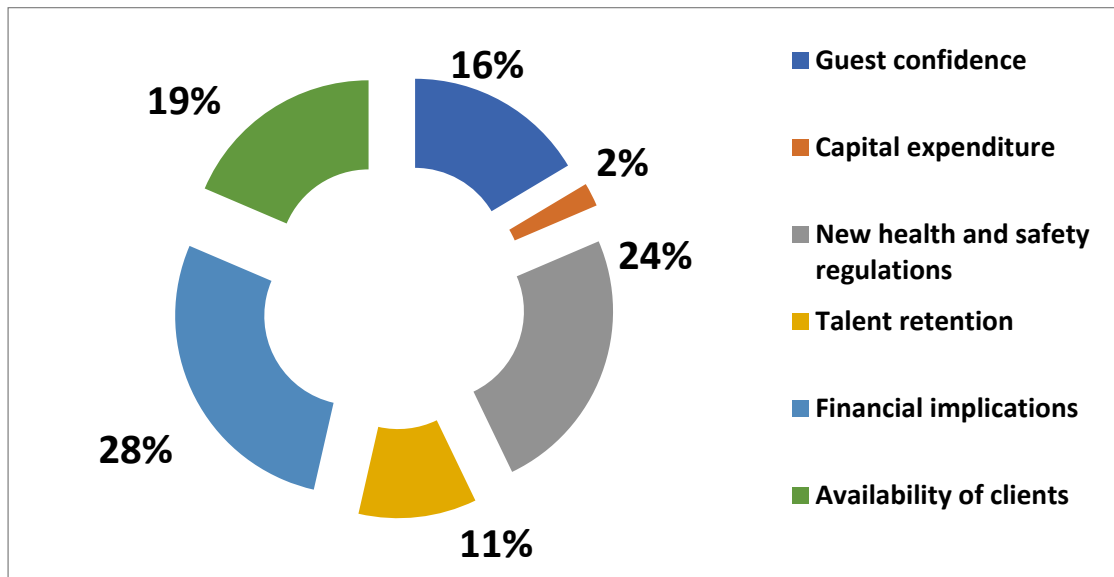
INTERPRETATION:-

From the above graph, it seems that according to 24% employees, the most critical challenge that were faced during hotel reopening's was new health and safety regulations, as compared to guest confidence (16%), capital expenditure (2%), talent retention (11%), financial implications (28%) and availability of clients (19%).

12) What will be your future plans to arrive at the next normal of hotel industry?

Overcoming consumer apprehension	20
Planning for constraint budget	19
Re-engaging and reassuring employees	31
Collaborating with technology partners	27
Adjusting to a disrupted ecosystem	43
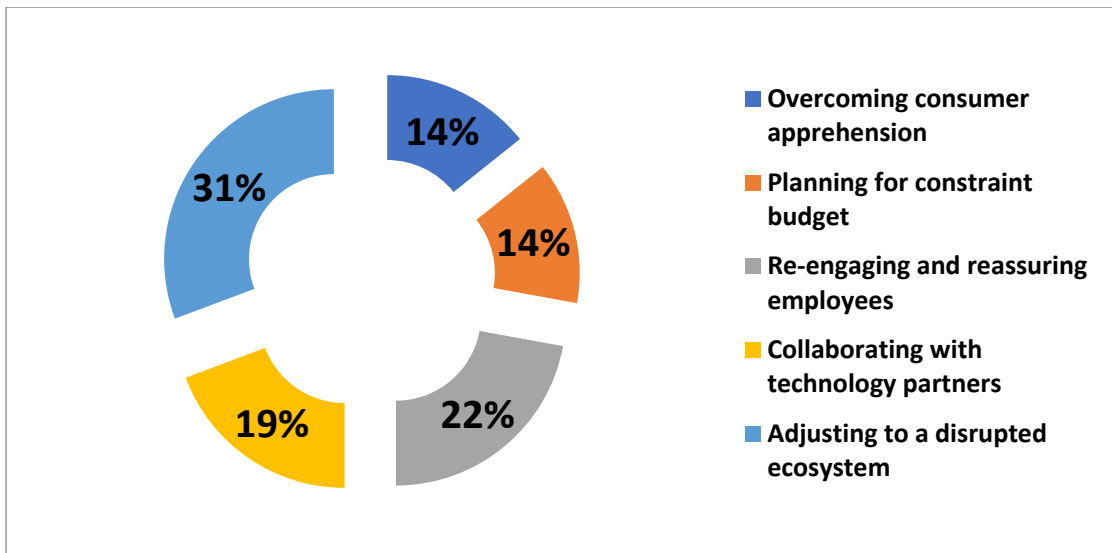
INTERPRETATION:-

From the above graph, it seems that according to 31% respondents, adjusting to the disrupted ecosystem is important to arrive at the next normal as compared to overcoming consumer apprehension (14%), planning for constraint budget (14%), reengaging and reassuring employees (22%) and collaborating with technology partners (19%).

13) Are you satisfied with the health checkup offered by the hotel?

Strongly agree	130
Agree	6
Neutral	4
Disagree	0
Strongly disagree	0
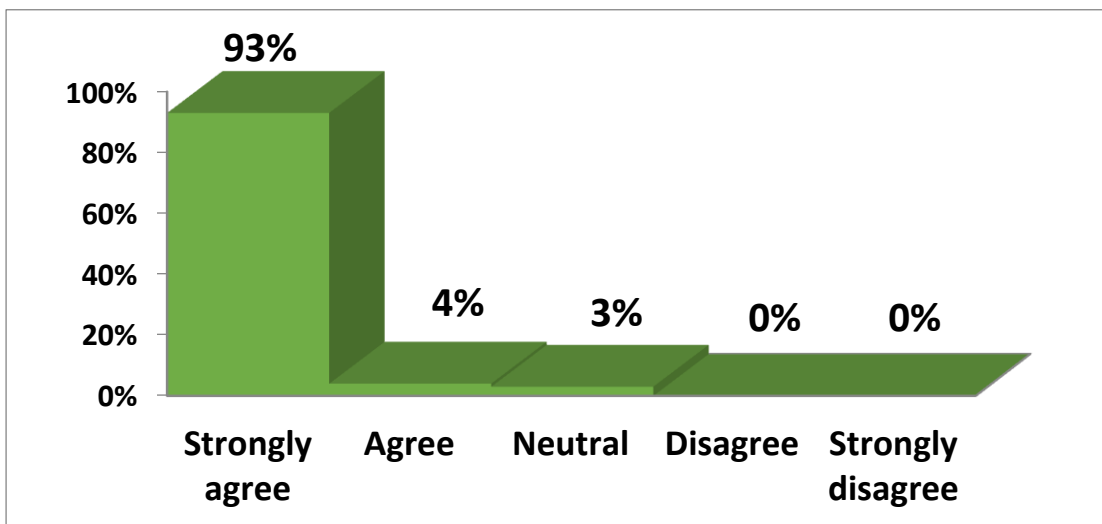
From the above graph, it seems that 93% employees are highly satisfied with the health check-up facilities offered by the hotel.

14) Are you satisfied with the changes (like incentives, Associate holiday plan, etc.) made by the hotel management system?

Strongly agree	0
Agree	32
Neutral	45
Disagree	63
Strongly disagree	0
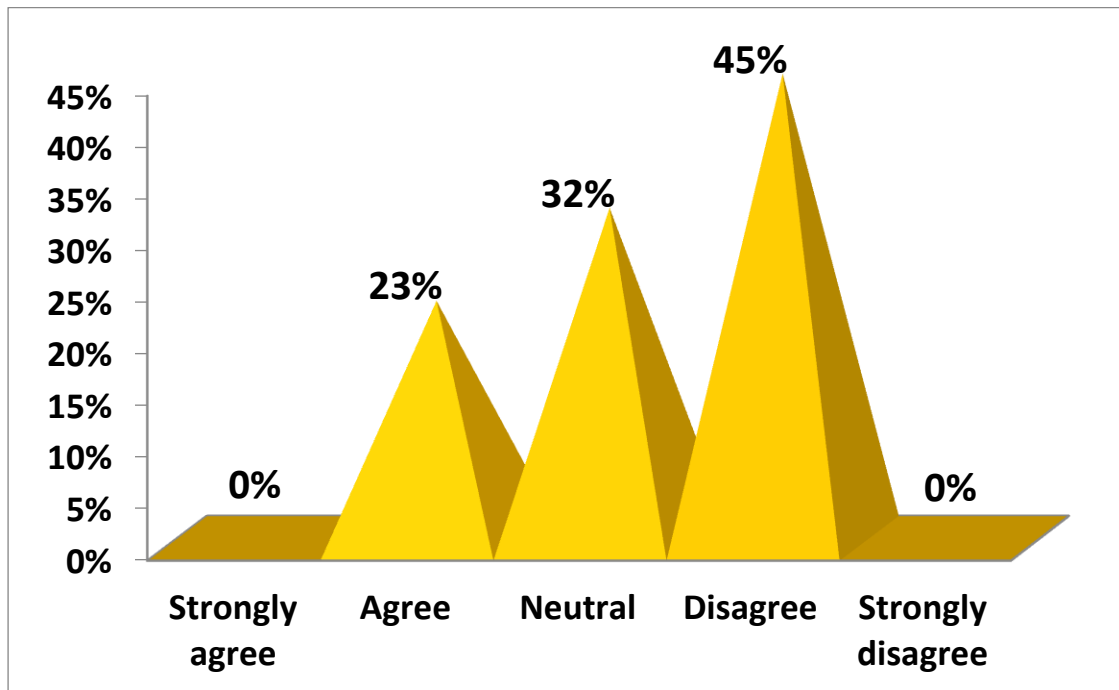
INTERPRETATION:-

From the above graph, it seems that 45% employees are not satisfied by the changes in the incentives, 32% employees are neutral while 23% employees are satisfied with the changes implied.

FACTS AND FINDINGS

- It seems that 100% employees are strictly following the new normal guidelines*.* The respondents of Rambagh have positive response in this regard.

- It seems that 85% respondents stated that their salary had been reduced as compared to the 15 % respondents who stated that covid 19 didn't affect the employment at their organization.
- It seems that 68% respondents stayed connected with the guests through social media platforms, 29% through emails and newsletters while 3% through editorial contents.
- It seems that according to 87% respondents, coronavirus has severely affected the business.
- It seems that according to 95% employees, the hotel did not receive any government assistance as compared to 5% who expect it to receive in future.
- It seems that 52% employees would include new health and safety regulations to build the trust of future guests, 21% employees through a differentiated brand promise, 16% employees through loyalty programs, 10% employees through competitive price and 1% employees through unbundling of services.
- It seems that according to 74% employees, coronavirus led to more than 40% decrease in the occupancy rate in the hotel.
- it seems that according to 24% employees, the most critical challenge that were faced during hotel reopening's was new health and safety regulations, as compared to guest confidence (16%), capital expenditure (2%), talent retention (11%), financial implications (28%) and availability of clients (19%).
- It seems that 93% employees are highly satisfied with the health checkup facilities offered by the hotel.
- It seems that according to 38% employees, paying attention to new health and safety measures was the key to improve brand perception and loyalty as compared to Launching promotion campaigns (31%), Promote safety campaigns (19%), Revisiting websites and content assets (12%).
- It seems that according to 57% employees, cutting expenditure helped them to stay afloat as compared to close parts of the hotel (26%), stop marketing expenditure (11%) and operating with few staff (6%).

RECOMMENDATIONS & SUGGESTIONS

1. Rambagh palace has lush green gardens; a temporary staff dining area can be created with more open space as covid-19 is likely to be more contaminating in closed environment.
2. At time office oxy-meter can be introduced as part of checking before entering the premises. This will help in checking the internal health level of the employee entering the premises and segregate asymptomatic patients.
3. Since in-house yoga instructor is present in Rambagh, separate session for staff can be done as well to improve the health of employees.
4. The N-95 mask should be introduced in the system with the logo on it. Since the cloth mask are less effective compared to the N-95 masks.
5. Random RT-PCR test should be conducted of employees every week as a precautionary measure to check for covid-19 as the wedding season has started and foot fall has increased with people coming in from across India.
6. Staff engagement activities in open spaces should be restarted to bring in the environment of engagement as the covid-19 has brought down the mental health of people.

LIMITATIONS OF STUDY

During the working of the project, I faced some problems, which have led to the limitation of the work. These limitations could not be controlled even after taking enough preventing measures. I hope the following limitations would not affect the project and its analysis: -

The main problem faced at the time of study was the shortage of time.

- ✓ Some of the employees were hesitating to give information due to fear of the management.

- ✓ A small sample size greater probability that the observation just happened to be particularly good or bad. It is harder to find significant relationships from the data

- ✓ Some of the employees were not able to provide their views because of their busy schedule.

- ✓ Each organization has different values, work culture and the policies, so in general the result may not apply to each situation.

ANNEXURE

BIBLOGRAPHY

BOOKS: -

Aswathappa "Human Resource and Personal Management"

C. B Gupta. "Human Resource Management"

Kothari, C. R. "Research Methodology"

Sudha G.S , "Human Resources Management"

WEBSITES:-

1. www.marketresearch.com
2. www.ihcltata.com
3. www.tata.com
4. www.economictimes.indiatimes.com
5. www.travellermade.com
6. www.tajhotels.com

QUESTIONNAIRE

1) Are you strictly following the new normal guidelines in your organization?

Yes	
No	

2) How has Covid 19 affected employment at your organization?

Salary has been reduced	
Planning to lay off	
Laid off	
Unaffected	

3) While travel was on hold, how did you stay connected with past and future guests to maintain the brand value?

Social media platforms	
Emails and newsletters	
Editorial contents	
Webinars	

4) How has your business been impacted by the corona virus?

Not at all	
Slightly	
Moderately	
Severely	
Not sure	

5) What have you done to cut costs and stay afloat?

Lay off staff	
Stop marketing expenditure	
Close parts of the hotel	
Cut expenditure	
Operating with few staff	

6) Did your hotel receive any government assistance?

Paycheck assistance	54
Small business relief or loans	
Both	
No	
Expect to receive in future	

7) How much longer did you expect disruption to last in the hotel industry?

More than 24 months	
13 to 24 months	
6 to 12 months	
Less than 6 months	

8) What has given you the most hope during the crisis?

Colleagues lean on	
Hospitality is resilient	
Faith in travellers	
Pick up in other markets	
Positive predictions from news sources	

9) What would you do to build the trust of your future guests?

New health and safety measures	
A differentiated brand promise	
Loyalty programs	
Competitive price	
Unbundling of services	

10) What are your marketing initiatives to improve brand perception and loyalty?

Revisiting websites and content assets	
Paying attention to new health and safety measures	
Launching promotion campaigns	
Promote safety campaigns	

11) What do you believe is the impact of corona virus on the occupancy rate in the short term?

Decrease by less than 10%	
Decrease by 10% to 20 %	
Decrease by 20% to 30 %	
Decrease by 30% to 40 %	
More than 40% decrease	
Do not know	

12) What were the most critical challenges that were faced during hotel reopening's?

Guest confidence	
Capital expenditure	
New health and safety regulations	
Talent retention	
Financial implications	
Availability of clients	

13) What will be your future plans to arrive at the next normal of hotel industry?

Overcoming consumer apprehension	
Planning for constraint budget	
Re-engaging and reassuring employees	
Collaborating with technology partners	
Adjusting to a disrupted ecosystem	

14) Are you satisfied with the health checkup offered by the hotel?

Strongly agree	
Agree	
Neutral	
Disagree	
Strongly disagree	

15) Are you satisfied with the changes (like incentives, Associate holiday plan, etc) made by the hotel management system?

Strongly agree	
Agree	
Neutral	
Disagree	
Strongly disagree	

CHAPTER 6

IMPACT OF COVID-19 ON CONSUMER BEHAVIOR ON FMCG PRODUCTS (IN DIFFERENT STATES OF INDIA)

ABSTRACT

Since the very beginning, humanity has faced a lot of challenges. The magnitudes of these challenges have been different and have come at us in different forms. Fortunately, humanity has come out of most of them – stronger and more resilient. The advent of the novel coronavirus is another such challenge that sweeps the globe today. Among all of these crises that we've faced, there are only a handful of them that have impacted, or have had the potential to impact every human being out there – Covid-19 is one of them.

COVID-19 is changing the world we live in for the worst. This pandemic is not only taking a toll out of health care systems and peoples' lives but also its impacting world economies and resulting in job losses; business disruptions and making us head towards one of the worst times ever for people on earth. Almost, all the industries are undergoing massive declines in their businesses, and the impact is that much gigantic of this pandemic, that they are projecting worse times ahead. FMCG sector is one of the sectors which were highly impacted due to COVID.

This paper studies the impact of coronavirus on the FMCG and the consumer behavior. In customer preferences, companies and economic structures, we are experiencing a paradigm change in which certain firms will accelerate while others will slow down. A pandemic such as this opened our eyes to the weakness of human beings. Many that benefit from this triumph, from corporations and from citizens alike, would have transitioned better than most to the new standard. COVID-19's effect on the FMCG sector is clear – it would be those companies who would be able to respond rapidly to evolving dynamics of demand and display a resilient attitude and execution.

1. INTRODUCTION

The fast-moving consumer goods (FMCG) sector is the fourth largest sector of India with a wide amount of household and personal care accounting for 50% of the FMCG sales in India. Growing recognition, easier access, and remaking lifestyles have been the key extension drivers for the sector (FMCG). The urban segment (accounts for a revenue share of around 55%) [1] and it is the largest contributor to the all-inclusive revenue generated by the FMCG sector in India [2].

Well in the last few years, the FMCG market has grown widely in the rural area as compared to urban area. Semi-urban and rural segments are growing briskly and FMCG products nearly account for 50% of the total rural spending. The study of consumer helps firms and organization to enhance their marketing strategies by understanding the psychology of consumers, how they think, how they feel, about their needs and wants (to be specific) and select between different alternatives (e.g., brands, products; the psychology of how the consumer is affected by his or her environment (e.g., culture, family, media) [3].

In India, the FMCG market has evolved rapidly and in the years prior to the pandemic. After mid-2018 the market has been growing, with growth rates falling rapidly from mid-teens to roughly one half by Jan / Feb 2020 over the past 15-18 months [4] . In this situation, FMCG companies sought to bargain in the expectation of a market share by lowering costs and selling customers higher supply and delivery of FMCG products.

The "consumer" term is very wide and it includes both personal consumers and business/industrial/organizational consumers [5].

Consumer behavior is the study of individuals, groups, or organizations and all the activities associated with the purchase, use and disposal of goods and services, and how the consumer's emotions, attitudes and preferences affect buying behavior [6]. Consumer behavior emerged in the 1940-50s as a distinct sub-discipline of marketing, but has become an interdisciplinary social science that blends elements from psychology, sociology, social anthropology, ethnography, marketing and economics (especially behavioral economics) [7].

The study of consumer behavior formally investigates individual qualities such as demographics, personality lifestyles, and behavioral variables (such as usage rates, usage occasion, loyalty, brand advocacy, and willingness to provide referrals), in an attempt to understand people's wants and consumption patterns [8].

One of the significant repercussions of lockdown is panic shopping [9]. There has been a major change in customer's buying behavior over the past months. The consumers fear a shortage of essentials at their homes [10]. Hence, they are buying everything in excess just to ensure that they won't run out of the essentials during these tough times [11] Fast moving Consumer Goods (FMCG) goods are well liked named as consumer packaged goods.

Items in this category include all consumable items (other than groceries/pulses) that people buy usually at their regular meantime. The most common in this list are toilet soaps, detergents, shampoos, toothpaste, shaving products, shoe polish, packaged foodstuff, and household accessories and this area extends to certain electronic merchandise. These items are meant for daily use of frequent consumption and have a high return [12].

The sector is divided into two different segments. The premium segment deals mostly to the urban upper middle class and the popular segment having prices as low as 40% of the premium segment. The sprouting economy, increasing per-capita incomes, and rising trend of urbanization, by noticing all the facts and figures the FMCG sector of India plans to expand in future to nearly Rs 180000 crore by 2015.

FMCG products are relatively small; they generally are sold in larger quantities, so the cumulative profits on such products can be really large. That's how the FMCG sector is working and growing with a very high speed. And due to COVID the variety of items has increased in this field, like hygienic goods (sanitizer, masks and etc.) [13]. Although in the past also FMCG sector has always played a very important role in our lives and now it has just the basic necessity of our lives. Not only for groceries but for sanitization too. It's playing a very vital role in our lives.

In India, post-Covid-19 outbreak, demand for hand sanitizers, hand wash and other health hygiene products has increased at an exponential rate [14] [15]. The year 2020

is anticipated to have the highest growth for these products. The increasing knowledge of hand hygiene antiquates by Indian consumers is anticipated to offer many domestic and foreign players a lucrative opportunity by 2022.

OBJECTIVE OF THE STUDY

The main purpose of the study is to find out the impact of consumer behavior on the FMCG sector. Another objective of this study was to find out the perception of consumers in the long run or say post COVID-19.

- To understand and determine the impact of consumer behavior on fast moving consumer goods.
- To identify the factors that have an effect on consumer behavior and consumer decision.
- To study the consumer pre-post purchase behavior towards fast moving consumer good during COVID-19
- To conclude and propose strategies for effective marketing of FMCG products

SIGNIFICANCE OF THE STUDY

After analyzing the various literature review and reports we found that there has been a huge impact on the consumer behavior and buying patterns on FMCG sector products pre and post COVID-19.

There are many researches available that focus on the impact of consumer behavior on FMCG sector but there is no such study found which focuses on 4 particular states that is Bihar, Rajasthan, Gujarat and Uttar Pradesh; so, there is a research gap between the past researches and the present study.

The study shows the impact of consumer behavior on the different products of FMCG sector in these 4 particular states. The study also shows the factors affecting their behavior and their buying pattern on different products.

RESEARCH METHODOLOGY

Research Type- Exploratory

Sample size- 153

Sampling area- Rajasthan, Bihar, Uttar Pradesh and Gujarat

Sampling- convenience random sampling used

Data Collection- Primary data was collected through structured e-questionnaire. The questionnaire includes various questions relating to the expenditure habits of consumer pre and post COVID-19 questions related to the division of their expenditure on different FMCG products etc. The study also takes some secondary data from journals magazines and referring websites.

Tools for Data Analysis- The data was analyzed with the help of Frequancy Distribution, Percentage, Graphs and Charts.

2. DATA ANALYSIS AND FINDINGS

A. Gender

Table 1: Gender

	Frequency	Percent
Female	78	51.0
Male	75	49.0
Total	153	100.0
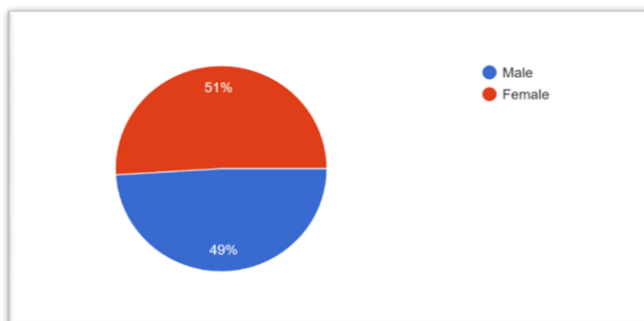
Figure 1: Gender

B. Age

Table 2: Age

	Frequency	Percent
21-30	39	25.5
31-40	7	4.6
Above 40	39	25.5
Below 20	68	44.4
Total	153	100.0
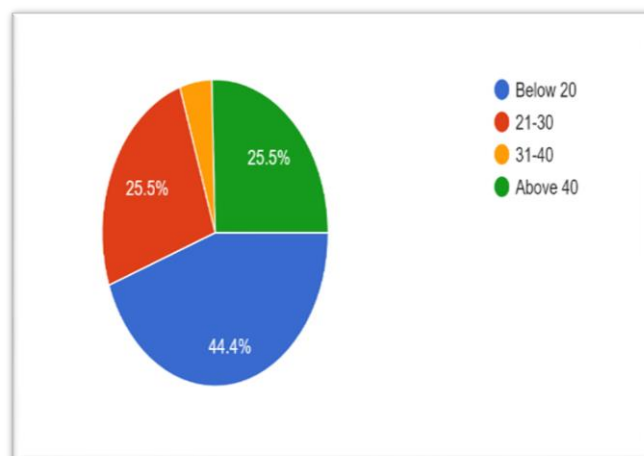
Figure 2: Age

C. Occupation

Table 2: Occupation

	Frequency	Percent
Any Job	1	0.7
Business	28	18.3
Home Maker	12	7.8
Service	20	13.1
Student	92	60.1
Total	153	100.0
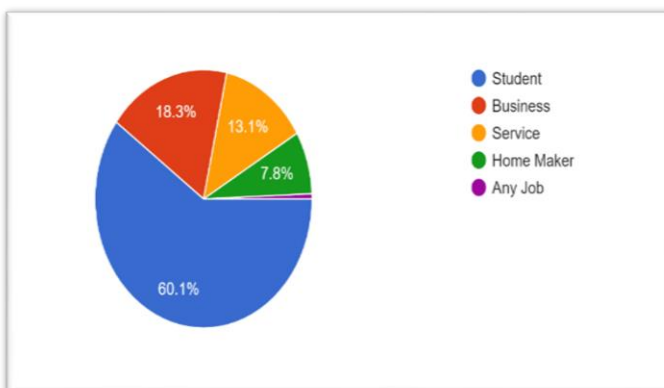
Figure 3: Occupation

D. Location

Table 3: Location

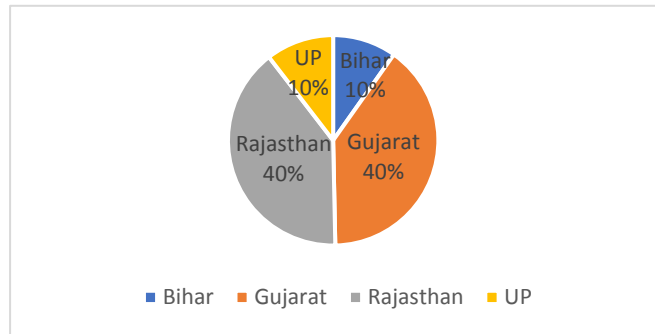|	Frequency	Percent
Bihar	15	9.8
Gujarat	61	39.9
Rajasthan	61	39.9
UP	16	10.5
Total	153	100.0

Figure 4: Location

E. What was your Monthly Expenditure before COVID-19 on FMCG products? (Amount in Rs.)

Around 57.5% of our respondents said that their monthly expenditure pre COVID-19 was around 2000-7000 and only 15% of our respondents have their monthly expenditure of above 12000.

Table 4: Monthly Expenditure before COVID-19 on FMCG products

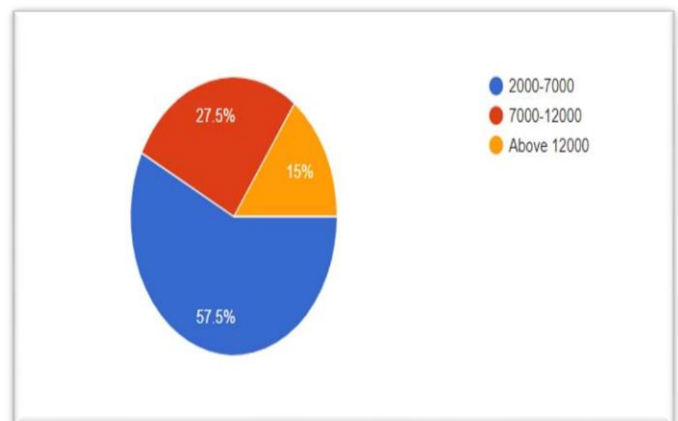|	Frequency	Percent
2000-7000	88	57.5
7000-12000	42	27.5
Above 12000	23	15.0
Total	153	100.0

Figure 5: Monthly Expenditure before COVID-19 on FMCG products

F. What is your Monthly expenditure after COVID-19 on FMCG products? (Amount in Rs.)

Here the expenditure graph of 2000-7000 has slightly reduced and the graph of 12000 has slightly increased which shows us that people have started spending more after COVID-19.

Table 5: Monthly expenditure after COVID-19 on FMCG products

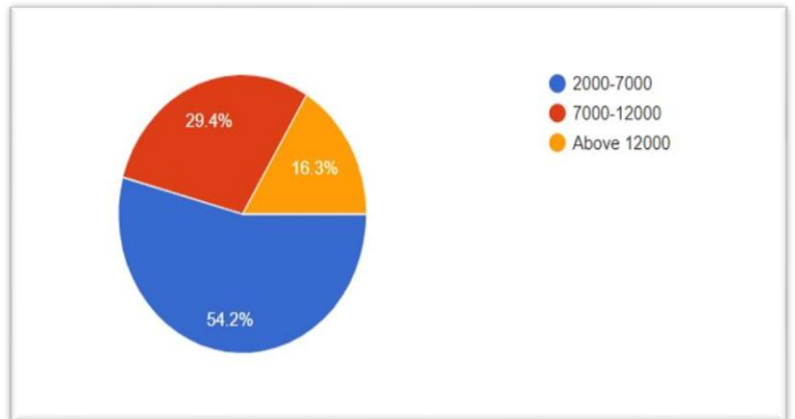|	Frequency	Percent
2000-7000	83	54.2
7000-12000	45	29.4
Above 12000	25	16.3
Total	153	100.0

Figure 6: Monthly expenditure after COVID-19 on FMCG products

G. Before COVID-19 on Which section of FMCG did you spend the most?

Before COVID-19, clearly more than 3/4th of the respondents spent most in groceries and the percentage of respondents spending in medicines and hygienic products are negligible.

Table 6: Section wise expenditure before COVID-19

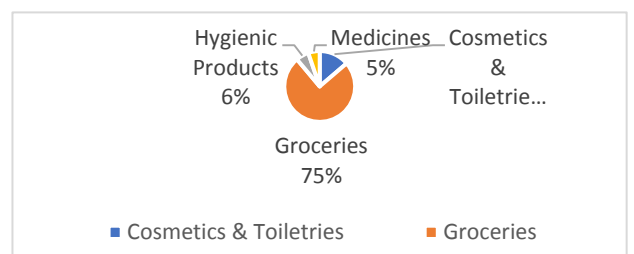|	Frequency	Percent
Cosmetics & Toiletries	21	13.7
Groceries	115	75.2
Hygienic Products	9	5.9
Medicines	8	5.2
Total	153	100.0

Figure 7: Section wise expenditure before COVID-19

H. After COVID-19 on which section of FMCG did you spend the most?

The growth in the expenditure on hygienic products after COVID-19 is huge. The graph percentage changes from 5.9% to 36.6%. And also, the expenditure on medicines has grown from 5.2% to 8.5%. the graph has a downfall in the expenditure on groceries from 75.2% to 45.8%. This shows us that clearly people are now more concerned about hygiene and health and a big part of their expenditure includes products like sanitizers, vegetable wash etc.

Table 7: Section wise expenditure after COVID-19

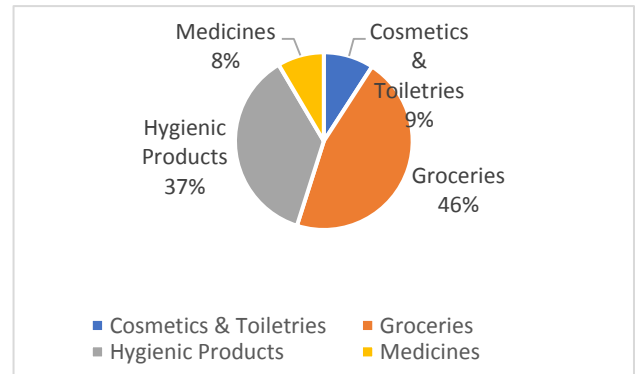|	Frequency	Percent
Cosmetics & Toiletries	14	9.2
Groceries	70	45.8
Hygienic Products	56	36.6
Medicines	13	8.5
Total	153	100.0

Figure 8: Section wise expenditure after COVID-19

I. How much dependent were you on online-shopping before COVID-19?

Even before COVID-19 people used to shop online using different websites but it was a sometimes case. As the graph shows around 50% of our respondents used to shop online sometimes and only 11.8% of the respondents used to shop online on a regular basis.

Table 8: Online-shopping before COVID-19

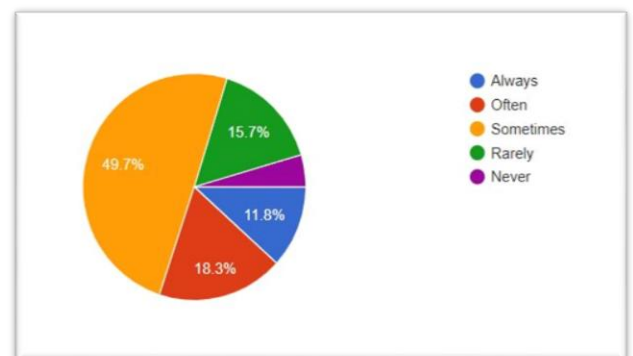|	Frequency	Percent
Always	18	11.8
Never	7	4.6
Often	28	18.3
Rarely	24	15.7
Sometimes	76	49.7
Total	153	100.0

Figure 9: Online-shopping before COVID-19

J. Howmuch dependent were you on online-shopping after COVID-19?

After COVID-19, people were more comfortable in online shopping rather than to visit the vendors in the city. The graph of sometimes has been replaced by often and the always graph has a rise from 11.8% to 21.7%.

Table 9: Online-shopping after COVID-19

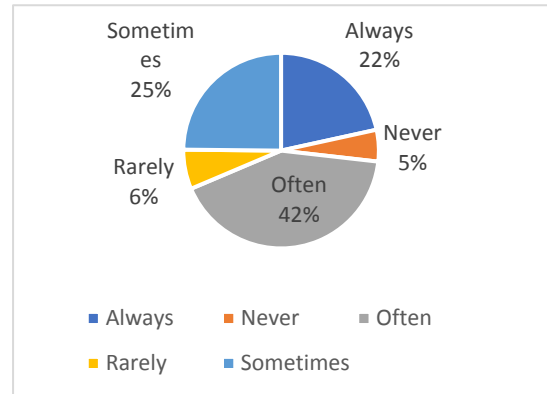|	Frequency	Percent
Always	33	21.6
Never	8	5.2
Often	64	41.8
Rarely	10	6.5
Sometimes	38	24.8
Total	153	100.0

Figure 10: Online-shopping after COVID-19

K. Which were the platforms you were most dependent before COVID-19 for buying Groceries items?

According to the data, almost 3/4th of our respondents purchased groceries from the local stores nearby their house. And very less number of people preferred buying groceries online, before COVID-19.

Table 10: Most dependent platform for buying groceries before COVID-19

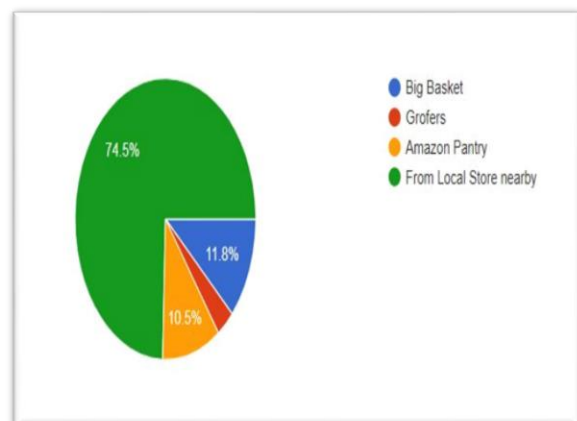|	Frequency	Percent
Amazon Pantry	16	10.5
Big Basket	18	11.8
From Local Store nearby	114	74.5
Grofers	5	3.3
Total	153	100.0

Figure 11: Most dependent platform for buying groceries before COVID-19

L. Which were the platforms you were most dependent after COVID-19 for buying Groceries items?

Here people have slightly shifted their interest to online stores but the gap is not so huge. People after COVID-19 also like to purchase from their local stores nearby.

Table 11: Most dependent platform for buying groceries after COVID-19

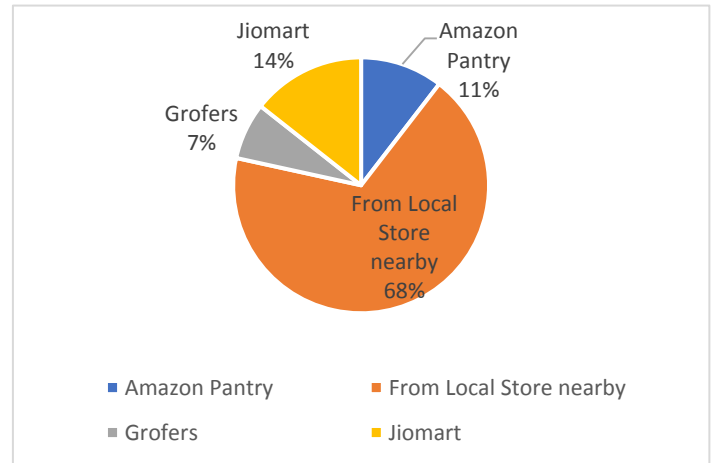|	Frequency	Percent
Amazon Pantry	16	10.5
From Local Store nearby	104	68.0
Grofers	11	7.2
Jiomart	22	14.4
Total	153	100.0

Figure 12: Most dependent platform for buying groceries after COVID-19

M. Were you using various hygienic products like Ssanitizer, masks before COVID-19?

Around 60% of our respondents were unaware of the products like sanitizers, masks etc before COVID-19. These products were not at all used by our 60% respondents. But 24.3% of the respondents say that they used sanitizers and masks even before COVID-19.

Table 12: Use of hygienic products before COVID-19

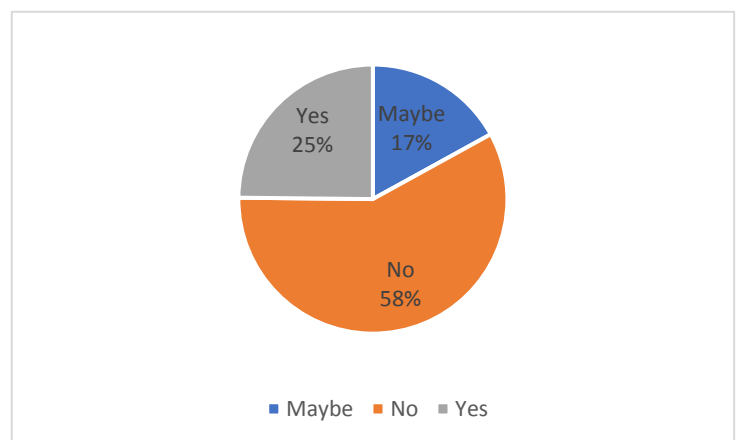|	Frequency	Percent
Yes	38	24.8
No	89	58.2
Maybe	26	17.0
Total	153	100.0

Figure 13: Use of hygienic products before COVID-19

N. Will you continue to use the Hygienic products for a long period of time after COVID-19?

The change in the graph is huge. From 24.3% to directly 72.2% of our respondents say that they will continue to use the sanitizers and masks even after COVID-19. This shows that people are now more concerned about their health than before.

Table 13: Use of hygienic products after COVID-19

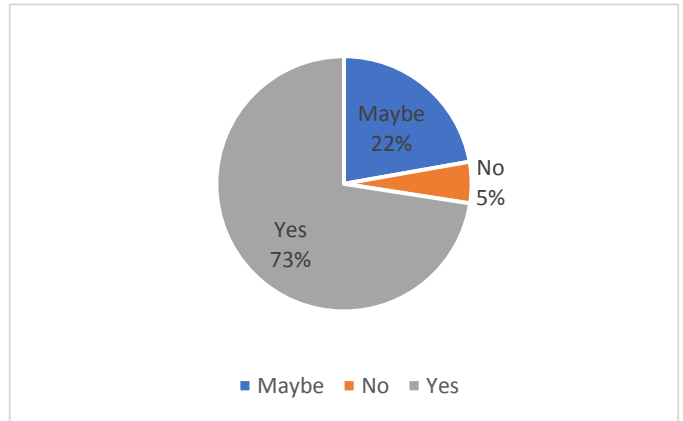|	Frequency	Percent
Yes	111	72.5
No	8	5.2
Maybe	34	22.2
Total	153	100.0

Figure 14: Use of hygienic products after COVID-19

O. Did you Bulk Purchase the FMCG products during COVID -19?

COVID-19 resulted in lockdown of many months because of which people used to bulk purchase the necessary items and this is also shown by our graph results which says around 55% of people bulk purchased items during COVID.

Table 14: Bulk purchase of FMCG products during COVID-19

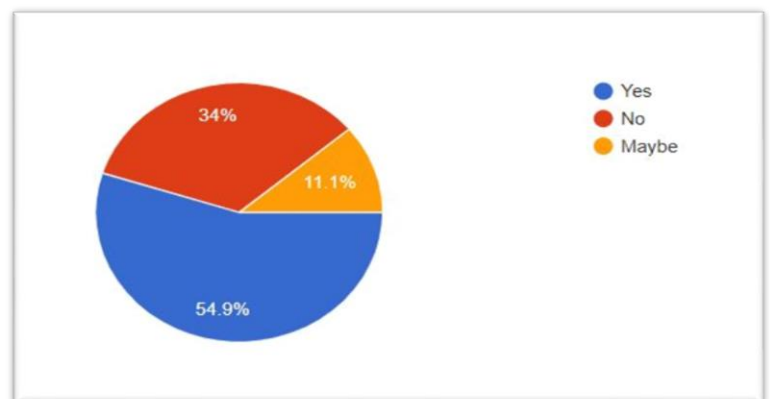|	Frequency	Percent
Yes	84	54.9
No	52	34.0
Maybe	17	11.1
Total	153	100.0

Figure 15: Bulk purchase of FMCG products during COVID-19

P. Has your overall buying behavior changed due to COVID-19?

Majority of the respondents are not sure about the change that COVID-19 has done to their buying behavior but 34% people agrees that COVID-19 has changed their buying pattern.

Table 15: Overall buying behavior changed due to COVID-19

	Frequency	Percent
Yes, totally	52	34.0
No, was same	37	24.2
Maybe	64	41.8
Total	153	100.0
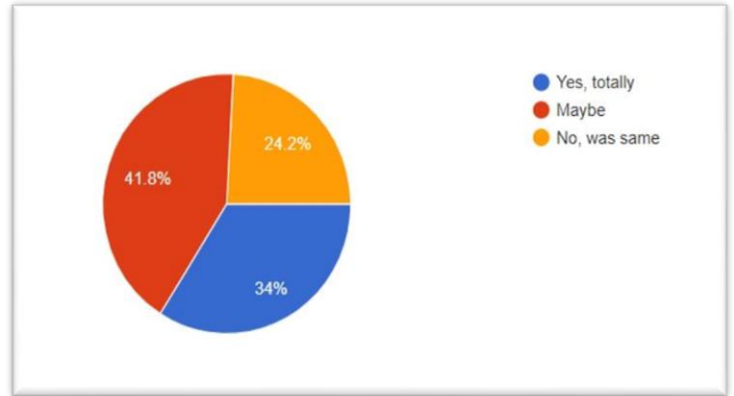
Figure 16: Overall buying behavior changed due to COVID-19

Q. If yes, will you continue the same behavior Post Pandemic?

Majority of the people will continue the same buying pattern after COVID-19 also but again around 37.3% of respondents are not sure about it.

Table 16: Same buying behavior post pandemic

	Frequency	Percent
Yes	53	34.6
No	43	28.1
Maybe	57	37.3
Total	153	100.0

Figure 17: Same buying behavior post pandemic

3. CONCLUSION

In this survey we found a comparative study regarding the segment of expenditure of the consumers before and after COVID-19. As earlier t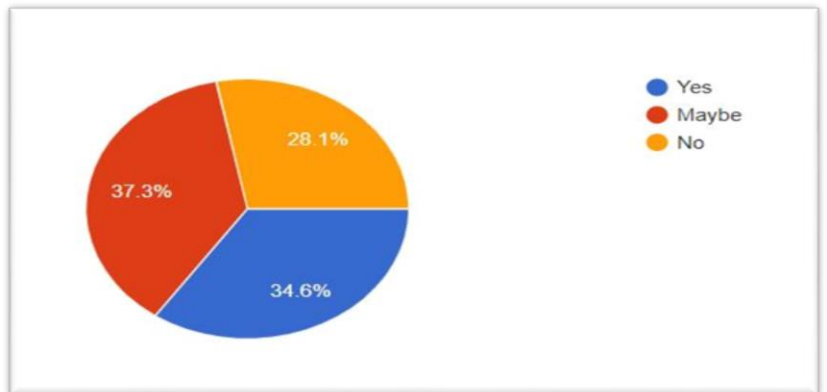he major of the expenditure was on the grocery items, now its also on the hygienic products like masks, sanitizers etc. People are now much more concerned about their health and hygiene and this will surely continue for a very long period of time. Usage of masks sanitizers are the new normal for everybody at present. As compared to earlier, people are now also more dependent on online shopping portals for their grocery shopping.

4. RECOMMENDATIONS

- COVID-19 made people think more about their health and hygiene and now is it our daily activity to check upon our health. So, there should be more and more health related products available in the market.
- During COVID-19 major of the households bulk purchased products in the fear of shortage of items, this ultimately made a shortage of products in various shops in the whole country. So, there should be a reasonable stock available in the shops so that there should not be any such situation in the future.
- Many households are now dependent on the online shopping portals for their shopping, so the online sites should have a variety of products range and should make their buying procedure simple and should now deliver to every part of the country even in the rural areas so that they can also get an advantage of online shopping.

REFERENCES

1. *FMCG Industry in India: Sector Overview, Market Size & Growth | IBEF*. (n.d.). Retrieved April 29, 2021, from https://www.ibef.org/industry/fmcg.aspx
2. *FICCI*. (n.d.). Retrieved April 29, 2021, from http://www.ficci.in/sector-details.asp?sectorid=73
3. Neal, C. M. . Q. P. G. . H. D. I. . P. G. & D. (2008). *Consumer Behaviour: Implications for marketing strategy*. McGraw-Hill Irwin.
4. *Impact of Coronavirus pandemic on fast moving consumer goods (FMCG) sector in India*. (n.d.). Retrieved April 29, 2021, from https://www.researchgate.net/publication/344139429_Impact_of_Coronavirus_pandemic_on_fast_moving_consumer_goods_FMCG_sector_in_India
5. Bhakat, R. S., & Muruganantham, G. (2013). A Review of Impulse Buying Behavior. *International Journal of Marketing Studies*, *5*(3). https://doi.org/10.5539/ijms.v5n3p149
6. Mahajan, Y. D. (n.d.). *Impact of Coronavirus pandemic on fast moving consumer goods (FMCG) sector in India*. https://doi.org/10.37896/JXAT12.09/2854
7. *Consumer Behavior Analysis — Click the Ad or Not? | by Hua Shi | The Startup | Medium*. (n.d.). Retrieved April 29, 2021, from https://medium.com/swlh/consumer-behavior-analysis-click-or-not-6092491a89a2
8. *Consumer behaviour - Wikipedia*. (n.d.). Retrieved April 29, 2021, from https://en.wikipedia.org/wiki/Consumer_behaviour

9. *Consumer Buying Behavior - Marketing Management Journal*. (n.d.). Retrieved April 29, 2021, from https://mktngmanagement.blogspot.com/2012/06/consumer-buying-behavior.html
10. Hodge, R. (2004). *Factors Influencing Impulse Buying During an Online Purchase Transaction.*
11. *How Coronavirus Will Impact the FMCG Sector of India?* (n.d.). Retrieved April 29, 2021, from https://www.fieldassist.in/blog/coronavirus-impact-fmcg/
12. Stern, H. (1962). The Significance of Impulse Buying Today. *Journal of Marketing*, *26*(2), 59. https://doi.org/10.2307/1248439
13. *Impact of COVID-19 Outbreak on FMCG Market*. (n.d.). Retrieved April 29, 2021, from https://www.marketresearchfuture.com/covid-19-analysis/covid-19-impact-fmcg-market-9549
14. Sidhu, G. S., Rai, J. S., Khaira, K. S., & Kaur, S. (2020). THE IMPACT OF COVID-19 PANDEMIC ON DIFFERENT SECTORS OF THE INDIAN ECONOMY: A DESCRIPTIVE STUDY. *International Journal of Economics and Financial Issues*, *10*(5), 113–120. https://doi.org/10.32479/ijefi.10461
15. Singh Sidhu, G., Singh Rai, J., Khaira, K. S., & Kaur, S. (2020). International Journal of Economics and Financial Issues The Impact of COVID-19 Pandemic on Different Sectors of the Indian Economy: A Descriptive Study. *International Journal of Economics and Financial Issues |*, *10*(5), 2020. https://doi.org/10.32479/ijefi.10461

ANNEXURE

Questionnaire sample attached

Consumer Behavior on FMCG Goods
Q.1. Name_____
Q.2. Gender
a). Male b). Female
Q.3. Age (In years)
a). Below 20 b). 21-30 c). 31-40 d). Above 40
Q.4. Occupation
a). Student b). Business c). Service d). Home Maker
Q.5. Location
a). Rajasthan b). Bihar c). UP d). Gujarat
1. What was your Monthly Expenditure before COVID-19 on FMCG products? (Amount in Rs.)
a). 2000-7000 b). 7000-12000 c). Above 12000
2. What is your Monthly expenditure after COVID-19 on FMCG products? (Amount in Rs.)
a). 2000-7000 b). 7000-12000 c). Above 12000
3. Before COVID-19 on which section of FMCG did you spend the most?
a). Groceries b). Cosmetics & Toiletries c). Medicines d). Hygienic Products
4. After COVID-19 on which section of FMCG did you spend the most?
a). Groceries b). Cosmetics & Toiletries c). Medicines d). Hygienic Products
5. How much dependent were you on online-shopping before COVID-19?
a). Always b). Often c). Sometimes d). Rarely e). Never

6. How much dependent were you on online-shopping after COVID-19?

a). Always b). Often c). Sometimes d). Rarely e). Never

7. Which were the platforms you were most dependent before COVID-19 for buying Groceries items?

a). Big Basket b). Grofers c). Amazon Pantry d). From Local Store nearby

8. Which were the platforms you were most dependent after COVID-19 for buying Groceries items?

a). Jiomart b). Amazon Pantry c). From Local Store nearby d). Grofers

9. Were you using various hygienic products like sanitizer, masks before COVID-19?

a). Yes b). No c). Maybe

10. Will you continue to use the Hygienic products for a long periods of time after COVID-19?

a). Yes b). No c). Maybe

11. Did you Bulk Purchase the FMCG products during COVID -19?

a). Yes b). No c). Maybe

12. Has your overall buying Behavior changed due to COVID-19?

a). Yes, totally b). No, was same c). Maybe

13. If yes, will you continue the same behavior Post Pandemic?

a). Yes b). No c). Maybe

CHAPTER 7

AN ANALYSIS OF THE IMPACT OF COVID-19 CRISIS ON STUDENT WELL-BEING

Abstract

Well-being can be described as judging life positively and feeling good. Whereas, Student well- being is defined as a sustainable state of positive mood and attitude, resilience, and satisfaction with self-relationship and experiences at school. This research project aims to elucidate and analyse the student wellbeing during Covid-19. the paper will focus on student overall well-being in four different dimensions given by OECD which are physical, cognitive, psychological and social. The analysis will be based on the survey which was conducted among the college students. A questionnaire will also be included in the research paper, which will include all the question related to the well-being of students for example: physical, social, cognitive and mental.

INTRODUCTION

Well-being is a complex, multi-dimensional construct that cannot be properly measured by a sole indicator in a single domain. In order to accurately monitor well-being, it is critical that measurement tools take into consideration its multi-dimensional nature. We are working on the framework given by OECD for measuring well-being. Students' well-being as defined by the OECD refers to the psychological, cognitive, social and physical functioning and capabilities that students need to live a happy and fulfilling life. This definition of well-being combines a "children's rights approach", that emphasis the right of all children to have a happy life "here and now", with a "development approach", that underscores the importance of students developing the skills to improve their well-being in the present and in the future. This chart clearly shows that students' well-being is the result of interactions among four distinct but closely related domains: psychological, social, cognitive and physical. Each dimension can be considered both as an outcome and as an enabling condition with respect to the other dimensions, and ultimately with students' overall quality of life.
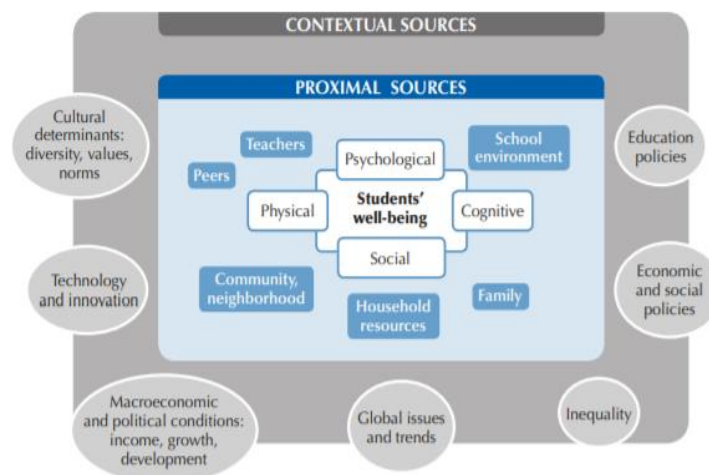
The psychological dimension of student's well-being includes students' sense of purpose in life, self-awareness, affective states and emotional strength. Psychological well-being is supported by self-esteem, motivation, resilience, self-efficiency, hope and optimism; it is hindered by anxiety, stress, depression and distorted views of the self and others.

The social dimension of students' well-being refers to the quality of their social lives. It includes students' relationships with their family, their peers and their teachers, and students' feelings about their social life in and outside of school.

The cognitive dimensions of students' well-being refer to the cognitive foundation's students need to participate fully in today's society, as lifelong learners, effective workers and engaged citizens. It comprises students' proficiency in using academic knowledge to solve problems alone or in collaborations with others, and high-order reasoning skills, such as critical thinking and being able to confront ideas from various perspectives.

The physical dimension of students' well-being refers to students' health and the adoption of a healthy lifestyle. It provides self-reported information on how much physical activity students engage in and on whether they eat regularly.

Students' individual well-being is a result of their interaction with their environment, the material resources they have access to, and students' responses to external opportunities and stress factors. The student, with all of his or her personal characteristics and character strengths, interacts first and foremost with his or her family, teachers and peers, but also with a range of other actors in his or her proximal community. The material and social resources that the student obtains from the family and closer community are, in turn, influenced by the macro-economic social and cultural environment (at the local, national and global levels), and by economic, social and education policies (the external circle in Figure). In a well-functioning system, these three levels – the student's self, his or her close networks and resources, and the macro/ policy level – are interdependent and influence each other as they evolve over time.

REVIEW OF LITERATURE

The COVID-19 outbreak has had a significant impact on the health and well-being of the students. States and national health care systems nonetheless differed significantly in their responses to this COVID-19 outbreak, in terms of the types of protective measures that were implemented, the speed at which these measures were implemented, and the way in which the general population was informed about these measures or penalized if these measures were not respected.

Velde et al. (2021) described the research protocol of the COVID-19 Student Well-being Study, which collected information on well-being and health behaviours in higher-education students during or immediately after the peak of the COVID-19 outbreak. The focus on higher-education students is valuable for several reasons. First of all, the student population is already a risk group for psychosocial problems: study pressure has increased steadily over the last decades, while social support by peers has decreased. Secondly, students were confronted with COVID-19 measures implemented not only by the government but also by their respective higher-education institutions (HEIs). The COVID-19 epidemic quickly led to a complete reorganization

of higher education: in-person lectures were transformed into online classes, internships were (partly) cancelled, thesis planning was adjusted, examination and evaluation forms were changed, and so on. This may have created a lot of uncertainty in the student population. Thirdly, many social activities came to a standstill as well: most student activities were cancelled, and many students moved back to the parental home. Finally, the epidemic also had economic consequences for many students: the stagnation of the economy also meant that the majority of student jobs were terminated immediately, with potentially severe consequences for students who relied on this income to finance their studies or student residences. On top of this, the COVID-19 protective measures implemented by the governments and HEIs did not come into effect immediately. There was a gradual build-up that also may have increased the uncertainty among students.

OBJECTIVES

- To find out the impact of COVID-19 on student well-being.

- To analyse which dimension was mostly affected by Covid-19.

- To analyse the gender-wise share of student well-being affected by COVID-19.

- To find out how much percentage of students living in urban or rural area student well- being was affected the most by COVID-19.

METHODOLOGY

This study is established on the basis of primary data obtained from the survey questionnaire. The target population for the survey was higher education students. A total of 140 responses have been collected for the same.

DATA ANALYSIS

As we can see that student whose health has been fairly good over the last 12 months were 68.4% but still there is a share of students whose health has been not very good which were 26.5 % and students whose health has been not good at all were 5.1% this shows that the majority of the students physical health has been fairly good.
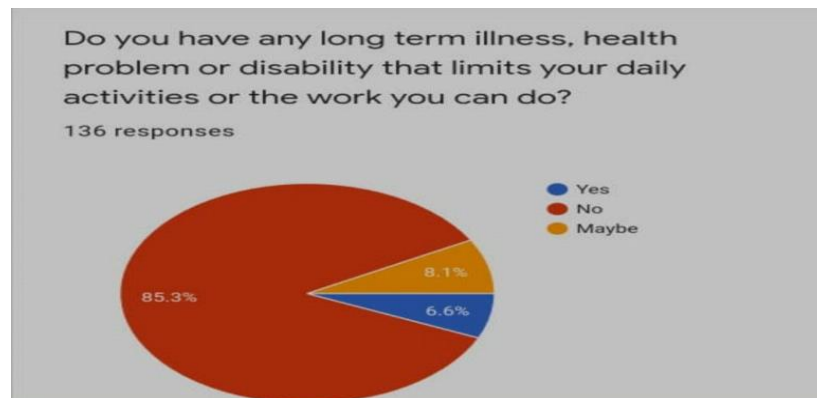
As we can see that most of the students does not have any long-term illness, health problem or disability that limits their daily activities which were 85.3% and still some of the students May have any long-term illness which were 8.1% and some students does have the long-term illness which were 6.6%.

During COVID-19, how would you rate your physical and emotional well being ?

136 responses
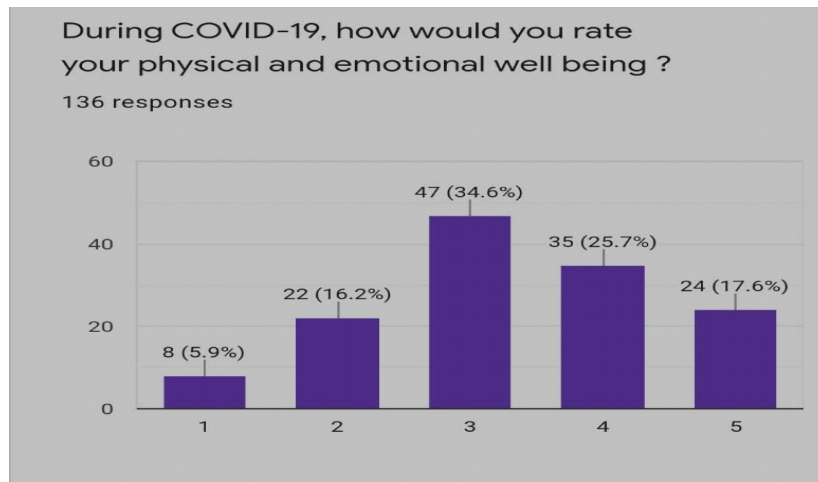
As we can see that covid has severely affected the physical and emotional well-being on the scale from 1 to 5 17.6% students had chosen 5 which means that c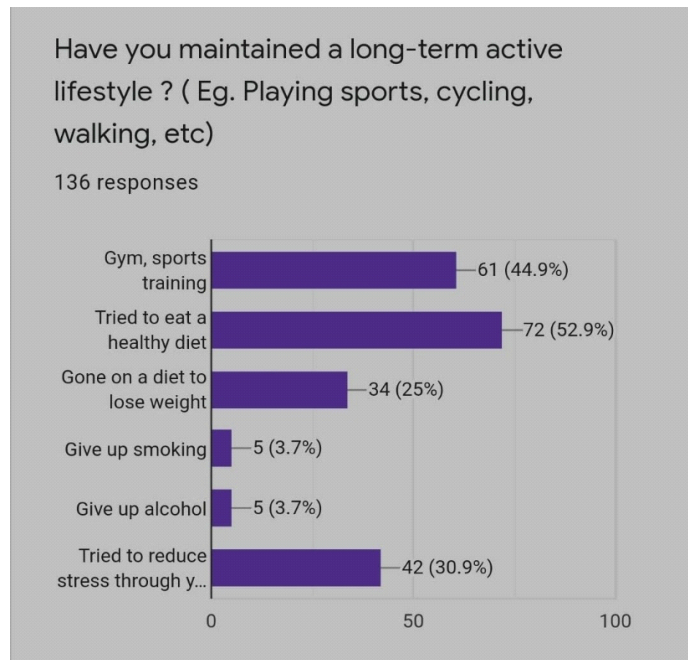ovid has severely affected the physical and emotional well-being. But for some students covid has not affected their physical and emotional well- being who had chosen 1 which were 5.9%. For most of the students covid has somewhat affected their physical and emotional well-being who had chosen 3 which were 34.6%.

How would you rate your physical fitness in comparison with others of your age?

135 responses
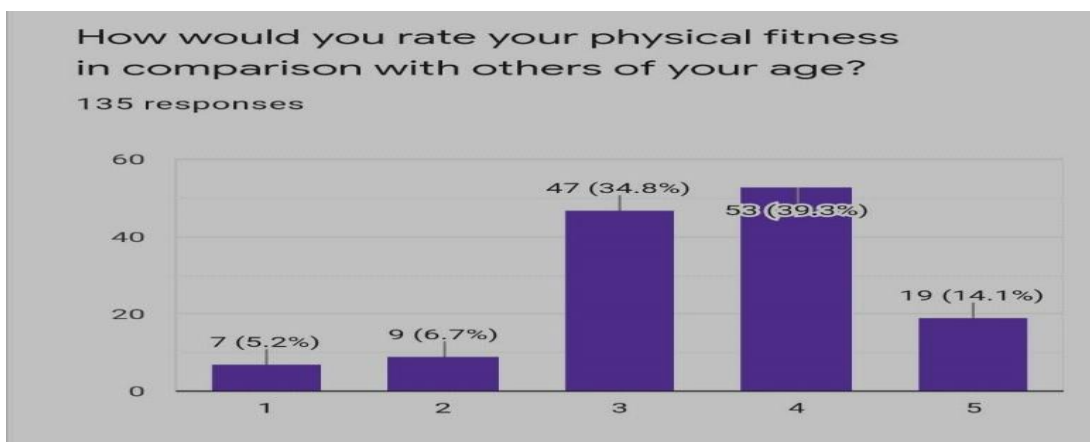
As we can see that the student's physical fitness in comparison with others of their age 14.1% of the students has very good physical fitness and 5.2% of the students has very less physical fitness and most of the students 39.3% has good physical fitness.

Have you maintained a long-term active lifestyle ? (Eg. Playing sports, cycling, walking, etc)

136 responses

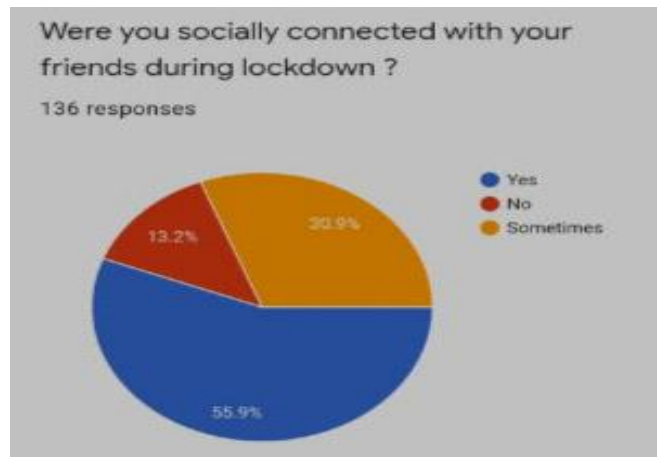| Category	Value
Gym, sports training	61 (44.9%)
Tried to eat a healthy diet	72 (52.9%)
Gone on a diet to lose weight	34 (25%)
Give up smoking	5 (3.7%)
Give up alcohol	5 (3.7%)
Tried to reduce stress through y...	42 (30.9%)

As we can see that most of the students to maintain a long-term active life style tries to eat a healthy diet which were 52.9% and least number of students give up smoking were 3.7% and students who give up alcohol were 3.7%.

Do you feel the covid-19 pandemic has posted a thread to your existence ?

136 responses

- Yes 36%
- No 27.9%
- Maybe 36%
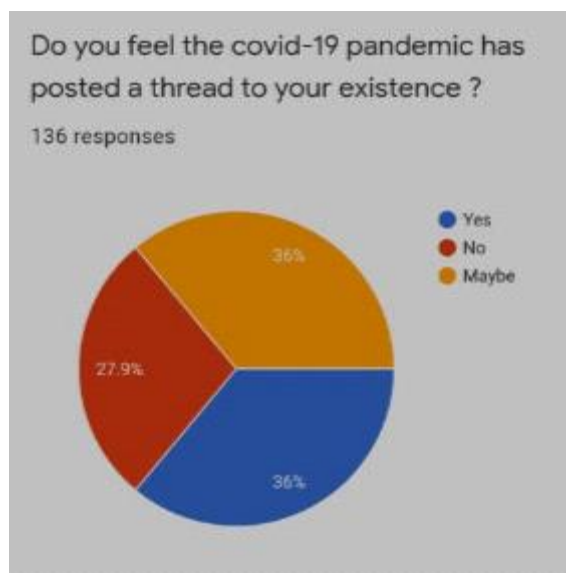
From the above pie chart, we can say that majority of the students do feel that covid-19 has posted a threat to the existence, which is around 36%. the same percentage of students are quite not sure about this. But there are still around 27.9% of students who do not feel that covid-19, has posted a threat to the existence.

Were you socially connected with your friends during lockdown ?

136 responses

- Yes
- No
- Sometimes

13.2%
30.9%
55.9%

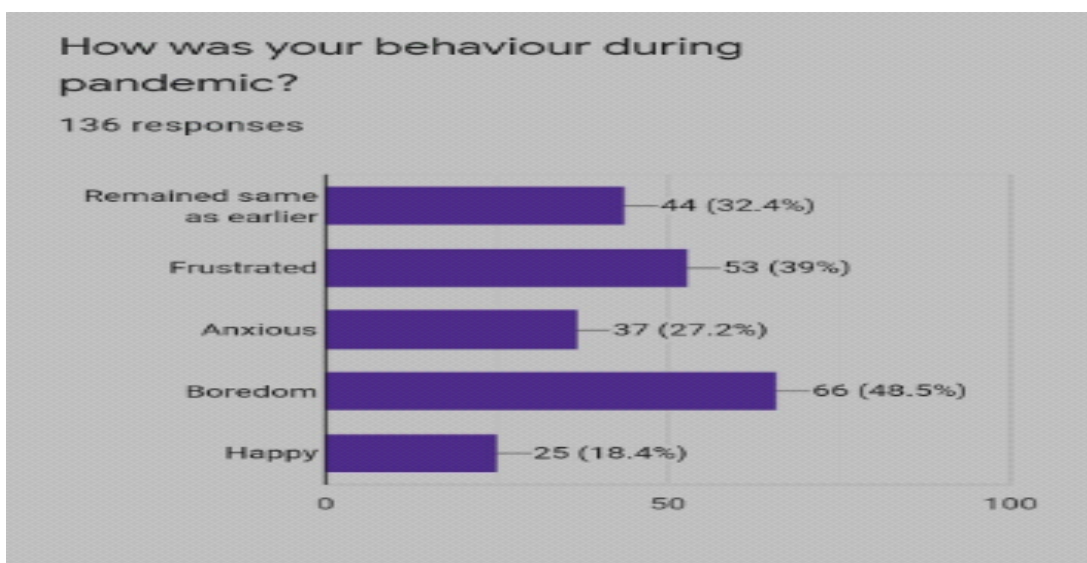We can see that, because of covid-19, majority of the students, which are about 55.9% were socially connected with their friends during the lockdown. around 30.9% of students were partially connected. But there still are about 13.2% of people who were not connected with their friends.

Did you spread awareness about COVID-19 among your peers?

136 responses

- Yes
- No

13.2%
86.8%
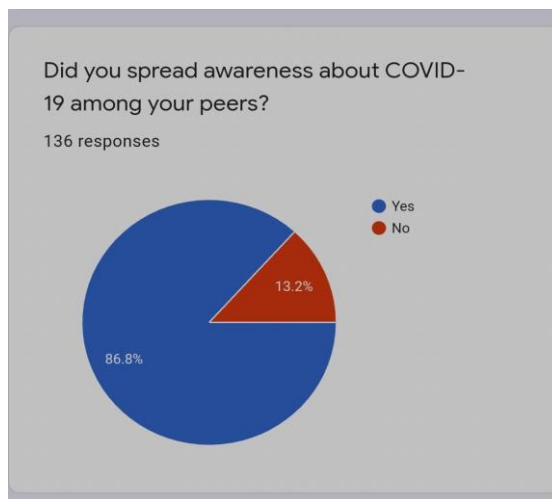
We can see from the above graph, majority of people which are about 86.8% spread awareness about covid-19 among their friends and family. But there still are around 13.2% students who didn't did the same.

How was your behaviour during pandemic?

136 responses

Remained same as earlier —44 (32.4%)
Frustrated —53 (39%)
Anxious —37 (27.2%)
Boredom —66 (48.5%)
Happy —25 (18.4%)

0   50   100

From the above pie chart, we can see that majority of the students which are about 48.5% students faced boredom, around 39% of students got frustrated during t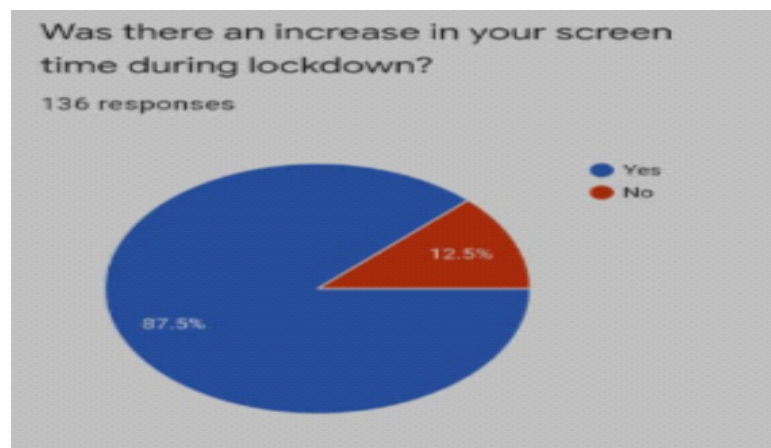he pandemic, 27.2% of students were feeling anxious during this time, around 32.4% student's behaviour didn't change at all or remained as earlier, but there still are around
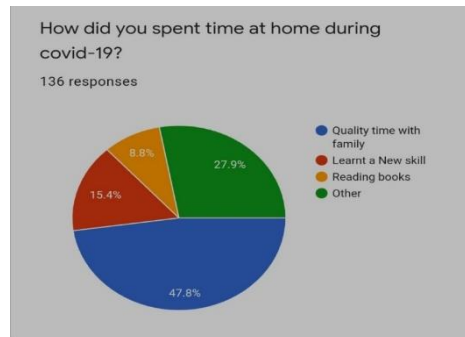
18.4% of students who were feeling very happy during the pandemic.

We can see that around 87.5% of students screen time was increased during lockdown, but there still are around 12.5% of students whose screen time remained the same as earlier.
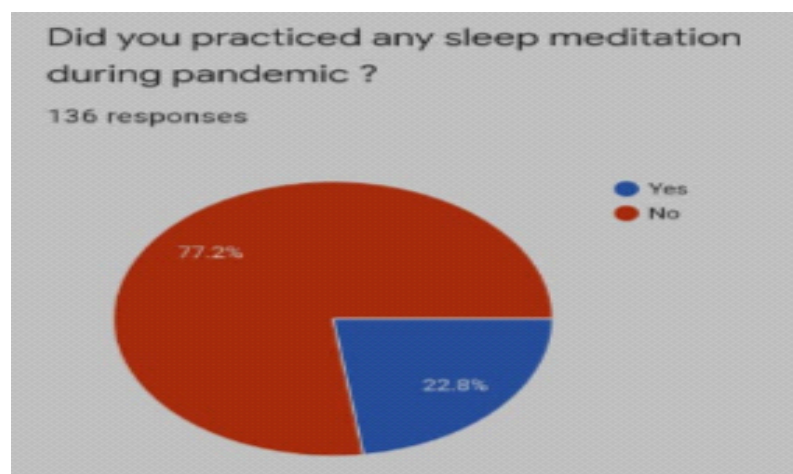
From the above pie chart, it is clear that majority of students didn't take any kind of sleep meditation during pandemic. But there still are around 22.8% of students who did take sleep.

As the above pie chart shows US the majority of students which is 47.8 % spend quality time with their family during the Quarantine and 15.4 % of them utilised the time in learning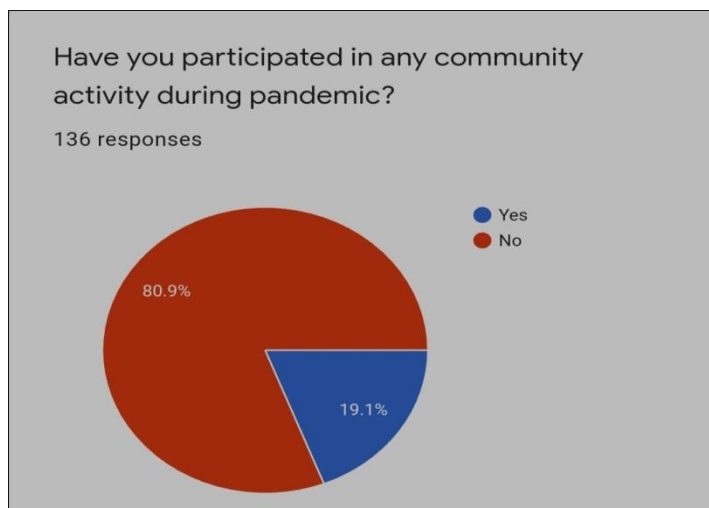 new skills, some 8.8 % of them read books to make use of their time and the other 27.9% of them employee themselves in some other activity.

During the pandemic majority of students didn't involve themselves in any community activity as the above pie chart shows us 80.9 % of students did not participate in any community work but 19.1% of them behaved responsible and participated in community activities to work for society.
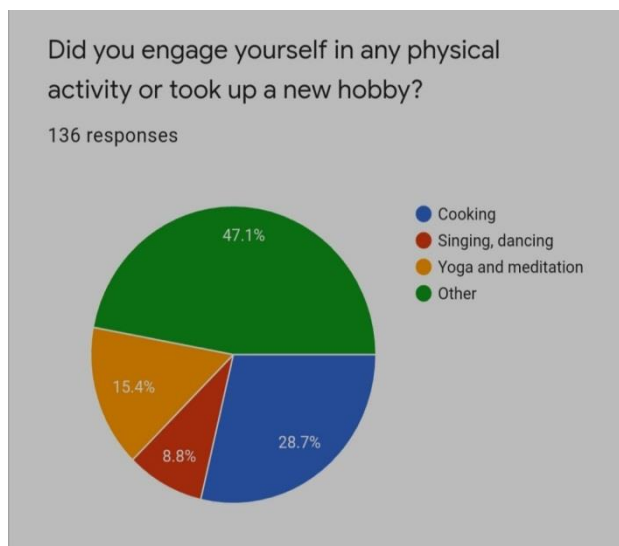
Through the above pie chart, we can say a that student tried to engage themselves in some physical activities at home to not feel low such as cooking dancing practicing yoga and meditation, etc. 28.7% of students take part in cooking and 15.4 % of them practice yoga and meditation while 8.8% of students go in for singing and dancing the majority of students were gaining other activities.

Did you opted for any online course to make good use of your time?

136 responses

- Yes
- No

46.3%

53.7%
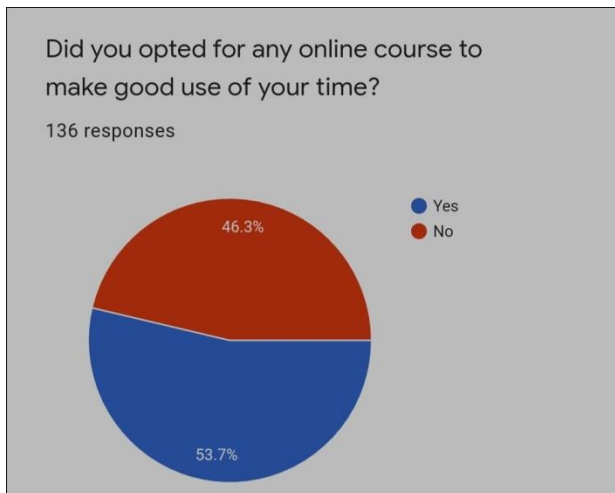
From the above graph, we can say that around 53.7% of students tried to make good use of their time opting for an online course, whereas around 46.3% of students did not opt for the same.

Did you face any issue with the online lectures?

136 responses

- Yes
- No
- Sometimes

39%

9.6%

51.5%
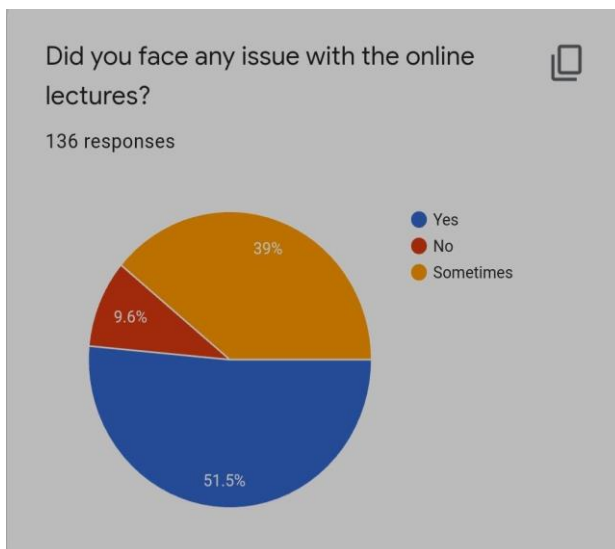
From the above pie chart, we can see that majority of the students which is around 51.5% and around 39% of students faced issues with online classes, but there still are around 9.6% of students who sis not faced any kind of issues.

Did you feel tired or had little energy while online classes during Covid-19?
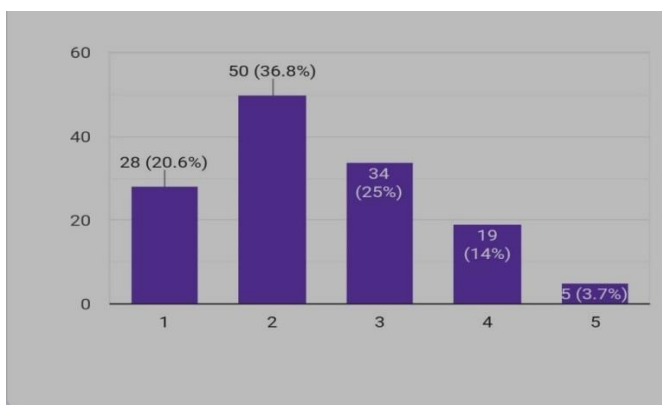
As we can see that student who felt tired during Covid-19 on the scale from 1 to 5. 3.7% students had chosen 5 which means that these students were severely tired taking online classes during covid. But some students are not tired who had chosen 1 which are 20.6%. Some students were somewhat tired of online classes during covid who had chosen 3 which are 25%.

Are you facing trouble in focusing on your studies?
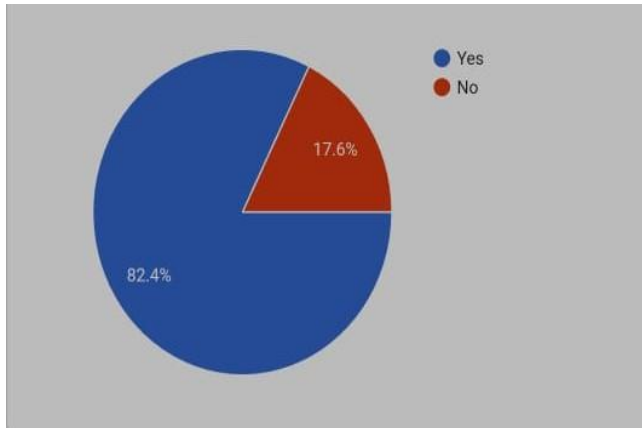
As we can see that most of the students are facing trouble in focusing on their studies during covid which are 82.4% and few students are not facing trouble focusing on their studies which are 17.6%.

Was there a change in your sleeping pattern during covid-19?
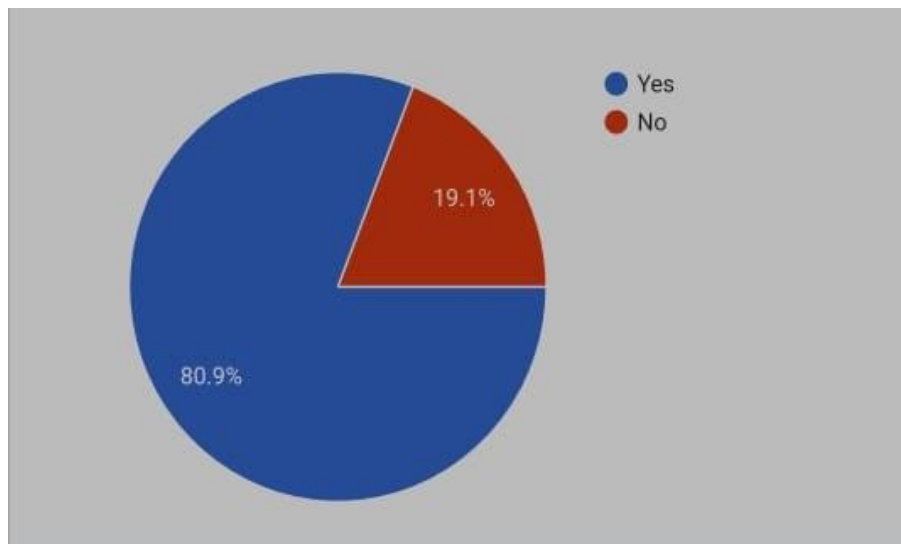
As we can see that most of the students faced a change in their sleeping pattern during covid-19 which are 80.9% and a little number of students didn't find a change in their sleeping pattern which are 19.1%.

Did you get easily annoyed or irritated during lockdown?
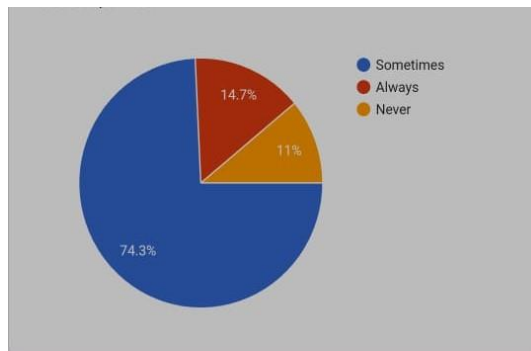
As we can see that most of the people sometimes get easily annoyed or irritated during lockdown which are 74.3% and a few people always get irritated which are 14.7%. And very a smaller number of people never get easily annoyed or irritated during lockdown which are 11%.

Was there an increase in your academic work during covid-19?
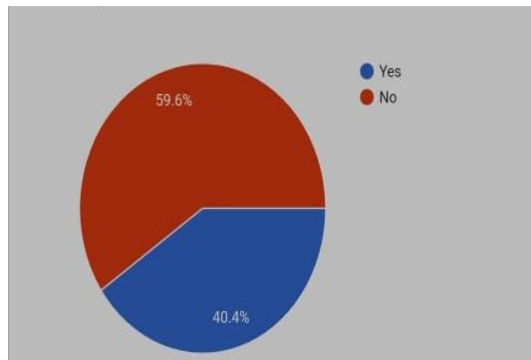
As we can from the above pie chart there was not an increase in most of the people's academic work during covid-19 which are 59.6% and 40.4% students faced an increase in their academic work during covid-19.
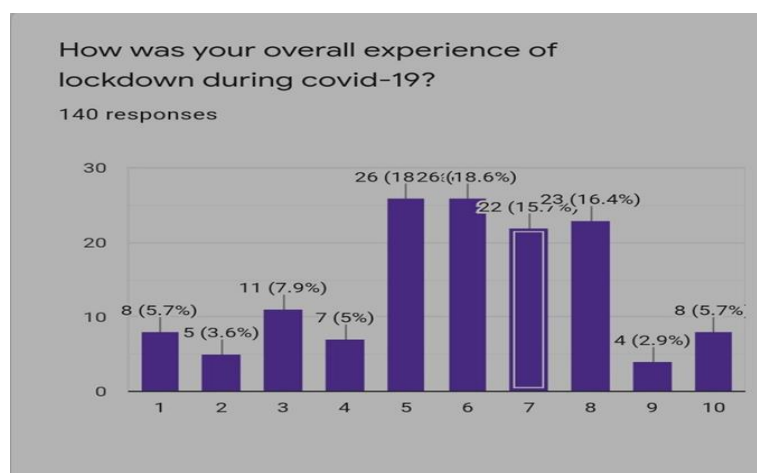
The above graph shows the overall experience of students of lockdown during covid-19, which was not very bad, as the majority of them rated it as average.

QUESTIONNAIRE

Q. Age

Q. Gender

- Male
- Female

Q. You live in

- Urban area
- Rural area

Q. Did you have COVID-19?

- Yes
- No
-

Q. Over the last 12 months would you say your physical health has been?

•Very good

 •Fairly good

 •Not very good

•Not good at all

Q. Do you have any long-term illness, health problem or disability that limits your daily activities or the work you can do?

•Yes

•No Don't know

Q. During COVID-19, how would you rate your psychological or emotional well-being?

•Very good

•Good

•Alright

•Bad

•Very bad

Q. How would you rate your level of physical fitness in comparison with others of your age?

• Very good

• Good

• Alright

• Bad

• Very bad

Q. Have you maintained a long-term active lifestyle? (E.g., Playing sports, cycling, walking, etc)

Please tick all that apply

•Followed a fitness programme

•gym, sports training etc.

•maintained a long-term active lifestyle, e.g., playing sport, cycling, walking etc.

•recently taken up a more active lifestyle tried to eat a healthy diet

•gone on a diet to lose weight

•tried to reduce stress levels

•tried to reduce or give up smoking

•tried to reduce or give up drinking alcohol

(Other please specify)

Q. Do you feel the COVID-19 pandemic has posed a threat to your existence?

- Yes
- No
- Maybe

Q. Were you socially connected with your friends during lockdown?

- Yes
- No
- Sometimes

Q. Did you spread awareness about COVID-19 among your peers?

- Yes
- No

Q. How was your behaviour during pandemic?

- Remained same as earlier
- Frustrated
- Anxious
- Boredom
- Happy

Q. Was there an increase in your screen time during lockdown?

- Yes
- No

Q. Did you practice any sleep meditation during the pandemic?

- Yes
- No

Q. How did you spend time during COVID-19?

- Learnt a new skill
- Reading books
- Quality time with family
- Others

Q. Have you participated in any community activity during the pandemic?

- Yes
- No

Q. Did you engage yourself in any physical activity or took up a new hobby?

- Cooking
- Singing, dancing
- Yoga and meditation
- Other

Q. Did you opt for any online course to make good use of your time?

- Yes
- No

Q. Did you feel tired or have little energy in online classes during COVID-19?

- Yes
- No

Q. Are you having trouble in concentrating on studies?

- Yes
- No

Q. Was there a change in your sleeping pattern during COVID-19?

- Yes
- No

Q. Do you get easily annoyed or irritated during lockdown?

- Yes
- No

Q. Was there an increase in your academic work during COVID-19?

- Yes
- No

Q. Did you face any issues with the online lectures?

- Yes
- No

Q. How was your overall experience of lockdown during COVID-19?

- Very bad – 1
- Very Good - 10

The total number of responses received was 140, out of which 84 were females and 56 were males. After careful selection, four questions as a representative of each dimension of well -being were selected. These were:

PHYSICAL

Over the last 12 months would you say your physical health has been_____?

a: fairly good

b: not very good

c: not at all good

68.7% of female's health was fairly good and around 26.5% of female's health was not very good and but there still are approximately 5% of the females whose health was not at all good.

70.2% of male's health was fairly good and around 24.6% of male's health was not very good and but there still are approximately 5.3% of the males whose health was not at all good.

SOCIAL

Were you socially connected with your friends during lockdown?

a: sometimes

b: yes

c: no

34.9% of females were sometimes socially connected with friends, around 53% of females were socially connected with friends, but there still approximately 12% of females who were not socially connected with friends.

26.3% of males were sometimes socially connected with friends, around 59.6% of males were socially connected with friends, but there still approximately 14% of male who were not socially connected with friends.

COGNITIVE

Did you spread awareness about covid—19 among your peers?

A: yes

B: no

Around 80.2% of females spread awareness about covid-19 whereas around 19.8% of females did not do the same.

100% of males spread awareness about covid-19 among their peers.

PSYCHOLOGICAL

Did you feel easily annoyed or irritated during covid-19?

   a. Sometimes
   b. Always
   c. Never

16.9% women always feel annoyed or irritated and 74.7% women sometimes feel annoyed or irritated 8.4% women never feel annoyed or irritated during covid-19.

17.5% men always feel annoyed or irritated and 68.4% men sometimes feel annoyed or irritated 14% men never feel annoyed or irritated during covid-19.

CONCLUSION

The physical well-being of students was not affected much but, male students had higher level of physical well-being than females.

The social well-being of students was not affected much but, male students had higher level of social well-being than females.

The cognitive well-being of students was not affected much but, male students had higher level of cognitive well-being than females.

The psychological well-being of students was affected much as, male students had higher level of psychological well-being than females.

Male students have higher level of student well-being than female students.

The overall well-being which was affected out of four dimensions which were: physical social cognitive psychological. Psychological well-being was affected.

REFERENCES

1. OECD (2017), "Students' well-being: What it is and how it can be measured", in *PISA 2015 Results (Volume III): Students' Well-Being*, OECD Publishing, Paris, https://doi.org/10.1787/9789264273856-6-en.
2. OECD (2017), "Wealth, social status and inequalities in well-being", in *PISA 2015 Results (Volume III): Students' Well-Being*, OECD Publishing, Paris, https://doi.org/10.1787/9789264273856-14-en.
3. Cyrus S (March 10,2020). Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic. Commentary
4. WHO? Coronavirus disease (COVID-19) pandemic. (2020). Accessed: March 20, 2020: http://www.who.int/diseases/movel-coronavirus-2019
5. UNESCO.COVID-19 Educational disruption and response. (2020). Accessed: March 25,2020:http://en.unesco.org/themes/education-emergencies/coronavirus-school-clousers.
6. Velde et al. (2021). "The COVID-19 international student well-being study". *Scandinavian Journal of Public Health (Volume 49, Issue 1)* https://journals.sagepub.com/doi/pdf/10.1177/1403494820981186

CHAPTER 8

STUDY OF PSYCHOLOGICAL AND CONSUMPTION BEHAVIOUR OF INDIAN MIDDLE-CLASS HOUSEHOLDS DURING COVID-19

Abstract

India's lockdown and the long-term effects of the covid-19 pandemic will severely hurt India's middle-income households that are expected to see a significant decline in spending. As we are observing a little slowdown in this COVID situation, after the end of this, the current generation, the ones to follow, will look at the world as pre-post COVID. This is purely because the entire human race, across the globe is forced to make lifestyle changes and adapt to life in the company of this pandemic. The same will not be restricted only to the personal sphere, but also impact the entire economy. Besides, its impact on a highly social culture like India, would be economic as well as social and psychological.

Middle class is the stratum that builds our economy and resiliently works towards having a safe and secure future. It has always been considered as the backbone of any economy and has a crucial social and political impact. They aspire for a better livelihood and can prove a dynamic force of change. Thus, the focus of this study remains the middle-class income group of the country.

In this study we intend to examine the impact the consumption behaviour of the Indian middle-class households have had on the economy during the pandemic COVID-19. This study also intends to examine the impact of the pandemic on psychological and social wellbeing of the people.

The study is based upon primary data collection (online survey and telephonic conversations). It is based on various important socio-economic variables like the expenditure, income, job security, travel, social-meetings, consumption pattern, medical contingencies etc. The data is analysed using appropriate tools like chi-square test and charts, tables, diagrams based upon descriptive statistics.

The results have shown a shift in expenditure pattern in commodities like hygiene and safety items, medicines, gadgets etc though the consumption pattern of grocery have not shown a significant change during and post lockdown period. The research have shown the shift of preference in terms of degree and direction in middle class consumer behaviour. Along with the above the change is psychological behaviour has also been observed in the targeted group of respondents.

Introduction

In 2020 the whole world including India witnessed an unprecedented shock due the Covid-19 pandemic. Virus bowled the human lives, leading to lockdowns, economic standstill and for middle and lower socioeconomic class total loss of income. Slowly the situation is coming out of shock but a change in psychological and consumption behaviour of middle class is visible. For them, the world now is pre and post Covid.

Complete lockdown made people dazed. The market conditions were unique showing impact of supply side disruptions and consumer expenditure solely for essentials.

Unavailability of labour and transportation led to severe shortage of milk, vegetables, and other food items. A quick response on part of government improved supply side and actions by religious bodies, social service organisations and even concerned households especially middle class reduced the agony for less privileged. On one side this concern of middle class and on other side limiting expenditure to essentials was commendable in the times of crisis.

The Indian middle class works with a psychology of a safe and secure future and is the backbone of the economy. Before Covid-19, Indians with a highly social culture had enjoyed sizeable consumption with friends and family. In recent times with better incomes expenditure done on luxury and leisure became high. Indian shopping behaviour was special in the sense that it showed full involvement.

Before Covid-19 for purchasing many people went together to shop and bargain. With lockdown and social distancing making people accept bio-bubble a tilt towards technology and online buying was forced. Now with more and more normalization of life, the change of postponing leisure and luxury, buying from home and fear psychology of risk to livelihood and health shall persist or old culture shall again prevail is the question.

With the rapid social, structural, and economic transformation of India in the last few years the Indian middle class has been known for their preference towards convenience foods mainly ready to eat packaged foods. This trend and shift in their consumption behaviour was considered a proof of the rising living standards and westernization in India. This change in allocation of the average household consumption expenditure from basic necessities in favour of these unessential items only escalated during the earlier duration of the pandemic but as longer lockdowns were enforced preference for home cooked meals.

In the beginning of the pandemic consumers resorted to panic buying of groceries which resulted in empty shelves at the stores. Many e-commerce websites also put a limit on number of items purchased. Lack of confidence in the supply chain, breakdown of transportation, reduced incomes, job insecurity fuelled this behaviour.

In the last few years, the Indian middle class has transformed and changed its preference towards convenience foods mainly ready to eat packaged foods. This trend and shift in their consumption behaviour was considered a proof of the rising living standards and westernization in India. This changed behaviour has raised expenditure allocation for household consumption. Mindset of healthy home cooked food transformed to convenience and taste satiety. Health benefits, immunity system, exercise, hygiene, good night sleep etc. became household words. Yet human habits are hard to die, and once lockdown was over and normalcy and return to work started preferences are again tilting towards the convenience category.

It is clear that pandemic has caused deep rooted impact on middle class mind. Obvious impacts are on eating habits, food choice, grocery purchases, health consciousness but there has been subtle impact on all aspects of life. It is to be seen what shall revert and how the middle class will adapt to new mix.

Objectives of the study:

The present research aims at achieving following objectives:

1. To analyse the consumption behaviour of the middle-income group households of India during pandemic COVID-19.
2. To examine the psychological changes experienced by individuals during pandemic.

REVIEW OF LITERATURE

Our objective of this review of literature is to provide a context for interpretation of primary data specifically surveyed for this research to study the changes in the consumption pattern and psychological behaviour of the middle-class of our country pre and post lockdown period. After reading suitable journal articles, research papers and e-content found the following studies suitable for our research.

(Kamble, 2020) in in his research paper presented the changing lifestyle of Indians during the lockdown period as well as the changes in routine of the people of India. He also displays how Indians are trying to combat with such crisis.

(Bansal, Sharma, & Gautam, 2020) (Chauhan & Shah, 2020) in their paper explained that the transformed condition has forced the use of digital process which can possibly become permanent in near future. Consumers are spending only on the essential items rather than spending on restaurant, luxury goods, entertainment services, and this form of expenditure will continue even after the end of lockdown. They observed that, people have become more aware of health and hygiene products, healthy organic food, medical needs, fitness, medical insurance, education etc.

(Tamilarasi & Cheriyan, 2020) in their paper found that GDP of India has shown a declining trend. They said various factors such as spending patterns, travel habits, dependence of other nations, lifestyles etc. have come to a halt which in turn disallowed revenue generation of the dependent sectors.

(Bansal, Sharma, & Gautam, 2020) in their paper determined the effect of pandemic situation on the Indian economy and on the GST. The study concluded that there has been a significant loss of revenue for the railways and the tourism sectors in the country.

(Sharma & Sharma, 2020) in their paper found that though lockdown was required in order to fight against corona virus but the cost to the weaker section of society and the ones who do not have a habit of savings was much higher, especially, in terms of food security. The migrant labour came across lots of hazards far away from their native place and also after returning back home. The study suggested that the government must take responsibility for basic needs of survival.

(Lee, Sahai, Baylis, & Greenstone, 2020) in their paper found that there has been a reduction in employment of people affecting their income. After few days into lockdown the labour class and weaker sections of the society living in Delhi were forced to depend completely on the food distributed by the government for their survival.

(Narayanan & Saha, 2021) found that the prices of the essential goods have hiked and are not in a position to come down due to the restricted transport in the country. Prices of grocery items and vegetables had the most terrible impact. They found serious impact on the food security of the poor people, loss of jobs, huge unemployment, and a situation of uncertainty in the country.

RESEARCH METHODOLOGY

This chapter gives a brief design of how the research was conducted. It includes the design of questionnaire, conduct of survey, and methods to analyse the data collected. An online survey was conducted through an online platform (Google Forms), using the virtual snowball nonprobability sampling technique, utilized in similar studies. Its primary aim was to collect data regarding economic, consumption pattern, lifestyle and the behavioural and emotional impact related to the COVID-19 pandemic on Indian Middle-Class households during and post lockdown periods (the specific time covered was between March 2020 to Dec 2020).

The survey was open to adult (18-65 years old) participants who were physically present in India during the lockdown and only their responses were considered for the analyses. The sample size for the research was 160. We received around 188 responses out of which we found 160 relevant for our study.

The structured questionnaire included 25 questions was designed, divided into three sections:

1) **Personal and general data** – This section included 4 questions: Number of family members, earning members, monthly income, percentage of income spent. These questions were used to collect the data of the people who came under the bracket of the middle-class households and further, to obtain data on the changes in behaviour of households regarding savings.

2) **Consumption information** – This section included 12 questions that assessed how the consumption pattern of the Indian households changed during the lockdown period (March to July 2020) as well as during the subsequent unlocks (August to December 2020). The data on how the consumption of the households was distributed among various items (fresh food, packaged food, dairy, bakery, hygiene items, apparels, etc.) during and post lockdown period and what were the changes (increased, decreased, remained same) in the proportion of income that was spent on these items, was collected. Any changes in the shopping behaviour of the consumers regarding the price of commodities, changes in prioritisation of basic goods before luxury goods, changes in preference of the mode of shopping, etc. were covered. Finally, the general change in ideology of the people regarding their financial goals in the long run were noted.

3) **Psychological information** – This section comprised of 9 questions that assessed the changes in lifestyle, eating habits changes, psychological and emotional aspects such as anxiety, depressed mood, level of concern, emotional eating, insomnia, dietary changes, as well as the perception of diet control and appetite caused by the social isolation during the pandemic period.

4) **Tools used -** The data obtained from the online survey of google forms was turned into descriptive statistics of pie charts, bar graphs and percentage bar graphs to facilitate the process of analysis and interpretation as well as allow a

better understanding of the findings of the study. The data collected from the form was organized and presented in form of the figures with the help of Microsoft Excel software. In a few questions based on the need, Chi squared test of independence was applied.

Chi square test of Independence was performed on the data to know whether the results of the ranking that was done by the households in our survey depended on the factor of Pre and Post lockdown situation.

Analysis of Consumption and Psychological Behaviour of Indian Middle-Income Households During Pandemic

Introduction:
   This chapter comprises the results obtained from the survey conducted. There was a significant shift in the consumption pattern of the middle- income group households during the pandemic because of the salary cuts, raised unemployment, increased expenditure of medicines and health and hygiene items etc. This chapter includes the discussion of results interpreted after analysing the data collected through primary survey.

Discussion:

2.1 General Information:
2.1.1. Number of Family Members:
The maximum (30.1%) population has 4 members in their family. Following this, 28.9 % of the population have 5 members in their family. Thus, the maximum number of people are living in nuclear or small families. Data showed a minimum population with a joint or big family. It showed that only 4.8% of people have 8 or more members in their family.
2.1.2. Number of Earning Family Members:
Maximum (41%) responses revealed 2 earners in the family. Following this, 34% of the people had only one earning member in the family. Hence, it can be seen that the income burden among maximum families falls on a single or 2 earners. This also suggests that for big families and one or few members earning, the proportion of income spent is high.

Table 1: Distribution of income.

Average Monthly Income	Percentage
Below 30K	2.4
30K- 1 Lac	32.5
1 Lac- 3 Lac	30.1
3 Lac- 5 Lac	16.9
5 Lac- 8 Lac	7.2
Above 8 Lac	10.9

Moreover, the monthly income of the family of the majority (32.5%) is between Rs. 30000-100000. Following this, the average monthly income of a family of 30.1% population is between Rs. 100000- 300000 (as shown in Table 1). This shows that maximum people earn below Rs. 300000. Hence, combining the analysis for number of family members and number of them earning, along with the average monthly income, it reveals that major population have small families and at the same time, there are only few earners whose incomes come under low-income band and thus have a higher expenditure burden in the sense that they spend a higher proportion of their income on consumption.

Consumption Pattern:

The data revealed that 53% of the population spends 25-50% of their income on consumption following which 30.1% of the population spends 50-75% of their income on consumption. Moreover only 12% of the population spend 5-25% of their income.

Table 2: Percentage of income spent on consumption.

Percentage of Income Spent on Consumption (%)	Frequency (%)
5-25	12.0
25-50	53.0
50-75	30.1
75-100	4.9

From Table 2, we can derive two conclusions, firstly; Majority of the population has low average monthly income and hence most of their income is spent for consumption; secondly; There are few income earners in the family relative to the size of the family which leads to a higher proportion of income to be spent on consumption.

Also, it is clearly visible that 12% of the population is either rich in terms of monthly income or have more income earners relative to the size of the family which leads them to spend a lower proportion of their income on consumption.

Changes in Consumption Pattern:

As shown in the table below, for the majority (43.4%) of the people, the consumption was restricted to basic needs only. This may hold true for people with low incomes and/ or large families and/or few income earners compared to the numbers of members in a family.

Table 3: Changes in consumption pattern.

Changes in Consumption Pattern	Percentage
Restricted to Basic Needs	43.4
Remained Same as Earlier	21.6
Consumption Reduced but not Drastically	20.5
Consumption Increased	14.5

For 21.6% of the population, the consumption remained same as earlier and this may hold true for people with high incomes at a level which did not affect their consumption during lockdown and period of depressed economic activity. This may also hold true for the 20.5% people whose consumption reduced but not drastically, but the small reduction may be due to lower incomes than the former.

Consumption increased only for 14.5% of the population and this may be due to increased spending on hygiene goods along with the usual expenditures. Also, another reason could be the presence of more people at home due to lockdown situations.

Table 4: State of consumption post lockdown.

State of Consumption Post Lockdown	Percentage
Returned to Normal	54.2
Increased but have not Revived Normal	22.9
Cost Cutting Continued	22.9

It is clearly visible in Table 4, that for the majority (54.2%) of the population, the consumption pattern has returned to normal while for 22.9%, it has increased and not revived to normal and for the rest 22.9%, cost cutting continues.

Consumption pattern may have returned to normal due to unlock and normal working of businesses which led to income generation and thus more consumption. The cause for increased consumption and its inability to return to normal can be loss of jobs and low incomes along with more people at home that are consequences of lockdown. This cause also holds true for people who continue to cut costs.

From Table 5 below, we can see that, for as high as 90.4% people, saving more is the financial goal while for only 9.6% is the financial goal more consumption. This suggests that people anticipate poor economic conditions in the future and hence are bound to save. Moreover, people with lower income save to compensate for the loss of savings that occurred during lockdown.

More consumption may have taken place for those people whose income earnings have revived to normal or have increased due to employment or other reasons.

Table 5: Financial goals post lockdown

Financial Goals Post Lockdown	Percentage
More Savings	90.4
Consumption	More 9.6

Changes in the distribution pattern of income on various commodities:

To observe changes occurred in the distribution pattern of income on different commodities, data was collected based upon goods like pulses, packaged food, bakery items, perishable goods, hygiene, etc. It was seen that pre - lockdown as well as post - lockdown pulses was the most bought item as it is a basic need item and after that medicines was the item that the households preferred to spend their income on. observed by people. There was also a change in the category of goods that people were buying, post lock down there was a sharp decline in the buying of luxury items as well as furniture and a major increase was seen in hygiene and sanitary products because of the COVID-19 precautionary measures that were buying; pre lockdown and well as post lockdown grocery items were the top priority for a middle class household, however commodities of hygiene which were given the least importance, after the lockdown became the second most important category of items to be purchased and luxury goods were given the least priority out of all post lockdown.

Figure 1: Buying preference of households.
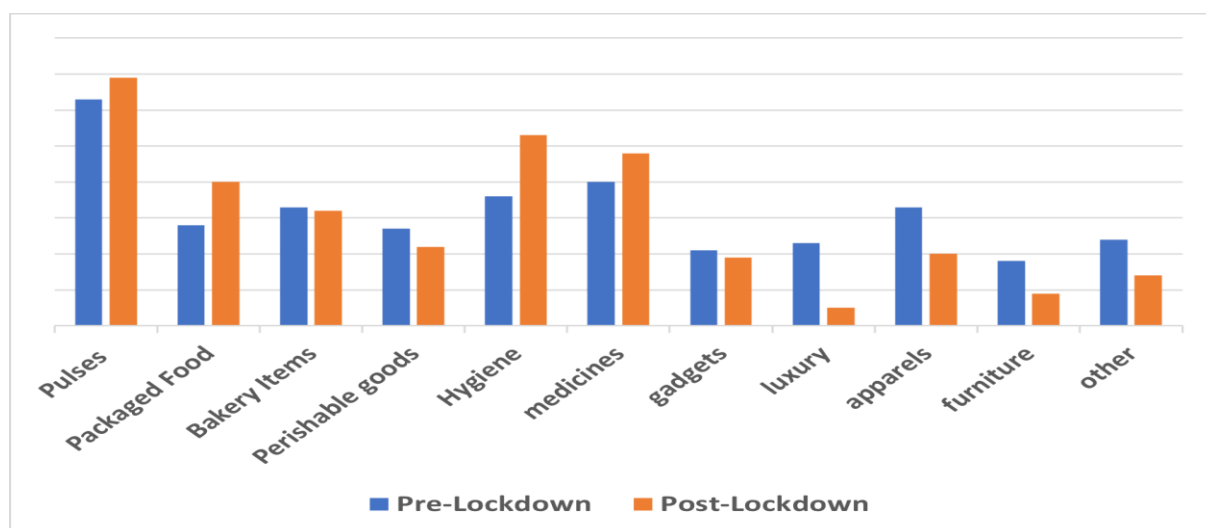
Table 6: Rank of type of commodities.

Rank	Pre-Lockdown	Post-Lockdown
1	Grocery	Grocery
2	Medicines	Commodities of Hygiene
3	Luxury Goods	Medicines
4	Appliances	Appliances
5	Commodities of Hygiene	Luxury Goods

Chi square test of Independence was performed on the data to know whether the results of the ranking that was done by the households in our survey depended on the factor of Pre and Post lockdown situation.

I. **In the case of Grocery items,** the relationship between the variable of Pre and Post lockdown was found to be insignificant, X^2 (4, N=160) = 1.395, p = 0.844. Hence, the ranking that was done by the households did not depend on the situation of lockdown as grocery being a basic necessary commodity was being prioritised before as well as after the lockdown.

Table 7: Chi Square contingency table for Grocery Items

Grocery Items	1	2	3	4	5	Total
Pre	46%	54%	59%	53%	50%	50%
Post	54%	46%	41%	47%	50%	50%
Total	100%	100%	100%	100%	100%	100%

II. **In the case of Commodities of Hygiene,** the relationship between the variable of Pre and Post lockdown was found to be significant, X^2 (4, N=160) = 58.827, p < 0.00001. Hence, the ranking that was done was highly dependent on the situation of lockdown that the households faced, and this type of dependence can be explained by the fact that after COVID-19 pandemic use of commodities of Hygiene was recommended as a precautionary measure.

Table 8: Chi Square contingency table for Commodities of Hygiene

| Commodity of Hygiene	1	2	3	4	5	Total
Pre	10%	38%	65%	72%	88%	50%
Post	90%	62%	35%	28%	12%	50%
Total	100%	100%	100%	100%	100%	100%

III. **In the case of Luxury items,** the relationship between the variable of Pre and Post lockdown was found to be significant, X^2 (4, N=160) = 52.902, p < 0.00001. Hence, the ranking that was done by the households depended on the situation of lockdown and as the income and consumption of households declined after the lockdown it was seen that consumption or expenditure on luxury items was given the least priority by the households.

Table 9: Chi Square contingency table for Luxury items

Luxury items	1	2	3	4	5	Total
Pre	81%	68%	65%	25%	6%	50%
Post	19%	32%	35%	75%	94%	50%
Total	100%	100%	100%	100%	100%	100%

Another thing to note was that maximum people decreased their consumption in takeaway and bakery items and packed food. In case of dairy items, the consumption remained the same and in case of fresh food and basic food the consumption increased. In the case of takeaway, bakery and packaged food items, the consumption decreased maybe because of people's fear that these items might be contaminated with virus or maybe because they did not want to consume unnecessary products which were not very essential. Moreover, consumption increased in case of fresh food and basic food as food is obviously the most vital item and these food products were essential for every human being and panic buying was a common human response to the crisis which was not just caused by food shortage but also by a fear of simply running out of food.

Figure 2: Changes in consumption of type of food.
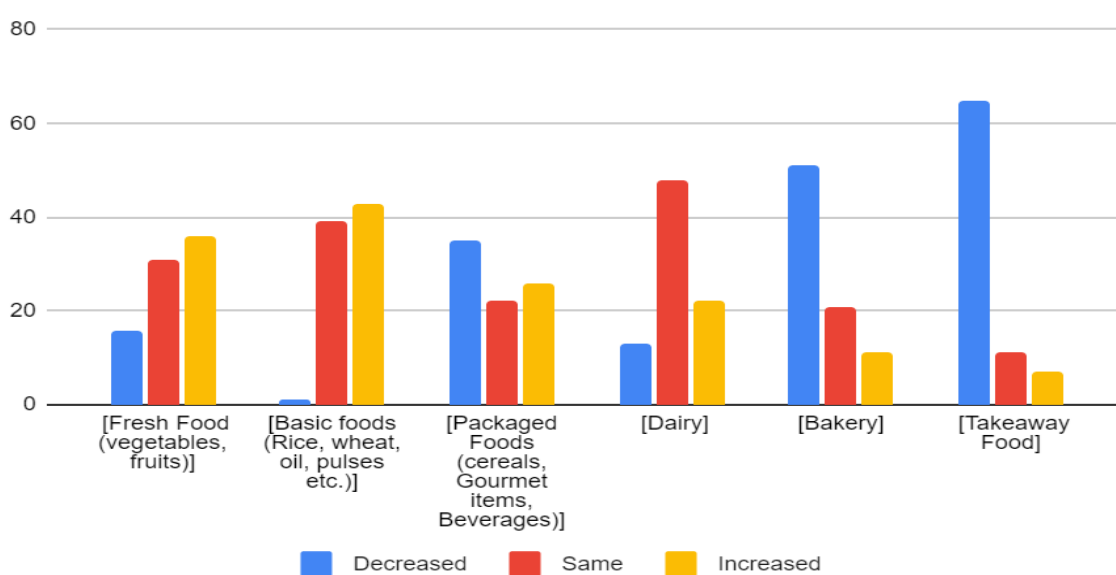
In regard to people's perception of prices data from table 10, revealed that maximum people (61.4%) witnessed the prices higher than the usual and 30.1% did not witness any significant change in the usual prices. Moreover only 8.4% as per the data witnessed a significant decrease in the usual prices of commodities. COVID-19 pandemic along with the associated lockdowns, mobility restrictions and physical distancing rules did not just lead to significant increase in unemployment and considerable income losses for many people but also altered the spending patterns of consumers and the level of price inflation they faced which resulted the majority to witness a significant increase in usual price level.

Table 10: Perception of people towards the price level of commodities.

Perception of People Towards Prices	Percentage
Increased	61.4
Decreased	8.5
No Change	30.1

2.2.3 Changes in shopping behavior:

Majority of people (54.2%) as can be seen from figure 3, stocked up the products they would not have otherwise leading to increase in demand which caused shortage of food items in the nearby local stores which ultimately would have made the 33.7% people experience shortages at stores they usually bought goods from and made the 21.7% people shop in stores they usually did not otherwise shop from.

Figure 3: Impact on shopping behaviour.
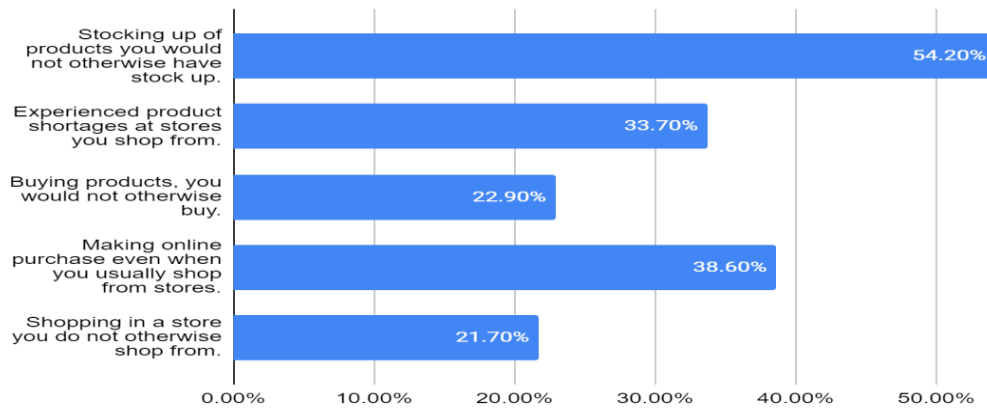
This shortage of products experienced which was a result of increased demand and reduced supply made 22.9% people buy goods they would not have otherwise. 38.6% people also started making online purchases to avoid any kind of physical contact to reduce the spread of virus.

Majority's (75.9%) shopping preferences changed during lockdown as some started buying from their nearby stores, some started purchasing goods online and some started visiting the less crowded stores to minimize the physical contact which would have otherwise increased the spread of COVID-19 Virus.

**Figure 4: Changes in the methods in which household bought their commodities.**
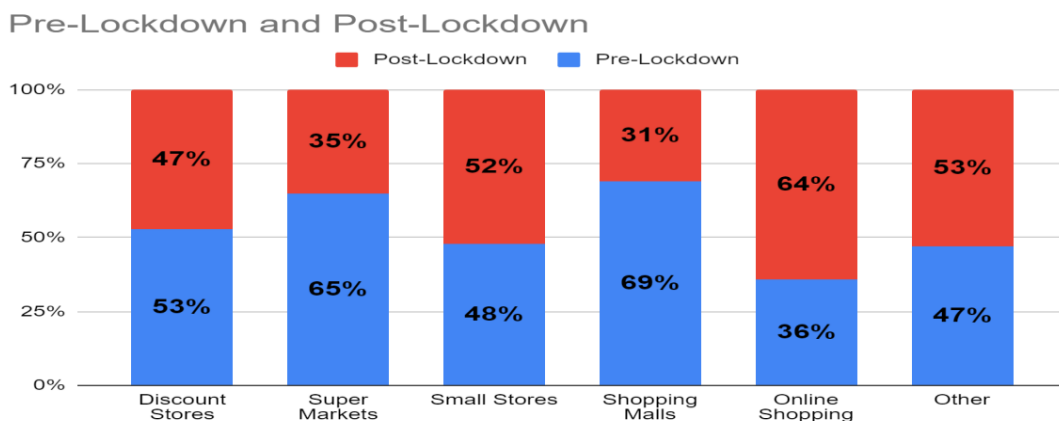
21.4% did not change their shopping store preferences maybe because they already were purchasing online or visiting the less crowded stores for purchasing goods.

Table 11: Presence of change in shopping preferences.

| Changes in Shopping Preference	Percentage
Yes	75.9
No	24.1

It was also observed that people who were visiting supermarkets, shopping malls, discount stores frequently before the pandemic, had now shifted to online shopping and shopping from small stores nearby their locality after lockdown. This was because subsequent closure of the big stores and increased fear in the minds of people due to the increasing number of COVID-19 cases. Hygiene and safety measures were the major factor which made the 77.1% respondents change their shopping preferences. 43.4% changed their shopping preferences as a result of better availability of required goods which was a result of reduced supply and greater demand of essential goods and services. Better prices also made 22.9% change their preferences and minimal or no queue at stores made 1.2% change their preferences as they may have wanted to reduce their physical contact in specific to avoid the spread of virus.

Figure 5: Reasons for transitions in shopping preferences.
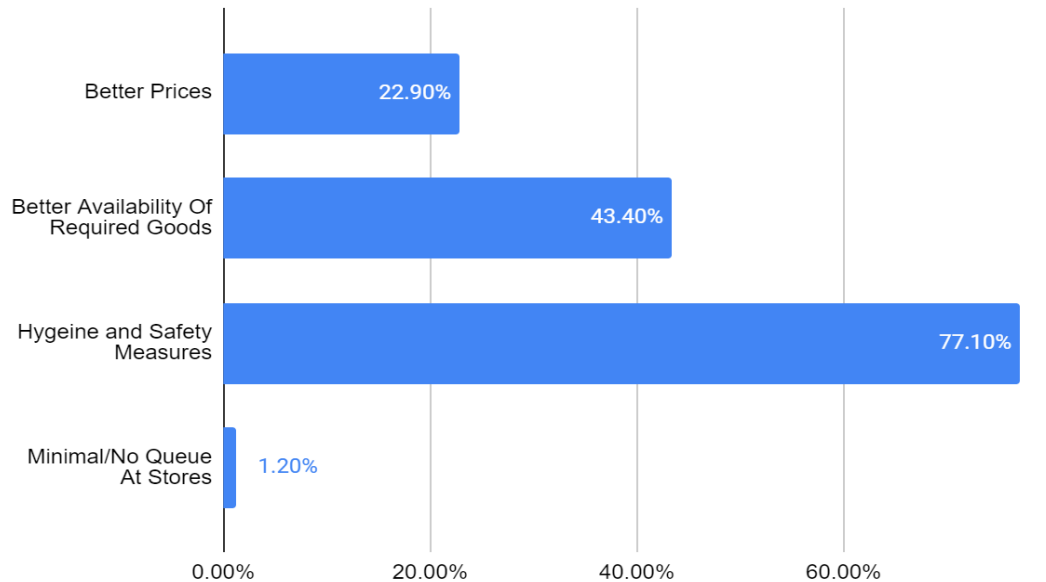
Lack of stock affected 68.7% people's shopping experience during lockdown as there was higher demand and lower supply of goods they might have wanted. Unhygienic environment was yet another big factor which affected 51.8% people's shopping experience during lockdown. 22.9% people's shopping experience was affected as a result of lack of staff which was a result of increased unemployment at that time. Increased rates and nothing of any significance changed the shopping experience too but only 1.2% in both cases.

Figure 6: Problems which affected the shopping experience of middle-class during lock down.
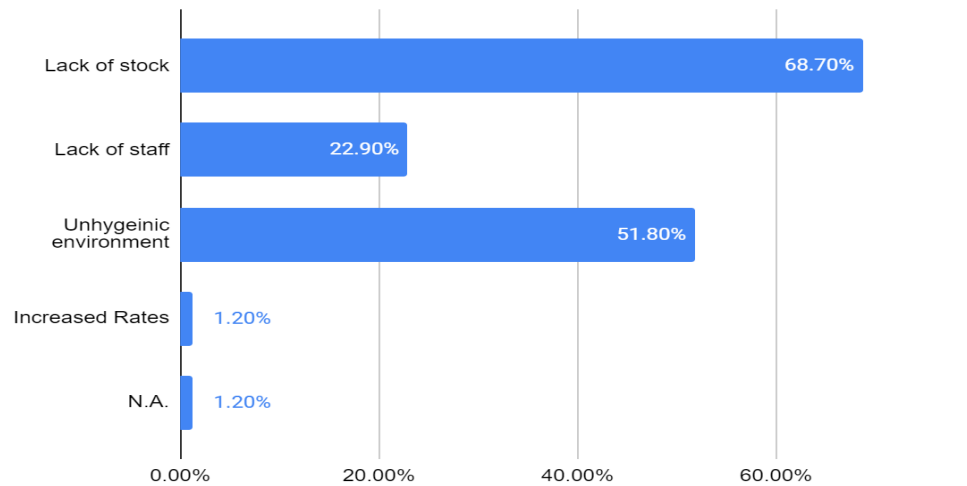
2.3. Effect of Psychological Factors on Consumption Behaviour:

The Covid pandemic has affected all aspects of contemporary society. It has directly affected health, financial security, standard of living, social interactions and food security, hence psychological issues were only imminent. These issues have impacted the consumption behaviour of the Indian middle class more deeply than any other.

Hence it is very important to study the psychological factors that affect the consumer behaviour to fully understand and analyse the changing consumption patterns. Thoughts, beliefs, emotions, and perceptions of a consumer highly influences their buying decisions and behaviour.

2.3.1 Psychology of Boosting Immunity:

Since immunity is the key word during pandemic, when enquired if the respondents or their family members took any medicines to boost immunity, 58.6% of the respondents were using some kind of immunity booster medicines. Out of these 3.6% specifically mention Vitamin D use. Rest 41% did not respond in affirmative though Indian food has some ingredients like cumin which improves immunity.

Table 12: Intake of Medicines to Boost Immunity

Intake of Medicines to Boost Immunity	Percentage
Yes	55.4
No	41.0
Only Vitamin D	3.6

Clearly the majority of the respondents know that there is no specific medicine of corona and only increased immunity can be helpful to decrease the incidence and symptoms of disease. News information does have an impact on consumption behaviour and since Vitamin D was commonly recommended, so people accepted it. Indian people do accept scientific recommendations and are not negligent yet nearly 41% of people need more health education dissemination.

2.3.2 Effect of Psychological Issues (fear, anxiety, stress) on Consumption Behaviour

Being a novel disease spreading in a speedy and also clips and briefings of corona patients from foreign countries caught people totally unaware. Naturally, psychology started playing its role. On questioning if the respondents faced any emotional or psychological issues while shopping, 59% of people informed that they do experience fear, anxiety, and stress although 37.3% claimed to be strong enough and not facing any of these emotions. 1.2% were fearful in the initial two months but recouped later and another 1.2% off and on feel emotional impact of the pandemic. Rigid social distancing is one important factor and 1.2% of sample population developed bad feelings for this reason.

Worldwide pandemic after a gap of one century demanded new normal. These new normal are opposite to prevailing practices and additional fear of death and suffering are definite to impact the psychology and this is confirmed by the respondents in the present study.

Table 13: Emotional and Psychological Issues Experienced While Out for Shopping

Issues Faced while out for Shopping	Frequency (%)
Yes	59.0
No	37.3
For Initial 2 Months	1.2
Sometimes	1.3
Precautions to Maintain Social Distance	1.2

When queried about if the above psychological issues affected their consumption behaviour 49.4% agreed while the rest 45.8% declined. The remaining 4.8% said that these issues affected their shopping behaviour only sometimes probably only when the active cases in their locality were rising.

Table 14: Effect of Psychological Issues on Consumption Behaviour

Effect of Psychological Issues on Consumption Behaviour	Frequency (%)
Yes	49.4
No	45.8
Somewhat	3.6
Yes, sometimes	1.2

2.3.3 Will the Changed Consumption Behaviour Continue?

A significant variance in consumer's behaviour across all categories along with their shopping behaviour was observed. On questioning about consumers intent to continue these behaviours going forward, a majority 62.6% responded that they are likely to continue these behaviours even post the pandemic while 33.7% are unlikely to continue. Remaining 3.6% people are going to continue their changed shopping behaviour only to some degree.

Value, convenience, and availability are normally the main determinants of where a consumer opts to shop. However, with fear of disease the shift from traditional method to online shopping has been fuelled by the pandemic, as consumers concerned about their safety preferred to keep their out of home engagement low, stepping out only when essential for shopping.

Table 15: Consumer's Intent to continue their changed consumption Behaviour in future.

Consumers' Intent	Percentage
Yes	62.6
No	32.5
Somewhat	4.9

2.3.4 Changed Mindset About Health and Hygiene

Covid taught us the importance of hygiene for promoting good public health. We questioned respondents if they will continue to practice the hygiene measures like washing hands regularly, wearing masks, washing vegetables and fruits, sanitizing outside commodities, etc. even after the pandemic, 81.9% people surveyed said they are likely to take covid times precautionary measures even when things turn normal. This shows that Covid-19 has brought a permanent change in the mindset of people regarding their health. This new raised consciousness will ensure that the consumption of hygiene items is likely to grow even more in the coming years.

Table 16: Changed Mindset About Health and Hygiene and likeliness to continue the present precautionary measures in future.

Changed Mindset About Health and Hygiene	Percentage
Yes	81.9
No	10.8
To a Lesser Extent	6.1
Always Equally Hygienic	1.2

Another 10.8% people reported that they will not continue these precautions after the pandemic ends. 6.1% of respondents are likely to continue these measures but to a lesser degree as circumstances demand in the future. Remaining 1.2% respondents reported that they were always those neat freaks who are despised by the society for them over the top and extremely rigorous cleaning routine.

2.3.5   Concern Regarding Disease

On being queried about their level of concern for the pandemic, 43.4% respondents were overly concerned about the pandemic. While 51.8% people reported being somewhat concerned about the developments taking place. A minority of 4.8% respondent responded not being concerned at all by the pandemic. This shows that with the opening up of the economy the seriousness surrounding the pandemic is declining.

Table 17: Level of Concern Regarding Covid-19

Level of Concern	Percentage
Overly Concerned	43.4
Somewhat Concerned	51.8
Not at all Concerned	4.8

2.3.6   Lack of Social Interaction and Mental Health

India is a land of multigenerational families and has collectivistic society with immense importance given to the social culture in India. We questioned our respondents about how the lack of interaction with their friends and family impact their wellbeing. 34.9 % respondents said that reduced social interaction had a negative impact on their mental health. However, with reduced disturbance and more time to focus and work on self, 8.4% responded that it had a positive impact on their overall mental health. 56.7% were indifferent towards this change and reported that the above had no significant impact on their lives.

Table 18: Impact of Lack of Interaction with Friends and Family on Mental Health

Impact on Lack of Interaction	Percentage
Positive	8.4
Negative	34.9
Neutral	37.3
No Impact	19.4

2.3.7. Leisure and Lockdown

Most people preferred to stay active in the lockdown period trying to utilize the time available. We asked our participants if they engaged in any physical activities or hobbies to keep themselves busy.

Table 19: Engagement in Hobbies and Physical Activities During Lockdown Period

| Engagement in Various Activities	Percentage
Yes	94.0
No	6.0

Having the time to experiment 94% people responded affirmatively about having taken up some kind of hobby/ new work or physical activity. As families spent more time eating together, going to restaurants stopped and takeaways decreased, many experimented with cooking at home. This led to an increase in demand for raw foods used for cooking which in turn drove up prices and sometimes even caused shortages leading to empty shelves at grocery stores.

2.3.8. Disruption of Daily Routine

As the outbreak of the pandemic forced us to adapt to a new normal, many experienced a disruption of their personal lives. Sleeping disruption along with an increase in anxiety and depression were enough to impact people's daily activities. When enquired about the same 20.5% accepted facing problems sleeping while 47% experienced a change in their sleeping pattern. 38.6% experience low mood due to anxiety, lack of security and little to no social interaction.

Daily activities of 53% people were impacted because of the pandemic. Another 27.7% experienced problems in thinking clearly and concentrating. A steep increase in screen time as people had more free time than before and lack of discipline can be considered as the main reasons that might have led people to face these issues. New challenges of working from home, home schooling of children and management of household due to lack of domestic help were also some root factors that impacted people's daily lives.

Figure 7: Disruption of life caused by the Pandemic.
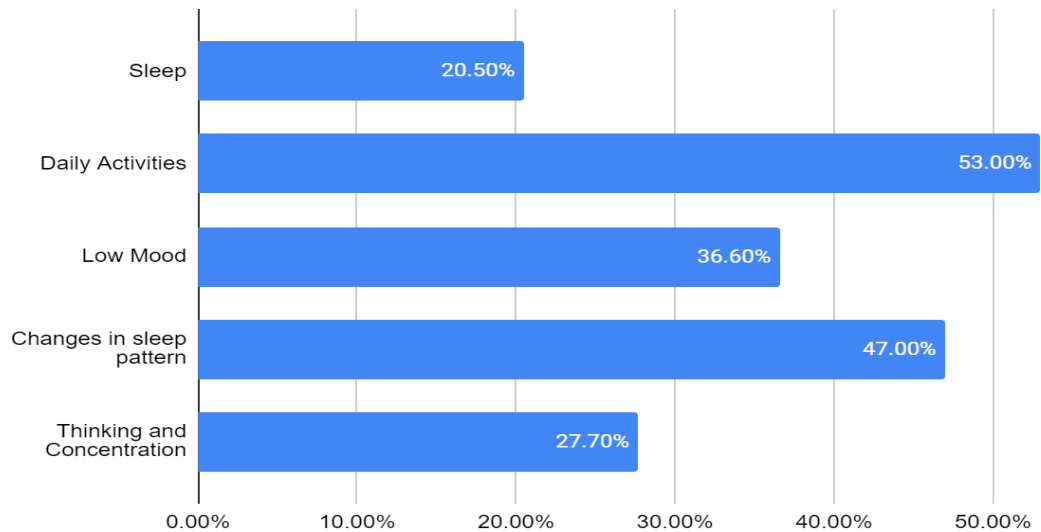
CONCLUSION AND SUGGESTIONS

This study chose Indian Middle Class to find the effects of the pandemic and lockdown because this aspiring social class is the main driver of the economy. This class earns and spends which make the economy tick.

A very peculiar situation aroused by pandemic and lockdowns all over the world. The research shows net impact of this in the form of badly affected earnings. Data suggests that, this led to markedly reduced spending as a majority 43.4 % restricted their consumption to basic needs only.

Not only this pattern of spending also changed. The reduction in spending was maximum in case of luxury items from 82% before pandemic to 18%. The increase in spending was maximum for Hygiene items (rose 20%) followed by packaged foods (rose 18%) and medicines (rose 10%). These changes seem long-lasting and may further rise with new waves of pandemic. Hopefully with vaccines and more people developing natural immunity after disease the pandemic shall convert sooner or later into endemic. But the survey shows spending shall continue to be hesitant. The results obtained showed clear cut preference of saving over consumption (by the respondents surveyed). It is doubtful that lost income shall ever be recouped and adaptation to post pandemic new circumstances shall take Time. With -9.6% GDP downturn and continuation of pandemic small positive GDP growth on a negative base may convert part of the middle class into lower class. How the turmoil shall settle is yet to be seen.

Fear of suffering death and uncertainties of treatment has impacted psychology and philosophy of the survey population. Worries about the future have increased the saving tendency, and decreased socialisation has impacted consumption. Health consciousness has increased spending on hygiene items and health foods. Risk of contracting disease, awareness of hygiene and safety measures changed purchasing behaviour. Half of mall visitors stopped going to malls but online purchasing suddenly doubled. Poor logistics led to a fear and anxiety psychology with add on rumours and

news of disease and death, made grocery purchases for future requirements a habit. To relieve stress and anxiety of visible risk people started consuming health medicines and proprietary preparation on the basis of advertisement with little scientific proof.

In total this study concludes that Indian Middle Class has undergone a serious impact of pandemic, changing its preferences and habits. This change may last longer than the pandemic as the trauma caused is harsh and the policymakers have even started talking about a new normal. Leave apart suffering and death due to disease, fear, anxiety, and stress reflects in the behaviour of Indian Middle Class.

The problems for the middle class observed in this study need to be addressed. Following are the recommendations on the same line:

- The fiscal and monetary policy of the country should be relaxed for directly improving credit availability and increasing government expenditure leading to better availability of jobs and improved income.
- Supply side logistics of food products need to be overhauled at all levels to reduce inflation caused by artificial shortage which shall end fear and anxiety of the middle class.
- Scientific education and awareness of the general public for corona appropriate behaviour is required for stopping the spread of pandemic and its psychological and other consequences.
- Health education including healthy food habits etc. should be in the curriculum of regular studies so that the future population is prepared to face any eventuality like Covid-19.

References

Bansal, N. K., Sharma, S., & Gautam, A. (2020). A Study on Impact of Covid-19 a Global Pandemic on Indian Economy: With special Context to Goods and Service Tax. *Journal of Xidian University, 14*(3), 1809-1818.

Chauhan, V., & Shah, H. (2020, May). An Empirical Analysis into Sentiments, Media Consumption Habits, and Consumer Behaviour during the Coronavirus (COVID-19) Outbreak. *Purakala, 31*, 353-378.

Kamble, S. C. (2020, April). An Empirical study on the Impact of COVID-19 on Lifestyle of Indians During Lockdown period in India. *Tathapi, 19*, 292-318.

Lee, K., Sahai, H., Baylis, P., & Greenstone, M. (2020, May 15). *Job Loss and Behavioral Change: The Unprecedented Effects of the Indian Lockdown in Delhi.* Retrieved from https://bfi.uchicago.edu/working-paper/job-loss-and-behavioral-change-the-unprecedented-effects-of-the-india-lockdown-in-delhi/

Narayanan, S., & Saha, S. (2021, March 22). Urban food markets and the COVID-19 lockdown in India. *Global Food Security, 29*.

Sharma, M., & Sharma, V. (2020, April 18). *COVID-19 and Economic Shocks: An Analysis in Indian Context.* Retrieved from Mainstream: mainstreamweekly.net/article9321.html

Tamilarasi, S., & Cheriyan, A. (2020, May). WHAT HAPPENS TO THE MAJOR CONTRIBUTORS OF THE INDIAN GDP DURING THIS LOCKDOWN. *Purakala, 31*, 717-722.

Research Project Survey Questionnaire

General Information:

1. Number of family members.
2. Number of earning members in your family.
3. Average monthly income of your family.
4. Percentage of income that is spent on consumption.
    a. 5 - 25
    b. 25 - 50
    c. 50 - 75
    d. 75- 100

Consumption Related:

5. How did your consumption pattern change during the lockdown period?
    a. Was restricted to basic needs only.
    b. Remained same as earlier.
    c. Consumption reduced but not drastically.
    d. Consumption increased.
6. Did your consumption pattern return to normal post-lockdown?
    a. Returned to normal.
    b. Increased but have not revived normal.
    c. Cost cutting continued.
7. What are your financial goals now?
    a. More savings
    b. More consumption
8. What were the commodities you used to buy more before and during pandemic?

Pre-Lockdown		Post-Lockdown	
Pulses and Cereals		Pulses and Cereals	
Packed Food Items		Packed Food Items	
Bakery Items		Bakery Items	
Perishable Goods		Perishable Goods	
Hygiene Items		Hygiene Items	
Medicines		Medicines	

Gadgets		Gadgets	
Luxury goods		Luxury goods	
Apparels		Apparels	
Furniture		Furniture	
Others		Others	

9. How did your consumption of following items change during the pandemic?

	Increased	Decreased	Same
Fresh Food (vegetables, fruits)			
Basic foods (Rice, wheat, oil, pulses etc.)			
Packaged Foods (cereals, Gourmet items, Beverages)			
Dairy			
Bakery			
Takeaway Food			

10. Have you witnessed any changes in the cost of food-items during lockdown?
    a. Increased.
    b. Decreased.
    c. No change.

11. How has it impacted your shopping behaviour?

    a. Stocking up of products you would not otherwise have stock up.
    b. Experienced product shortages at stores you shop from.
    c. Buying products, you would not otherwise buy.
    d. Making online purchase even when you usually shop from stores.
    e. Shopping in a store you do not otherwise shop from.

12. For which of the following necessary goods did you spend most of your income? *(Give Ranks to commodities based upon use) (Ex: pre-lockdown- 1. Luxury, 2. Grocery, 3. Gadgets, 4. Gadgets, 5. Medicines; post lockdown- 1. Grocery, 2. Hygiene, 3. Medicine, 4. Gadgets, 5. Luxury goods.)*

PRE-LOCKDOWN		POST-LOCKDOWN	
Luxury Goods		Luxury Goods	
Medicines and other medical goods		Medicines and other medical goods	
Appliances and gadgets		Appliances and gadgets	
Commodities of hygiene and safety (sanitizer, masks, disinfectant, etc.)		Commodities of hygiene and safety (sanitizer, masks, disinfectant, etc.)	
Grocery Items and Eatables		Grocery Items and Eatables	

13. Have your shopping store preferences changed during the lockdown?
    a. Yes
    b. No

14. Which of the following store(s) did you visit?

Pre-Lockdown		Post-Lockdown	
Discount Stores		Discount Stores	
Supermarkets		Supermarkets	
Small stores nearby your residence Shopping malls		Small stores nearby your residence Shopping malls	
Online shopping		Online shopping	
Others		Others	

15. If the shopping preferences changed, what was the reason for this transition?
    a. Better prices
    b. Better availability of required goods
    c. hygiene and safety measures
    d. Other (please specify)

16. Which of the following problems (if any) affected your shopping experience during lockdown?
    a. Lack of stock
    b. Lack of staff
    c. Unhygienic environment
    d. Other (please specify)

Psychology Related:

17. Did you or any of your family members increase intake of medicines to boost your immunity?

    a. Yes
    b. No

18. Did you face any emotional/psychological issues (like fear, anxiety, stress) while being out for shopping?
    a. Yes
    b. No

19. Did these issues prevent you from shopping/consumption?
    a. Yes b. No

20. Has the coronavirus spread impacted your shopping behaviour in general and will it continue even after the pandemic ends?

    a. Yes
    b. No

21. Did you feel during this crisis that maintaining extra hygiene (like washing hands regularly, wearing masks, washing vegetables and fruits, sanitizing outside commodities, etc.) was something which was missing in your life earlier and you should continue to practice these hygiene measures even after the pandemic goes away for a healthy lifestyle.
    a. Yes
    b. No

22. What is your level of concern regarding coronavirus?
    a. Overly concerned.
    b. Somewhat concerned.
    c. Not at all concerned.

23. Did the lack of meeting family and friends (social gatherings) during lockdown, lay any impact on your emotional and mental well-being?
    a. Positive impact
    b. Negative impact
    c. no impact
    d. neutral

24. Were you able to engage in physical activities or took up a new hobby or work during the lockdown to keep yourself busy?
    a. Yes
    b. No

25. Did you or any of your family members face any issues related to:
    a.   Sleep

    b.   daily activities

    c.   low mood

    d.   changes in sleep pattern

    e.   Thinking and concentration

CHAPTER 9

REDEFINING THE ROLE OF POLICE: ASSESSMENT OF PROFESSIONAL QUALITY OF LIFE AND RESILIENCE AMONG POLICE PERSONNEL DURING PANDEMIC

INTRODUCTION

India reported the first case of Coronavirus disease (COVID-19) on January 30, 2020. The government, since then has advocated wearing masks, physical distancing, avoiding public gatherings, shutting down malls and theatres, isolation of positive cases, and quarantine of high-risk individuals as major preventive measures against COVID-19. Police were among the first responders to the COVID-19 disaster and are popularly listed among the "corona warriors," along with health care personnel. The services available to Indian law enforcement agencies are insignificant. Despite these disadvantages, they have met the challenge of upholding the lockdown while also encouraging public health.

The current COVID-19 pandemic has infected millions of people and killed tens of thousands of people around the world. However, the pandemic has presented challenges to not only the public health sector, but also has been a significant ordeal to the law enforcement authorities. It has presented an umbrella of unexpected, and in many ways unparalleled, problems. Police officers and staff are actively involved in pandemic response, either directly or indirectly, and therefore have a higher risk of infection. Furthermore, several governments have taken crucial steps to deal with an emergency like this to protect their citizens and delay the virus's spread.

Lockdowns, travel bans, and social distancing laws, for example, are often regulated and enforced by the police, resulting in increased service demand for law enforcement agencies. This is on top of current responsibilities, as the police must maintain order and continue neighbourhood policing activities, all while facing increased budget constraints. First responders, such as police officers, must learn from other departments and previous encounters with similar cases in order to successfully recognise and handle the multitude of problems that emergency situations like COVID-19 generate.

With a lack of specificity and a wide range of demands, policing during a pandemic can be a challenging job. According to information collected from print, electronic, and social media, police officers were seen brutally assaulting and punishing people with batons. Despite this, many police officers from around the country were also seen participating in charitable activities, such as food distribution and providing assistance to the poor and homeless.

Unusual duties, stressful working conditions, and the uncertainty of the police position can lead to job stress and burnout, and have been identified as a source of occupational stress among Indian police personnel in previous studies. Concerns about being contaminated in the community and at work can also be a source of anxiety for police officers. Concerns about spreading the infection to family members may also be a

cause of psychological distress. Fear of quarantine and social stigma are also potential sources of distress. As a result, police officers are more likely to experience psychological issues such as burnout, mental disturbances, psychological depression, and sleep disturbances, psychological distress, sleep disturbances, anxiety, depression, substance use, and post-traumatic stress disorder.

Job stress and burnout are, according to previous studies, negatively associated with resilient coping, job excitement, and task-oriented coping. This highlights the importance of investing in the occupational health of police officers. When job stress becomes chronic, it has a significant negative impact on physical and mental health, and it is now recognized as a psychosocial danger at work, especially when it comes to a job like police services. Burnout is an occupational condition characterized as a "prolonged response to chronic emotional and interpersonal stressors on the job, [expressed on] three dimensions of fatigue, cynicism, and inefficacy" when the response to chronic job stress is insufficient. Since they share many of the same symptoms, such as emotional exhaustion, aloofness, depersonalization, depression, somatic complaints, alcohol and substance abuse, and life disturbance, compassion fatigue and burnout are often mistaken for one another. Burnout and compassion fatigue have a cumulative effect on frontline workers' health and well-being over their years of service, particularly if their effects are left unaddressed. Both conditions may have a negative impact on caregiving professionals' decision-making, job performance, and job satisfaction, as well as increase the probability of people quitting their jobs, being absent more often, and losing productivity at work.

According to a recent online survey of 102 Maharashtra police officers, 50 per cent of respondents had mental disturbances as a result of their fear of the COVID-19 virus, while 32.4 percent said they were stressed at work for a variety of reasons. There have been a few cases of police officers committing suicide as a result of their fear of contracting COVID-19. In addition to increased workload and the risk of Coronavirus infection, police officers are often subjected to violent public assaults when attempting to preserve law and order. Approximately 260 police officers have been injured in different incidents across the country since the COVID-19 crisis began. Such accidents raise serious concerns about their safety at work. This not only diminishes their morale but can also lead to significant psychological distress.

In an analysis of police trainees, it was discovered that the overwhelming majority of latest officers hierarchal the acquisition of exhausting skills because the highest priority at the beginning of coaching. However, their views shifted when gaining field-based job exposure, distributing bigger weight to activity competencies and soft skills, and citing the sensible utility of those skills. Though suggesting a twin between the coaching info and also the skills frontline officers notice helpful on the task.

With the rise of the second wave of COVID infections, India has been put in a bind with the centre and the state is doubling down efforts to bring the worrying situation under control. As the second wave has been reported to be quite severe compared to the first one, with the country now reporting over twice as many cases as it did during the first peak. The task of the frontline warriors is now heightened.

Police officers' resilience, hardiness, and psychological capital are thought to be essential capacities for coping with and adapting to difficult and potentially traumatic

circumstances. Despite their increasing popularity, a systematic analysis evaluating commonly used concepts and instruments for these capacities, as well as synthesising the results of studies on the predictive values of resilience, hardiness, and toughness, along with psychological capital is required.

As a result, the aim of this study is to ascertain the levels of Professional Quality of Life and Resilience among police officers, which can be used as evidence to guide the promotion of mental health among them through the timely implementation of corrective measures.

REVIEW OF LITERATURE

Bajpai et.al. (2021) concluded that lockdown has a high psychological impact, especially on adults and thus reinforces the need to address the state of mental health in this troubled time and spread awareness as well.

Begum & Pathath (2021) in their research findings suggest that clinical stress, to some extent, was common among senior staff as they had to work in extremely stressful situations that put them at greater risk of experiencing mental health problems.

Stogner et.al. (2020) concluded that policing is one of the most challenging tasks in the mind, leading police officers to suffer from mental health problems on a larger scale than most people even before facing the challenges of epidemic, depression and uncertainty.

Foglesong et.al. (2020) in their study found that a full recovery from the epidemic would require a real consideration of the role of the police in producing public safety and social order. Public health police and elected officials often have limited information on how to work together to make the economy run smoothly and socially.

Sububhi & Padmanabhan (2020) in their study suggested that top health workers are subject to serious physical and mental health problems. They are very sick, afraid of infection, and isolate themselves from society. There is a high probability of causing mental confusion between them.

Vineet Kapoor(2020) in his study said that, the Indian Police as a frontline agency is striving at multiple levels of service delivery, living up to an ever expanding list of job roles as the health related crisis due to COVID 19 spreads across the country which is the most populated democracy of the world where the fear of the spread of the Pandemic amongst its 1.3 billion population compelled the government to impose the first phase of the country wide lockdowns, initially for three weeks starting from march 2020.

Buselli et.al. (2020) reported that the COVID-19 epidemic presents a new challenge for health care workers, which requires intervention strategies to avoid burnout and re-injury, as well as reduce the risk of adverse mental health consequences. The mental responsibility of frontline workers should be given priority in public emergencies. Immediate measures are needed to improve mental health and strengthen the capacity of health care systems.

Benight et.al. (2020) in their findings from the study indicate that a large number of key responders during the COVID-19 epidemic are at risk of mental illness, at much higher rates than previous outbreaks and compared with previous disasters. The mental health of former employees is critical to the community's ability to respond to emergencies and disaster.

METHODOLOGY

Sample

The sample of the study consisted of 50 police personnel including 25 males and 25 females. The age range of the sample varied from 25 to 45 years. The majority of the participants were traffic constables. This sample is also taken from different police stations of Rajasthan. The method of purposive sampling is used to select the personnel for the study.

Measures

The following tools were used in the present study:

Professional Quality of Life Measure developed by Dr. Henry E. Stamm

The ProQOL is the most widely used metric for assessing the negative and positive outcomes of assisting those who are suffering or traumatised. Compassion satisfaction and compassion fatigue, burnout, and secondary traumatic stress are all subscales on the ProQOL.

The Professional Quality of Life Scale (ProQOL) (Stamm, 2009), a 30-item self-report measure, assesses risk of Compassion Fatigue, potential for Compassion Satisfaction, risk of burnout and secondary traumatic stress. Higher scores on the Compassion Fatigue subscale indicate a higher risk of compassion fatigue in the respondent. Higher Compassion Satisfaction subscale scores mean that the respondent is more satisfied with his or her ability to provide treatment. Higher scores on the burnout sub-scale suggest that the individual is at risk of developing burnout symptoms (e.g., hopelessness, helplessness). Higher scores on the secondary traumatic stress subscale suggest that the person should worry about what is frightening them at work, or whether there is another explanation for the elevated score. Although higher scores do not necessarily indicate a problem, they do indicate that a person's feelings about work and work environment should be investigated. The scale's construct validity has been shown, and there is evidence that this version of the measure minimised the known collinearity between compassion fatigue and burnout. (Stamm, 2005)

Resilience Scale developed by Dr. Chandra Kumari and Akrati Yadav

Resilience, especially psychological resilience, may provide strength in the face of adversity. As a result, researchers set out to create a psychological resilience midlife scale that could be used to assess psychological resilience and establish strategies for minimising midlife stress.

The final collection of 34 items on the Psychological Resilience Scale contains 21 statements with positive wording and the remaining 13 statements with negative wording. On a Likert scale ranging from Strongly agree to Strongly disagree, the item responses were to be elicited. Positively worded items would receive higher scores for agreement and lower scores for disagreement when ranking.

Procedure

The sample was selected from the state of Rajasthan. After deciding the tools to be used, the research project was carried out.

STATISTICAL ANALYSIS:

Keeping in mind the objectives as well as the design of the study. Professional Quality of Life Measure developed by Dr Henry E. Stamm (2009) and Resilience Scale developed by Dr Chandra Kumari and Akrati Yadav were used to assess and analyse the frequency distribution of the different specified variables.

RESULTS:

TABLE 1: Mean Scores of Male Policemen on Professional Quality of Life Scale

S. No.	Variable	Mean Score	Interpretation
1	Compassion Satisfaction	44	High
2	Burnout	25	Moderate
3	Secondary Trauma	37	Above Average

TABLE 2: Mean Scores of Female Policemen on Professional Quality of Life Scale

S. No.	Variable	Mean Score	Interpretation
1	Compassion Satisfaction	49	High
2	Burnout	17	Moderate
3	Secondary Trauma	41	Above Average

As evidenced in TABLE 1, 25 Male Policemen participated in the study. Their mean score on the Professional Quality of Life Scale came as:

For the first variable, that is, Compassion Satisfaction the mean score is 44 with a high level of interpretation for Compassion Satisfaction. Likewise, the mean score obtained for the second variable, that is, Burnout is 25 with a moderate level of interpretation for Burnout. As for the last variable mentioned, that is, Secondary Trauma the mean score obtained by the Male Policemen is 37, with an above-average level of interpretation for Secondary Trauma.

As evidenced in TABLE 2, 25 Female Policemen participated in the study. Their mean score on the Professional Quality of Life Scale came as:

For the first variable, that is, Compassion Satisfaction the mean score is 49 with a high level of interpretation for Compassion Satisfaction. Likewise, the mean score obtained for the second variable, that is, Burnout is 17 with a moderate level of interpretation for Burnout. As for the last variable mentioned, that is, Secondary Trauma the mean score obtained by the Female Policemen is 41 with an above-average level of interpretation for Secondary Trauma.
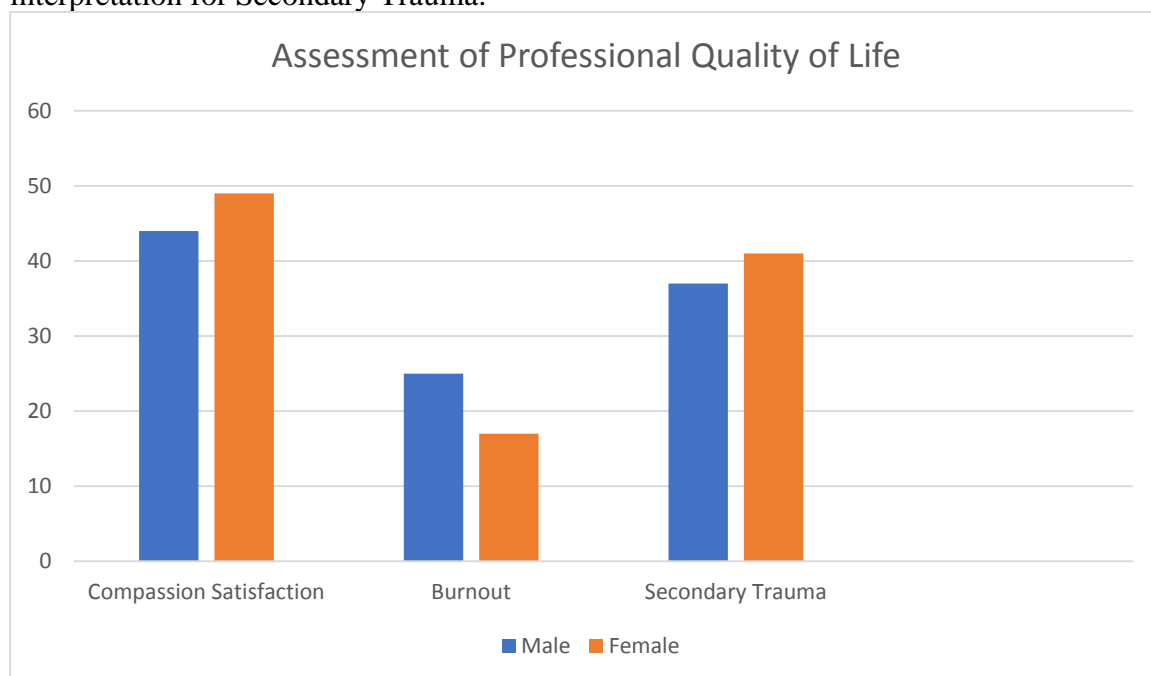
TABLE 3: Mean Score of Policemen on Resilience Scale (N=50)

S. No.	Gender	Mean Score	Interpretation
1	Male	130	High
2	Female	142	Extremely High

The overview of Table 3 reveals the second variable, that is, resilience among males and females which refers to the ability of an individual to adapt well in the face of

117

adversity, trauma or significant sources of stress. The total numbers of police officers that participated in the study are 50. The mean score of males on the Resilience Scale is 130 which indicates towards a High Level of resilience among them. The mean score of females considered for this study came out to be 142 indicating an Extremely High Level on the Resilience Scale.

This data is also represented in a graphic format in the form of a bar graph which is displayed below.

Assessment of Resilience

(Bar graph: Resilience Level — Male = 130, Female = 142; y-axis ranges from 124 to 144)

Legend: ■ Male ■ Feamle
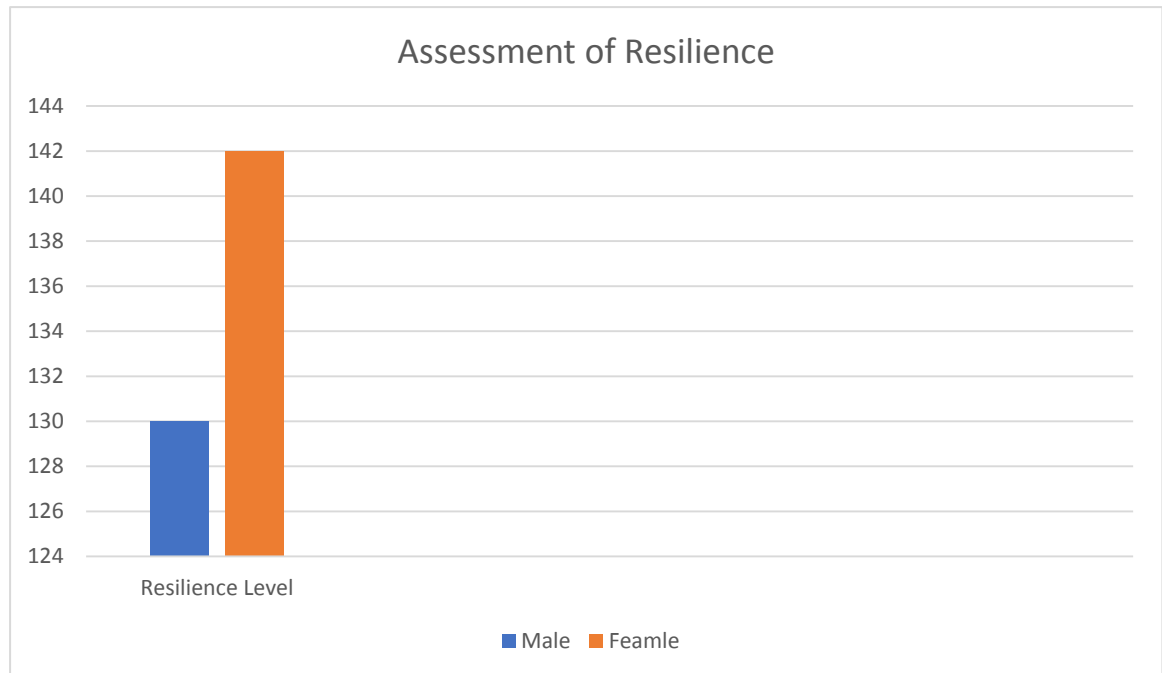
DISCUSSION

In today's world, police duties are unpredictable, challenging, and often in the domain of the unknown; they are called upon and required to participate successfully in almost every area of human activity. Policing has always been a difficult job, requiring a wide range of skills and responsibilities.The Covid-19 epidemic has presented cops and the general public with several challenges. It is to the nation's credit that almost every segment of society and the government have banded together and performed admirably in every field of community health and beyond.

Compassion satisfaction is a source of such internal strength that can mitigate the cost of a caring spiral that ends with burnout. The social or peer environment of policing is notoriously closed, where the outward display of emotion or empathy can be highly discouraged or seen as a weakness (Miller, 1999). Compassion fatigue can vary by officer demographics as well. Female officers were better at predicting psychological stress and reporting their symptoms. Further analysis conceptualized police stressors as traumatic and routine (Brown et al., 1999).Mental health problems among law enforcement personnel are associated with work environment, agency culture, inconsistent shift scheduling, and presumably higher exposure to traumatic events and subsequent post-traumatic stress disorder (PTSD; Brown & Campbell, 1990; Collins & Gibbs, 2003; Crank & Caldero, 1991; Marmar et al., 2006). Policing is one of the most mentally taxing occupations contending with long and often rotating shifts, threats of violence, increased need for hypervigilance, and a lack of public support creating

chronic stress (Hartley, Burchfiel, Fekedulegn, Andrew, & Violanti, 2011; McCraty & Atkinson, 2012; Paoline, 2003; Terrill, Paoline, & Manning, 2003). Burnout is seen as an interrelated component of compassion fatigue along with secondary trauma. Higher levels of compassion fatigue equate to higher levels of secondary trauma, and higher levels of burnout. However, each can be measured as individual components (Stamm, 2010).

On the basis of the results it has been seen that there has been an impact on Professional quality of life and resilience among police personnel during pandemic. Professional Quality of Life is subdivided into Compassion satisfaction and fatigue, burnout and secondary trauma. The male policemen with regards to compassion satisfaction had a mean score of 44 equating to a high level compassion satisfaction, with regards to the burnout the mean score was 25 equating to a moderate level of burnout and with regards to secondary trauma the mean score was 37 equating to an above average level of secondary trauma. In regard with the same variables the compassion satisfaction, burnout and secondary trauma the female policemen had mean scores respectively. Mean score of 49 equating to a high level of compassion satisfaction, mean score of 17 equating moderate level of burnout and mean score of 41 equating to an above average level of secondary trauma.

Officers who are unaware of or neglect the existence of compassion fatigue cues and continue to perform their duties without seeking assistance from available tools such as colleagues, peer-support groups, or professional practitioners are more likely to experience compassion fatigue. Compassion fatigue symptoms may build up over time if police officers or their supervisors miss the signs, eventually causing debilitating effects on officers' health and well-being.

According to Gutshall, Hampton, Sebetan, Stein, and Broxtermann (2017), violent activity resulting from a rise in burnout symptoms highlights the need for prevention measures for law enforcement officers who are vulnerable to stress-related disorders, and stress affects problem-solving skills, resulting in false arrests, improper shootings, and poor memory recall and excessive use of force.

Officers who do not recover from traumatic stress after responding to calls for service involving violent or catastrophic events are more likely to develop chronic physical health problems such as cardiovascular disease, diabetes, and some forms of cancer.

When looked upon the resilience level of the personnel. The male policemen on the resilience scale scored a means of 130 equating to a high level of resilience and female policemen on resilience scale scored a means of 142 equating to an extremely high level of resilience.

Martin Seligman, a psychologist at the University of Pennsylvania, discovered that people can be taught to interpret situations in a more constructive light and with a greater sense of control. They became less depressed once they shifted their perspective on a case. This is encouraging evidence that people will learn to be more resilient over time. Police officers will be better able to manage traumatic events if they are trained to interpret challenging experiences as external events from which they can learn and improve internally. Officers with a higher level of inherent

resiliency will reinforce what they already have, whereas those with a lower level will learn to emotionally and psychologically armour themselves.

In view of these findings it is suggested that estimating the magnitude of these impacts is important in order to facilitate and effectively target the provision of resources that allow agencies and individuals to cope with this storm. In addition, understanding the effects of COVID-19 will allow for a more informed response to future problems, preserving the effectiveness of the law while avoiding adverse effects on law enforcement in mental health. While COVID-related precautionary measures have been described as "a new standard," it is important to take steps to ensure that increasing levels of work-related pressure do not become "normal" for law enforcement officials. In addition, the findings of these studies should be used to modify and build future treatments.

In our view, there are two main approaches to police organizations to prepare officers for such situations: (1) departments must focus on the preparation of pathogens through the collection of PPE and the development of emergency policing systems during an epidemic and (2) departments must provide training to officers to develop coping skills. facing severe depression. In addition, while it is not possible to completely eliminate stress in these situations, providing training in coping skills should help officials cope with the stress they experience without the negative effects of increased fatigue, poor mental health, and unhealthy behaviors such as alcoholism.

REFERENCES

- *Building your resilience*. (n.d.). American Psychological Association. https://www.apa.org/topics/resilience
- Joshi, D (2020). Survey on COVID 19 Pandemic Impact and Opportunities for students. *Survey on COVID 19 Pandemic Impact and Opportunities for Students*, https://www.academia.edu/44713570/Survey_on_COVID_19_Pandeemic_Impact _and_Opportunities_for_Students.
- Kapoor, A. M. (2020, June 2). *How policing works in India in Covid-19 times*. @businessline. https://www.thehindubusinessline.com/opinion/columns/how-policing-works-in-india-in-covid-19-times/article31729922.ece
- Khadse, P. A., Gowda, G. S., Ganjekar, S., Desai, G., & Murthy, P. (2020). Mental Health Impact of COVID-19 on Police Personnel in India. *Indian Journal of Psychological Medicine*, *42*(6), 580–582. https://doi.org/10.1177/0253717620963345
- Laufs, J., & Waseem, Z. (2020). Policing in pandemics: A systematic review and best practices for police response to COVID-19. *Policing in Pandemics: A Systematic Review and Best Practices for Police Response to COVID-19*, 1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7439012/
- Mangla, A., & Kapoor, V. (2020). How policing works in India in Covid-19 times. *How Policing Works in India in Covid-19 Times*, 1. https://www.thehindubusinessline.com/opinion/columns/how-policing-works-in-india-in-covid-19-times/article31729922.ece
- Newton, J. Z. (2015). https://digitalcommons.ciis.edu/cgi/viewcontent.cgi?article=1079&context=ijts-transpersonalstudies. *International Journal of Transpersonal Studies,* 34(1–2), 172–186. https://doi.org/10.24972/ijts.2015.34.1-2.172

- Papazoglou, K., Koskelainen, M., & Stuewe, N. (2018). Exploring the role of compassion satisfaction and compassion fatigue in predicting burnout among police officers. *Open Journal of Psychiatry & Allied Sciences*, *9*(2), 107. https://doi.org/10.5958/2394-2061.2018.00020.4
- Pathath A. W. & Begum N. (2021). Depressive symptoms among health care workers during the pandemic time of COVID-19. *International Journal of Indian Psychology*, 9(1), 830-833. https://ijip.in/articles/depressive-symptoms-among-health-care-workers-during-the-pandemic-time-of-covid-19/
- *Policing in pandemics: A systematic review and best practices for police response to COVID-19*. (2020, December 1). PubMed Central (PMC). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7439012/
- Queirós, C., Passos, F., Bártolo, A., Faria, S., Fonseca, S. M., Marques, A. J., ... & Pereira, A. (2020). Job stress, burnout and coping in police officers: relationships and psychometric properties of the organizational police stress questionnaire. *International journal of environmental research and public health*, *17*(18), 6718. https://www.mdpi.com/1660-4601/17/18/6718
- School Of Public Policy And Governance Tata Institute Of Social Sciences Hyderabad, Acharya, A., & Jangalapalli, A. (2020). Policing In A Pandemic. *Policing In A Pandemic*, 1–2. https://tiss.edu/uploads/files/POLICING_IN_PANDEMIC_SPPG__vz46lFZ.pdf
- TIMESOFINDIA.COM. (2021, April 17). *1st vs 2nd wave: How and why India's Covid situation turned grimmer than ever before*. The Times of India. https://timesofindia.indiatimes.com/india/why-is-indias-second-covid-wave-way-more-severe-than-first/articleshow/82102250.cms
- Tiwari S., Kanchan S., Saxena M., Khulbe Y.& Bajpai P. (2021). The psychological impact of COVID-19 pandemic on general population of India. *International Journal of Indian Psychology*, https://ijip.in/articles/the-psychological-impact-of-covid-19-pandemic-on-general-population-of-india/ 9(1), 841-849
- Todd, C. (2018, February 9). Why police departments need to recruit for resiliency. Police1. https://www.police1.com/evergreen/articles/why-police-departments-need-to-recruit-for-resiliency-dGr0NxNryIEFtQ7V/

CHAPTER 10

IMPACT OF COVID 19 ON INDIAN ART, CULTURE AND ARTISANS

Abstract

It can be scientifically stated with precise statistical and analytical data proving the major changes and impacts of Covid 19. The economies and the state of world affairs are brought to a silent standstill. This social paralysis is the outcome of inactivity caused by government controls on all public gatherings, the result of which is reflected and echoed in all accepts of the society. This research paper, will explore the condition of the Indian artisans and their art. The challenges that faced last year due to the pandemic were not only unprecedented but almost stifling for their art. The paper will be providing sufficient data studies comparing the lives of Artists pre and post Covid to focus on the major changes that Covid-19 brought about in their lives.

Keywords- Covid-19, IndianArt, Artists, Indian Culture, Virtual Concerts, Marginalized Artists, Digital Entrepreneur.

Objectives-

- To understand the impact of Covid 19 on artists
- To trace the evolution of art during the pandemic
- To predict the future of art and artistic development in India

Introduction

"Historically, pandemics have forced humans to break with the past and *imagine their world anew"*- Arunditi Roy

It can be stated and professed on the basis of ample amount of statistical data and research, that the impacts of the corona virus are drastic and severe. There is no industry that has remained untouched or aloof from the ravages of the pandemic or the global lockdown. Economies of even of the greatest and strongest nations have been affected; the change can be experienced and felt on different fronts of the society. The definition of 'Normal' has been metamorphosed into something that never seemed to be a probable reality. The world seemed to be in a complete state of paralysis in order to fight the pandemic.

The changes have given us new parameters to measure the global development. Technology without a shadow of doubt has helped or fostered in functioning of the wheel. Virtual reality which once was a dream is now the only option left with humanity in order to sustain and move forward with little regret and minimized sense of loss for freedom. The spread of the virus was at its peak from February 2020 to October 2020. However, in India, the Covid 19 curve reached its peak during the first week of September. Where India was under strict lockdown and public contact was prohibited, the only interaction that was made was through virtual platforms. Almost everything was conducted virtually, from business meetings to school examinations. It was like a world that was functioning and operating on virtual platforms. The disconnection with reality was very surreal and sublime in many ways. It gave rise a technological era that only seemed far-fetched and unreal.

This dawn of technological era brought changes in all aspects of the working industry. It revolutionized how we perceive the world. It revolutionized and made resources available to every doorstep. It is a broad study that showcases how the economy and the state has been majorly affected by the virus, however for this research paper, we will examine the effects of the Corona virus on the most fragile and susceptible industry of the arts and artists. The objective of the present research project is to identify the impact of the corona virus on Indian Art,Culture and Artisans—topredict whether and how art has been affected or is it lost amidst the ravages of the great pandemic. Most importantly the paper will answer how many artists have survived this kick in the belly, their recuperation in order to promote their art and facilitate betterment in the society.

The paper will take into account the artists who primarily engage in fields of art, dance, painting and music in order to at large predict the situation of the artists during the global pandemic. Government relief reforms will also be critically surveyed and compared with other countries that have made or established reforms exclusively to save preserve and promote its art even in the most alarming and trying times. During the pandemic many artists have found the inspiration to create something that concerns the world at large, they have been severely affected as their major source of sustenance was uprooted. In fact, during these times there was an artistic wave that rose in the country depicting social and political problems.

The real test of the times was in being resilient so that their art could survive. The approximate number of people who were interviewed for this project ranges from 30-40. The paper tries to weave the commonalties into a single necklace which represents and speaks for the artists in unison. The mainstream artists have yet not been so disrupted and poverty stricken as the marginalized artist and artisans whose whole livelihood was dependent on the number of people who came to witness their shows. Some groups of artists have been from the remote cities and villages.

They cannot showcase their art virtually, simply because they lack the knowledgeand the resources to broadcast their work online. There has been some exceptionsin the marginalized group of artists; for instance, a *Kalbeliya*tribe of dancers from Jodhpur started teaching and promoting their art online through virtual platform like zoom. In a matter of a few months, they gained approximately 600 students from various countries amidst pertinent issues of internet connectivity to proper lighting in the area. The majority people involved in the training from this gypsy tribe are women, who are also majorly the sole bread-winners of their families.

 Their entire livelihood is dependent on these virtual classes where they teach students from across the world, the traditional art form that belongs to their gypsy tribe. They have in the recent past gained huge amount of popularity online and evolved as digital entrepreneurs, etching this art form on the global map. This has also served as an inspiration for many other local artists that are looking for recognition online. Puppeteers from Nimallakunta reaches out through digital media to the world to promote their art. Where they charge 500 rupees for every session which happens thrice in a week. The income is meager and the puppeteers find it tough to survive on it alone. The other marginalized artists from the states Mysore, Kerala, Andhra and Telengana have suffered major crisis as there was a lack of any kind of an artist fund to support and foster the artists of these states.

The theatre artists in Mumbai have suffered a major setback as all theaters were shut down due to covid policies that restricted any public gathering. In such an atmosphere as this, it is preposterous to even believe that the theater artists have any social or financial support apart from this. There were difficulties in finding jobs which left theater artist completely unemployed. The theater artists in Karnataka have faced a major financial crisis. The drama association repeatedly made pleas to the government to establish some sort of artist funds for their survival as many artists travel from village to village to showcase their art but since the national lockdown they had nowhere to go and nothing to sustain on.

There is no financial help provided from the government to sustain their livelihood. A theatre artist in Kolkata named Joydeep Sarkar was found begging on the streets, he has been in the performing arts for more than 20 years, and during the pandemic the artist could not sustain himself or his family of four people. Many people similarly had to abandon their art and get on streets selling sanitizers and other commodities to sustain themselves as the pale moon glistened on the empty theaters and sounds of the artists were heard begging on the streets.

In Jaipur an experienced art teacher Suresh Gothwal was evicted from his job when the pandemic broke out. In order to support his art, he became a rag-picker. Later he used to sit outside Jawahar Kala Kendra and other famous art centers in Jaipur, with his fluid art and sell it to people for a mere sum of 50 rupees. He used to sit outside; with his collection of paintings until some art enthusiasts caught notice of him. His story and his impeccable art went viral on social media. Many people offered individual funds in order to preserve the art of Mr. Gothwal.

Many such stories have caught the attention of the public eye, where the artist is left struggling and the government lacks special institutional funds to support the arts and culture industry in India. Many artists have found their own way to reach out to broader audience. Two artists from Delhi launched the #*ArtchainIndia* where they can sell their art directly online and urged people to support artists. The whole initiative of this movement is to ensure that when their art is sold for more than 50,000 INR, they would spend 10,000 INR on some other person's art in order to keep the chain building so that artists become self-sufficient and can provide for themselves. During the lockdown many artists embraced the new normal.

Prateek Kuhad, a very famous Indie artist released his song *Kasoor* on Instagram which procured a million views overnight. This platform had never been used in this capacity before but it only remains a dream for other content creators and artists who don't have a strong social media presence. They are not so famous and therefore, there are many stumbling blocks in front of them. Artists from various fields of art have suffered a huge set-back as there was no avenue left for them to celebrateand showcase their art except for virtual platforms. After taking into account the experiences of different artists, some as cited above, it can be concluded that 30% of the artists lacked proper technical equipments to launch their content online.

The dissatisfaction that the artist community has with the government is appropriate and justified. In many countries like Thailand, Britain, USA, Australia, Belgium the government has taken an active initiative to provide for its artists who are struggling to survive during these times. Many relief funds were set up like the South Asian Arts Resiliency Fund in New York, the CERF+ Emergency Fund for artists from the United States of America. In India however, only the government of Keralahas been an

exception to have opened relief funds for the artists who have lost their source of income during the pandemic.

The government has offered to give a meagre amount of 1000 INR which is not enough considering if the artist is the sole bread winner of the family. Government of other states have not even come forward or have introduced reforms that would at least enable the survival of artists and their different art forms. The chairperson of Dastkar,India's prominent society for crafts and craftspeople rightly quotes –

"Though many fear the impact of Covid-19 may be the end of craftspeople, it is their creativity and resilience that could save them,"

This fear is the product of the uncertainties and the hard times which ensure no relief mechanism by the government of India. Many individual relief funds have been established by various philanthropist individuals or non-governmental organizations who wish to promote the artists as they do not want art to be lost into oblivion of time and become a martyr to these circumstances.

A popular Carnatic vocalist, TM Krishna set up a *Covid 19 artiste fund*, which was able to raise 9,000,00 INR and became a sufficient source of help for artists. Many online donation and fund campaigns were started where people can freely donate and support their favorite artist and art forms. Donation schemes like A*rtreach India, Art for Concern, Khooj, Artist Relief Fund* were established to sustain and revive the art forms. It is very essential for the government to understand that it should play an important role in ensuring that the lives of the artists are sustained even during a global pandemic. The theaters and other art centers were shut down, but there was no restriction on many religious processions.

Therefore, one can easily infer that there could have been certain reforms made to ensure the survival of this section of the society. The government to a large extent has failed to provide relief to its artistic and cultural sectors without any remorse and a realization that these sectors also contribute to India's economy. More importantly, one needs to realize, that if there is no effort been made to preserve these art form, they might be on the brink of extinction. No one can predict what the future holds, or will this situation ever repeat itself in history and will the Artists again suffer due to lack of proper relief programs and funds or will weembrace a better tomorrow where our art is not lost.

Despite the very dire circumstances, art has managed to survive even this global pandemic, where physical interaction was lost and interaction was established virtually. This has also opened doors for art forms very intrinsic to India, to step its feet in different parts on the world and map its presence globally. Art with the help of technology was able to connect people worldwide, where they shared a common love for art which is keeping many art forms alive and breathing even amidst a stifling situation.

The situation of the artist is yet to improve as the lockdown is lifted and gatherings are allowed with many government restrictionsand they can now again be back in their performing fields. It can be concluded that there is an urgent need to develop and engender sensitivity in hearts of the coming generation, in order to preserve art, culture and literature of these times.

Works cited

1. The pandemic is a portal
2. sumanasafoundation.org
3. kerala-govt-to-offer-financial-aid-to-artists-struggling-due-to-covid-19-
4. *www.artworkarchive.com*
5. *https://www.resources-for-artists-and-arts-organizations*
6. *https://bangkok.unesco.org/content/covid-19-crisis*
7. *http://www.oecd.org/coronavirus/policy-responses/culture-shock-covid*
8. *https:/artchainindia-a-peer-support-movement-helping-artists-tide-over-*
9. *https://milaap.org/fundraisers/support-sumanasa-foundation*
10. *https://rollingstoneindia.com/*
11. *https://yourstory.com/2020/12/art-gallery-jaipur-artchill-resilience*
12. *https://www.davisenterprise.com/news/local/local-artists-respond-to*
13. *https://www.hindustantimes.com/art-and-culture/corona-tales-theatre-*

CHAPTER 11

IMPACT OF COVID-19 ON TECH INNOVATION

Abstract

Lockdown made regular check-ups a great threat to human life. To under shadow the disastrous effect of it, a new innovative Digital health care system was introduced, where live meets enabled patients to consult their respective doctors and get treatment from home. Johnson and Johnson's institute took the advantage of data and science to train more than 24000 surgeons for over 180 courses. Interactive digital tools and artificial intelligence transformed teaching effectively and efficiently. Arogya Setup app has helped the government to track the movement of the population of India and help them self-assess and self-isolate themselves according to the outspread of COVID in their radius.

Microsoft Cloud collaborating tool (MICROSOFT 365) must be highlighted for the change it made in information technology. Most effective means of sharing and co-authoring computer files was by using cloud computing, whereby documents are uploaded to a central "cloud" for storage, where they can then be accessed by others. The best cloud collaboration tools: Use real-time commenting and messaging features to enhance the speed of project delivery.

The presence of leverage indicators help us to identify when others are active on documents owned by another person, thereby allowing users to set permissions and manage other users' activity profiles. Artificial intelligence and machine learning got financiers around the globe to aid the drowning human health and economy. AI made detection of COVID-19 sharp and accurate. With the plunging economy, the crime graph grew enormously. It solicited the need for a robust cybercrime control system. Like a coin has two sides, innovation is no exception. It brings good and evil alongside.

Introduction

Covid 19 debuted as the most shocking impact to this planet after world war 2nd. As the comparisons been made between these humongous impacts, we must recall the most significant emergence from all these is Technology. Technology is almost every meaning and is a synonym of the word ' evolution '.

Later half of the past century was mostly devoted to the technology and the constant struggle to make it a part of everyday usage and most importantly to be committed to the objective of 'Inhuman efficiency ' in every day work. With new revolutions, Smartphones entered the market and questioned the entire world with a thought of having a miracle with a touch screen capable of performing every single action that requires hundreds of separate devices in past era and some new technology that is impossible to access by individuals in home. Automobiles to refrigerators, Kitchens to bathroom, Televisions to Studios. So, Technology evolved.

The biggest challenge from the last 50 years is COVID'19. It has made such circumstances to force the work flow of economy's fundamental systems to start operating digitally. In countries like India, it was the step that no other govt. scheme

was capable to enact. It can also be summarized as the ' Actual Digital Evolution ' that has taken place in present not 30 years ago.

It has done a severe damage on Indian stable economy. There are several plans and actions that were taken in last 5 months to bring country's economy right back on track. Most important aspect was Technology in it. Education in schools grew higher and were continued with no recognizable slowdown. No academic break. Lack of infrastructure (in medical sector) was felt, yet online consultation and advisory with doctors made it possible for our country to control covid cases and to progress towards an era of digitalization. Discussion on technology is not possible without going into details of circumstances and questionable solutions.

Online classes are taking place as a better option with advantage of social distancing in physical terms yet joint social interaction as a class to study cannot be compared. India is a developing country and education is probably the biggest asset we hold, considering more than 60 percent of the country's population is young. Technology fueled its working to continue in this essential sector of education. Sanitation, medical sanitation became a necessity. It can also be said that Technology acted as the most straightforward definition of innovation in such areas of requirement.

In context of the pandemic, the facilities regarding maintenance services of electronic domestic appliances on quarterly basis was under the very common practices used by customers before covid. The situations of Covid'19 made conditions which were not suitable for such systems and usage of such practices may led to another covid explosions (fast spreading of virus due to social interactions) that may affect to entire regional extension.

In Govt. workings the physical presence of footservants in offices hold a necessity. Legislation, Executive and Judiciary. Institutions cannot be transected to online methods work culture and cindering the amount of confidentiality in work that is necessary does not make (in present period of time) digital method to be qualified for regular practice but technology itself according to time and circumstances molded itself and so as the user groups around which it is centered.

Objectives

COVID-19 has proven to be a blessing for innovative brains. We have witnessed some ingenious ideas to conquer the lagging development. This project aims to develop content on Impact of COVID-19 on Tech Innovation as a response to the COVID-19 pandemic. With the increasing number of COVID cases, work from home, online classes, online data management, and demand for speedy internet rose to the greatest extent and seeing the never stopping demand of lightning-fast internet speed, data providers are at the edge of introducing 5G. We intend to investigate with practical, credible and thought-provoking information on all aspects of management of individuals in various IT sectors.

Methodology

The research work has been done by the compiled evaluation of several articles and debates that were taken from newspapers, magazine, and news channel. Concluded with a discussion on this very topic among the team members (including myself) and the selection of the topic that has to be put into this research under the header of

discussion was curated by the common acceptance of all the members.

Description was the all over brief that shares the introduction of the topic and the positivity of the new achievements in technology under the main period of covid 19 i.e., march 2020 - December 2020. Briefs about the collaboration of different working systems that were originally designed with conditions that required physical presence of people to progress were changed to digital platform with success. Information about major sectors of consumer market and heath industry and administrative works, about their successful digital transition.

The Strategy Followed

	Phase I	Phase II	Phase III	Phase IV
To study the Role of innovations before COVID'19 in IT Sector				
Understanding the Various factors affecting the innovation After COVID'19 Tech Industry through Research methodology Techniques				
Data Analysis				
Conclusion				

Survey Report

As per the data given by total 59 respondents most of the citizen are in primary sector from the data we collected 25 people are from primary sector and 16 people are from secondary sector and 18 people are from tertiary sector. Our survey was mainly focused on find whether the impact of Tech Innovations was prominent in their sectors. The survey focused on 25 questions which was in gaining knowledge of the reality in
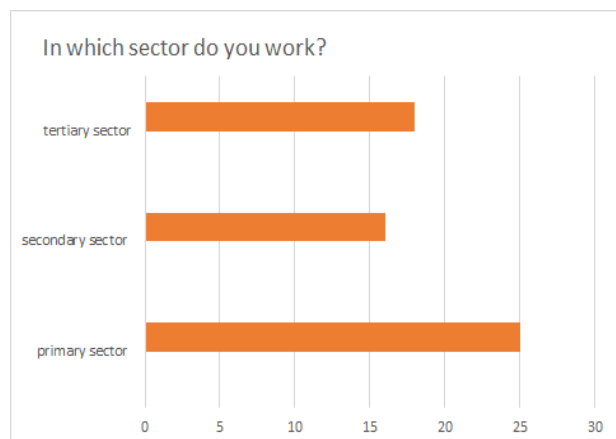
present scenario. India being a developing country still is in the process of improving the efficiency of higher education where people are still unaware or unable to understand the technology that comes to their rescue. The data below gives us a clear understanding of the view whether tech innovation has caught their minds.
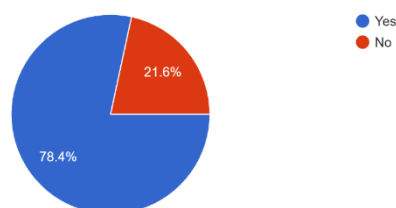
The data clearly states that 78.4% of the citizen know about tech innovation and 21.6% people does not know whether tech innovation took place. But, Covid'19 has created an adverse situation that created a fallout in the Organisation or Industry. The reason behind this shows us from the data that 64% where unable to access the

technology and 36% were accessible.

Did your company/industry expect fallout from COVID-19 due to lack of technology access?
125 responses
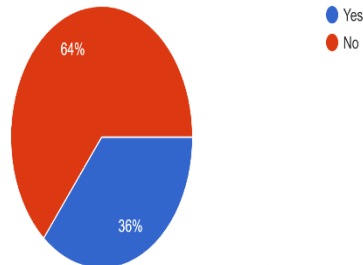
Due to this adverse situation the companies or industries where forced to incorporate the increase of technical assistance. The figure below states that 58.4% companies increases technical expenditure, and 41.6% people said that they did face the technical expenditure in their company.
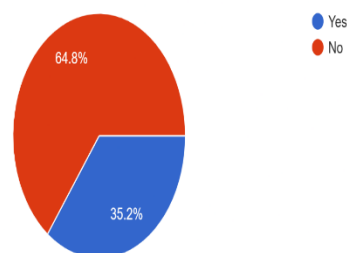
As the burden of increase in technical assistance people were forced to stay back and work from home which cut short the administrative cost of the companies or

Did your company/industry increase its technical expenditure during or after COVID-19 pandemic?
125 responses
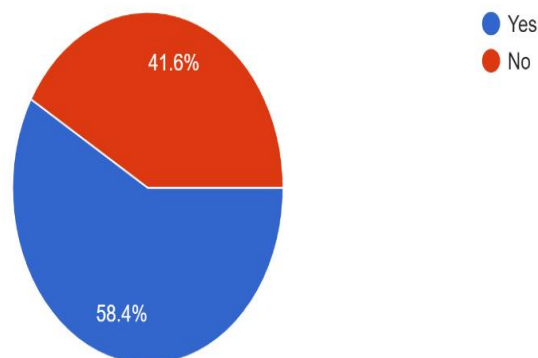
industries. Though working from home demands more attention many opted to stay back even if they have not done it earlier. The data collected states that 64.8% worked more hours from home whereas 35.2% went to work places.

Though work from home was not the option people were forced to take even with any prior training of the technology. 68.8 % had no clue as what would be the effect of technology which made them go out of the box to learn and get trained. But

Have you experienced work from home before COVID-19 pandemic?
125 responses

31.2 % had already an exposure of using the latest technologies.

The survey has clearly brought out the adverse effect of Covid'19 was in the education sector as the style of functioning was not through IOTs or Smart Technology. The traditional way of learning was used by many educators. The results states that Education and Health sectors are the primary fields were tech innovative methods were introduced followed by the day-day living.

In which field have you seen the most tech innovations?
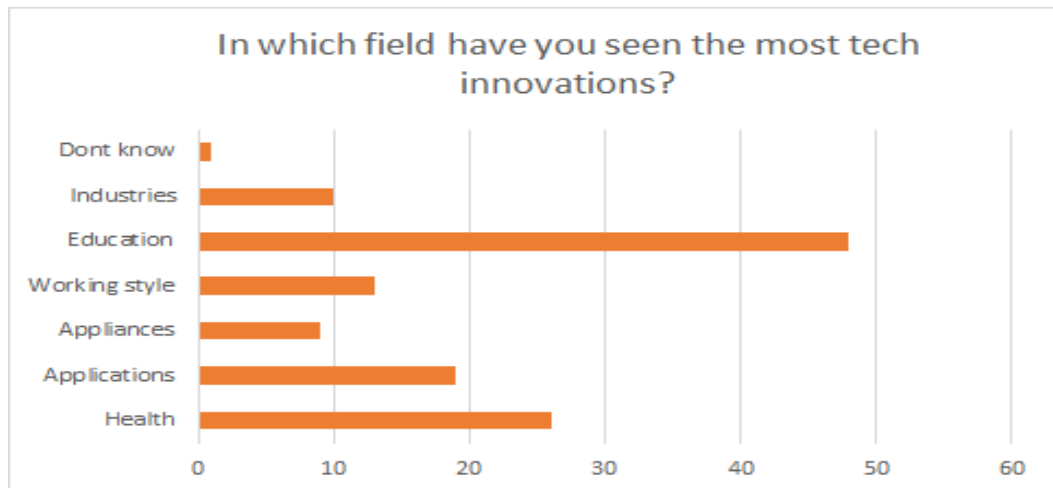
As the pandemic increased many feared that it would spread and would be very infectious. Thus, the thought of increasing the concept of technology at one touch was preferred. Since the level of vulnerability was too high. People preferred staying at home and being secure would suffice their fear. So the question arises which field would require technology at door step. The Survey results states that 48% innovation of technology was necessary for the present health sector where more can be benefitted. The graph indicates the hike of need for the medical fields.

For the past 50 years the role of technology was not seen as of the year 2019-2020.

According to you, which field need more tech innovation?
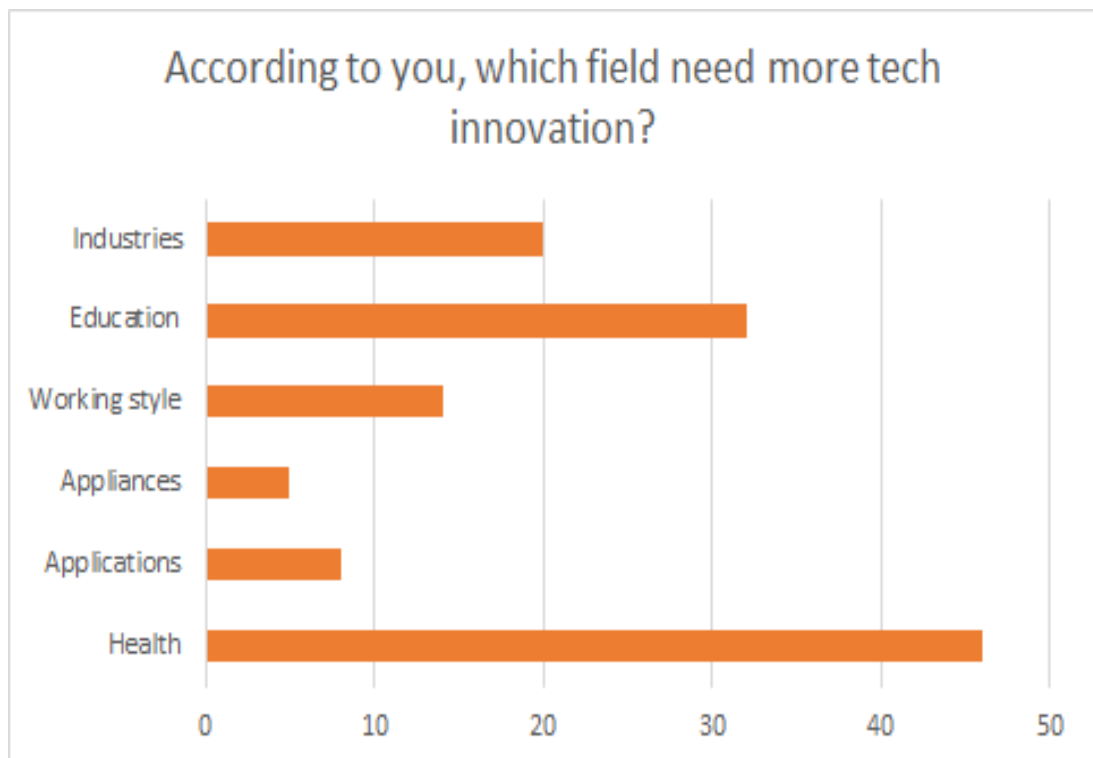
Which videoconferencing tool meet up with your profession as well as individual usage preferences?
125 responses

- Zoom
- Google Meet
- Microsoft Team
- sabmilo.com
- Both Zoom and Google Meet
- Skype
- None
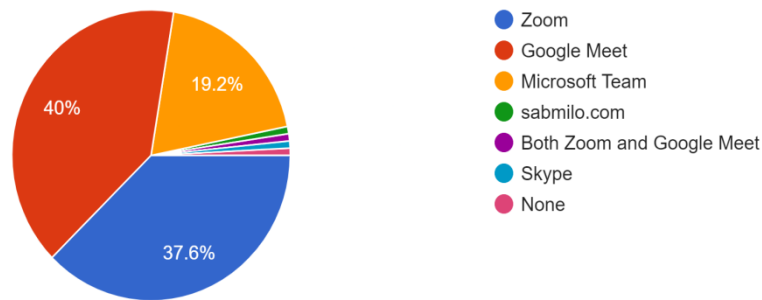
Where the boom for field of technology increased and literacy of the technology also increased. The figure indicates 84% steep increase in tech upgradations in comparison to the previous years.

The tech upgradation created a vacuum in social gathering and face to face contact. Which forced people to fall a prey to video conferencing and social media platforms. The survey clearly states that 40% people use google meet in many educational fields and professionals use zoom by 37.6% , Microsoft teams by 19.2% and all other tools like skype and sabmilo.com.

Though the need for technology increased the question arises whether the new innovations was implemented during Covid'19. The report clearly adds punch to the fact that there was a raise of implementation during the pandemic. Nearly, 83.2%

As per you in which period you saw the most tech upgradation
125 responses

- Before COVID-19
- After COVID-19
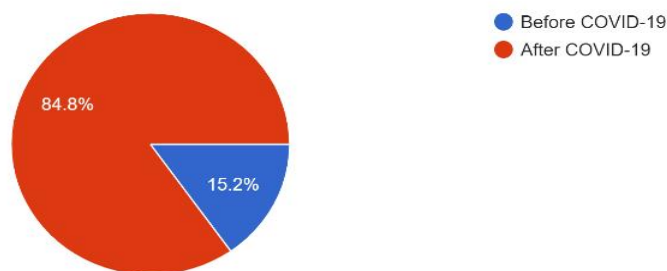
agreed to the fact that innovations succeeded in finding its way through Covid'19. Thus, It is very clear that the impact of Tech Innovations has increased drastically in the present situation.

Challenges of Impact

From our survey this is noted that 48% people thought that digital inclusion was the most challenging point which was faced during the COVID-19 pandemic followed by high investment and under qualified

Did you succeed by implying new tech innovation during COVID-19?
125 responses

- Yes
- No
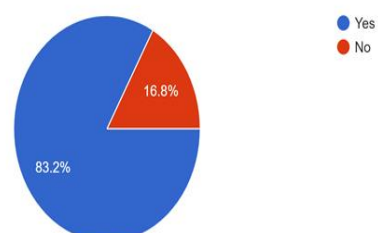
workers by 36%, critical thinking by 34.4% and product obsolescence by 18.4% of people.

**What are the challenges faced in tech innovation during covid-19?**
125 responses

Digital inclusion.	60 (48%)
Critical thinking.	43 (34.4%)
High investment.	45 (36%)
Product obsolescence.	23 (18.4%)
Underqualified workers.	45 (36%)
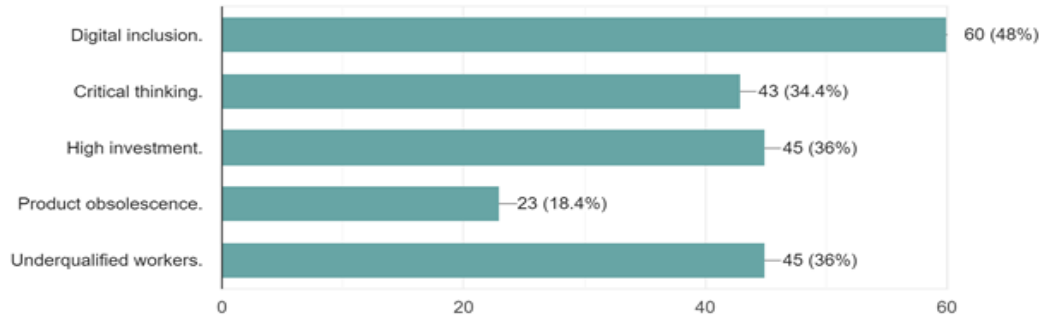
Where did you perceive more of tech upgradation?
125 responses

- India
- Overseas

40%

60%
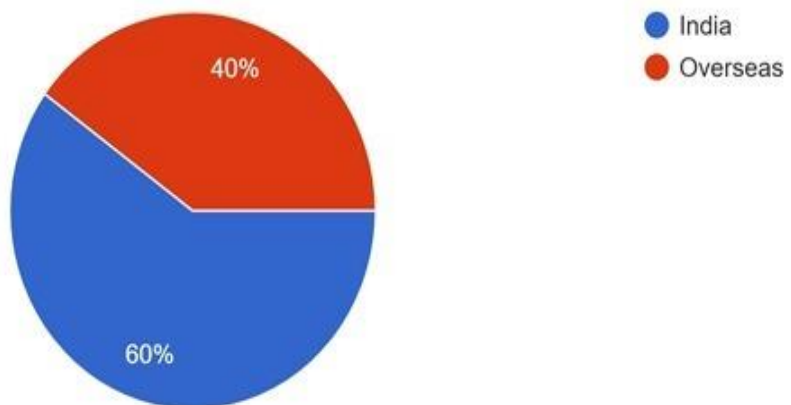
The next challenge was the hamper of Manpower. More of technology reduced the amount of manpower since the work done by man was procured by the innovations in 1:2 ratios. This ratio caused industries to re-think of having more technology rather than manpower. The work was divided between the few who were capable of going an extra-mile in learning and going out of the way to do it at the same monetary funds. As per the survey 70.4 % people agreed that high use of technology had hampered the manpower. The use of technology directly impacts the life style of many families and also the environment at home. The survey proved that continuous

Has high use of technology hampered Manpower?
125 responses

- Yes
- No

29.6%

70.4%
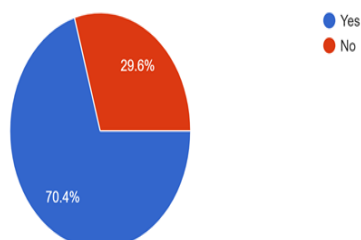
What percentage of health and environment is affected by use of technology?
125 responses

- 10% - 25%
- 25% - 50%
- 50% - 75%
- No Impact

28%

8%

12.8%

51.2%
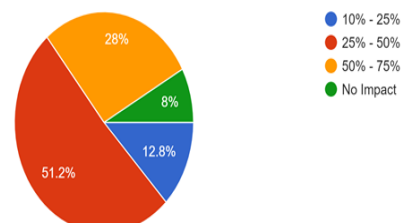
use of technology has a dramatic impact on our health and environment. This is approved by 92% of people that health and environment have been affected in different percentage day-on-day. Half of them i.e., 51.2% people thought that our health and environment have been impacted by 25% to 50%. 28% of them thought that 50% to 75% impact on our health can be seen. Further, 12.8% people thought that there was 10% to 25% impact of technology on our health and environment. And 8% of them thought that there was no impact on us and our environment. It seems that more than half i.e., 60% of our crowd saw more tech upgradation in India itself as compared to abroad. But, the impact of tech has not left the Indians at stake but has made them more strong and aggressive towards learning new skills and gaining the momentum to bridge the gap of tech upgradation.

Was virtual technology allowed in your company/industries to do things that were nearly impossible previously?
125 responses
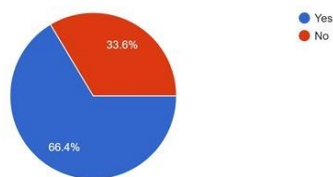
Based on information obtained through questionnaire it is clear, 84% of people thought that the tech upgradation was much compatible with the time span and growth. Thus the scope of technology that was less preferred seemed to catch the market at a top level. The work that seems to done in ages it now acquired at a click of the mouse or a press of a button. The virtual reality seems to capture every individual to think that all impossibilities are possible by the tech upgradations.

Out of the total respondents, 66.4% of them feel that such virtual technology to do things was not possible earlier as after such advancement in technology after COVID-19.

Conclusion

Was the tech innovation compatible to keep up with?
125 responses
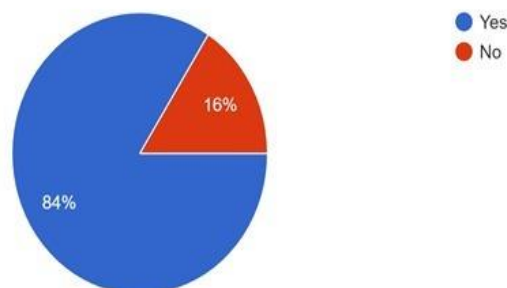
Tech innovation made lockdown a bearable event but got some serious health issues along. To Spending hours' parallel to technology affects our eyes and release more lethargic hormones in our body. Moreover, it was not accessible for people of all economic backgrounds to make up to the level of rise tech, which enlarged the social and educational gap. Pros and cons move parallel to each other but overall in our opinion and statistics it shows that more people have taken IT as an opportunity and made recognized and unrecognized inventions to fulfil their necessities and most importantly SURVIVE this pandemic. To summarize the revolution, it made to the IT

sector we would say that it experienced three years of digital transformation in just five months which made lockdown a productive affair.

Pros of Tech Innovation

1. Increased engagement from the hype.
2. New user interfaces or improved/added functionality are often great for the user experience.
3. We are all constantly striving to advance our knowledge.

Cons of Tech Innovation

1. Leads to the neglect of (and distain for) maintenance.

2. Doesn't put user problems at the heart of your solutions.

Tech innovation made lockdown a bearable event but got some serious health issues along. To Spending hours' parallel to technology affects our eyes and release more lethargic hormones in our body. Moreover, it was not accessible to people of all economic backgrounds which enlarged the social and educational gap. Pros and cons move parallel to each other but overall, in our opinion and statistics it shows that more people have taken IT as an opportunity and made recognized and unrecognized inventions to fulfil their necessities and most importantly SURVIVE this pandemic. To summarize the revolution, it made to the IT sector we would say that it experienced three years of digital transformation in just five months which made lockdown a productive affair.

CHAPTER 12
EXCLUSIVE OVER THE TOP MEDIA ORIGINALS VS. MAINSTREAM TELEVISION SOAP OPERA CONTENT: A COMPARATIVE ANALYSIS OF THE TWO FROM CONSUMERS' PERSPECTIVE

Abstract

The television industry has changed and is continuing to evolve. Once TV watched through the internet was thought of as impossible has now turned into a necessity million can't live without. Many have even ditched traditional TV watching and services for strictly internet-bound TV. This paper focuses upon this peculiar shift in the consumption patterns of the content of the consumers of different demographics on different media platforms. It throws light on the consumer preferences of entertainment in terms of genres, duration, price, censorship, etc. which can help in making both Soap Opera and web Series more optimized and dynamic in the future. Research methodology for the same has been a mix of secondary data analysis and consumption patterns.

The research reflects that although Conventional Soap Opera has a clear advantage over web series when it comes to pricing and 60% of people want that there should Censorship body of OTT Platform, the OTT sector in India witnessed a 30% rise in the number of paid subscribers, from 22.2 million to 29 million, between March and July 2020. Recent studies have also shown that the average time spent on OTT platforms surpassed 62 minutes. This is an increase of 15% from the last year but this does not mean that OTT or digital content viewership will supersede television content viewership and our good old friend will lose its sheen. While this might be possible in the distant future but for now television media isn't going to fade away soon. yes, the time spent and the way we seem to consume content is bond to see a shift, television will still be one of the dominant mediums for coming years and both Mainstream Television Soap Opera And web originals will continue to Co-exist without hampering each other.

Keywords: OTT, Media, Soap Opera, TV, Mainstream Viewership,

Introduction

The pay TV market in India is diversifying and growing rapidly with the emergence of new technologies and wider options in the entertainment field. The direct to home services have paved its way to most of the consumers but the outbreak of high speed and convenient internet has threatened its dominance as we witness a drastic change in the market with the arrival of convenient video on demand services in the form of Over-the-Top media platforms. The exclusive original content available on various OTT platforms differ from the content conventionally available to the viewers through the mainstream television media in various aspects, both qualitatively and quantitatively. This paper focuses upon the peculiar shift in the consumption patterns of content of the consumers of different demographics on different media platforms. The detailed analysis of the type of content, its availability, the target audience, price and other factors helps us in identifying the social and cultural impact both these types of content have on the Indian audience and can be used to effectively address the

masses through the medium of entertainment. The study mainly focuses on comparative analysis between mainstream television content particularly Soap Opera consisting of Indian TV series aired on Prime-Time entertainment TV channels and the newly emerging over the top media originals and web series aired through various Video on Demand Platforms and OTT platforms.

Objective

The main objective of this paper is to analyse the impact of difference of viewership on consumers' preferences towards direct-to-home services and over-the-top media subscriptions and to differentiate between the consumption patterns and demand of different types of content in the Indian Entertainment Industry.

Significance

The study signifies the drift in the entertainment industry and the pay TV market and looks forward to future prospects of growth in various media platforms. It also throws light on the consumer preferences of entertainment in terms of genres, duration, price, censorship etc which can help in making both Soap Opera and web Series more optimised and dynamic in future.

Research Methodology

Research methodology for the same has been a blend of both secondary data analysis as well as primary data analysis which include a primary survey conducted online using google forms with a sample size of hundred and various secondary surveys and public polls from reliable sources. The consumption patterns of exclusive over-the-top media originals have been considered and compared against those of mainstream television soap Opera content. The study has also taken into consideration the data from various regulatory authorities that draw the censorship and pricing guidelines for both OTT originals as well as daily Opera streaming platforms such as cable TV and DTH.

OTT: The need of the hour

"The last couple of years have seen a boom in the OTT space. While initially there were independent players acting as content curators, today broadcasters have their own digital platform to cater to the internet-savvy audience. There is no doubt that the platform is being aggressively marketed, be it in the form of TV ads, hoardings or free subscription offered to subscribers." Partho Dasgupta, CEO, BARC India. Platforms like Voot, Netflix, Amazon prime, Sony Liv and Zee 5 are OTT platforms developed by existing broadcast channels to remain relevant and to cater to the shift in audience from TV viewership to OTT platforms. India is currently the world's fastest growing OTT (over-the-top streaming) market, and is all set to emerge as the world's sixth-largest by 2024. The market is expected to grow at a CAGR of 28.6% over the next four years to touch revenues of $2.9 billion.

India is also the world's second-largest telecommunications market. The total subscriber base in the country stood at 1,168.66 million with a tele-density of 86.22%, as of September 30, 2020.
Gross revenue of the telecom sector stood at Rs. 66,858 crores (US$ 9.09 billion) in the first quarter of FY21.

Over the next five years, rise in mobile-phone penetration and decline in data costs will add 500 million new internet users in India, creating opportunities for new businesses and surprisingly future of regular soap opera isn't that void.

In this paper we will look at the detailed analysis of why OTT is emerging fast like never before, we would also look at main point of differences between OTT and normal soap opera and we will be finding out regarding the future opportunities for both the market depending upon the customer review and preferences. Here are the few points where the entire study revolve around-

1. Availability

Where Soap operas are aired on scheduled timings on fixed TV channels. The episodes are aired one at a time on the fixed days and in most cases, Soap Operas are either telecasted on weekday slots i.e., Monday to Friday, or weekend slots i.e., Saturday to Sunday. The catch-up episodes of most Soap Operas are readily available in the video Libraries of the OTT platforms corresponding to their respective media networks. The soap operas are currently commonly available to watch without paying subscription fees whereas Over the Top Media Original web series are exclusively launched on their respective OTT platforms. The original content is in most cases available only with the paid subscriptions. Most of the series have anywhere between 5 to 15 episodes per season. Unlike Soap Operas, most web series are unfolded in a season by-season fashion rather than an episode-by-episode fashion. The original content, once uploaded, remains available on the OTT platform and the viewers can access it anytime.

2. Pricing

Indian Preference	Percentage
OTT Platforms	55%
DTH	41%
Others	4%

Table 17: Average of Indian preference

Price determines the future of the product, acceptability of the product to the customers and return and profitability from the product. It is a tool of competition but when one is fed with quality and fresh content price fails to negate its original term, its role and interestingly this is what we have arrived on after our research and this is what we found that despite the four-digit number of 1000(covering all major OTT platforms) over the 750 bucks of mainstream television which is the real testament of people's mentality and mind-set. We have seen an increasing trend in consumers' preference in OTT media with 55% of the respondents favouring it followed by 41% of the people who still feel the worth in watching the mainstream television while we have 4% of the people either ways.

3. Type of content

Forget the hard sell and the dry press release. Audiences have wised up, so give them high-quality content that they can really engage with. One of the key ingredients of successful content marketing is 'quality' and this is something that the

current trend is helping bring more attention to, especially thanks to the impact of social media and the huge proliferation of channels it's now possible to market across. While the platform like OTT offers teenage dramas, fiction, adult comedy and thrillers whereas TV offers family drama, comedy, horror shows and debates. So, talking about content it gets really important to classify it on the basis of age groups and this is what we have done in our research project, you can see the respondents from different age groups –

Age Group	Percentage
Below 18	8.3%
18 to 30	50%
Above 30	41.7%

Table 18: Age Group Preference

It is clear from above table that age group below 30 have relatively more leaning towards OTT platforms but the middle age group is yet engaged with regular content of soap opera but a country like India with high youth population it is probably a clear message to all the platforms to have a youth driven content.

4. Censorship

Censorship Body	Percentage
Needed	83.3%
Not Needed	16.7%

Table 19: Average preference of Censorship body for OTT platform

It is clear from above table that censorship is need of hour.

Conclusion

As a result of analysing the various aspects of Indian Soap Opera Indian web content, this paper found that Conventional soap Opera has a clear advantage over web series when it comes to pricing but a number of other factors justify the rise of web series and Over the Top media originals; a major part of which being content differentiation strategy and service optimization strategy. These two factors play a significant role in popularising web based entertainment at a faster pace compared to the conventional Soap Opera. The emergence of high speed and low-cost internet has also acted as a catalyst in popularising Web based entertainment. While web-based entertainment is more specifically targeted, conventional soap dramas have the advantage of being produced for a mixed audience therefore being more family friendly. Censorship plays a vital role in both the types of content, where minimal censorship has helped the web-based content to be more realistic, bold and involving, the presence of a strict censor board has helped in retaining the family friendly content in case of Soap Opera. Apart from censorship, the genres and duration of the content also plays a major role. Viewers prefer different genres and time span while consuming different types of content, where family over dramas and mythological representations top the charts in case of Soap Opera, whereas users seem to have a wider range of preferences ranging

from crime thriller to light hearted comedies in case of Web Based Entertainment. Also, where on one hand Soap Operas are prolonged and continued for endless number of episodes, web-based content is seemingly crisper and has a lesser number of episodes.

Though both the types of entertainment continue to co-exist, there is a vast drift in the demand of DTH and OTT subscriptions. Time flexibility has played a vital role in popularising OTT and VOD media; therefore, a peculiar shift has been observed in consumers' preference towards OTT. The price also plays a major role, after new regulations from the Telecom Regulatory Authority of India (TRAI) the cost of DTH have changed significantly, costing more to the consumers to view only Soap Opera, that too not at their convenient timing; OTT on the other hand, in most cases, allow the users to view Soap Opera (with ads in between) without having to buy premium plans. Also, if the user subscribes to premium plans, they can view both Soap Opera and Its original web content along with various Regional, National and International movies and other content at no additional cost as against DTH where the user pays for every TV channel. While OTT seems to be clearly pacing ahead, DTH services are trying to cope up by enhancing their service in terms of user optimization. Though OTT has clear advantages over DTH, the internet connectivity issues, and lagging networks still pose as a major disadvantage for it. DTH also holds the advantage of being compatible with a wider range of TV's. also, DTH provides the conventional user interface of scrolling and number of channels, which by its users is considered essential to the experience of watching TV.

This paper produces results that both Soap Opera And web originals will continue to coexist without hampering each other but the consumption patterns of both will continue to differ. The study also lands up to the conclusion that Over-the-Top services are fast paced and might replace the conventional cable TV and Direct to Home services at some time in the future but is currently far from near.

Recommendation

The study suggests that Soap Opera and web-based content cater to consumers differently in terms of genres and socio-cultural messages. Widely speaking, Soap opera mainly focuses on popular genres like family drama, romance, comedy, reality competitions, crime shows, horror, supernatural fantasy etc. Whereas web based originals have been experimenting with genres such as teenage dramas, thriller and suspense, adult dramas, rom coms, crime fiction, biopics etc. The soap opera usually offers dramatic fictional stories whereas web originals (except for intended thrillers) offer a comparatively less dramatized and light hearted fiction. The better or worse is completely up to the viewer's personal discretion. In terms of content, personal opinions may favour any of the two, however in terms of price, watching Soap Opera on OTT is clearly better than watching it.

TV or external devices to be compatible with TV and also sound internet connectivity. DTH is compatible with a wider range of televisions and also does not require internet connectivity. Parental controls are also easier with DTH than compared to OTT. OTT or DTH, clearly depends on the availability and choice of means from the user's end and also the type of content one wants to view.

References

1. Albarran, A. B. (Ed.). (2013). *Media management and economics research in a transmedia environment.* Routledge.
2. Ashrafi, D. (2014). Forcing the connection: The antitrust concerns with broadband data caps and data discrimination in the wake of the new Internet television age. *Santa Clara L. Rev., 54*, 465.
3. Banerjee, A., Alleman, J., &Rappoport, P. (2013). Video-viewing behavior in the era of connected devices. *Communications & Strategies,* (92), 19-42.
4. Over-the-top media services (2021, 3 April). In Wikipedia https://en.wikipedia.org/w/index.php?title=Over-the-top_media_services&oldid= 1015706533
5. National Informatics Centre, (2018). In Ministry of Information and Broadcasting https://mib.gov.in/about-digital-media-
6. EIO, A, (2010). The Times of Express, https://indianexpress.com/?s=ott
7. Al-Eid, A. (2012). Brand Equity from Economics Times, https://brandequity.economictimes.indiatimes.com/search/ott
8. Regal, R. (2012, April 7). Financial Express, https://www.financialexpress.com/?search_scope=1&s=ott
9. Rosario, R. (2008), Live Mint, Journal of Computer Explosion, 27(10), 1327-33. https://www.livemint.com/Search/Link/Keyword/ott.

Link for the Google form is given below -
https://docs.google.com/forms/d/e/1FAIpQLSemxt5y0qRs9kEbHVbI-FIBGDXpzRkUB6SQ5-pOedTZzo3bbQ/viewform

Figure: Questionnaire used for data collection

CHAPTER 13

CORONA VIRUS PANDEMIC AND THE BROKEN SYSTEM OF BIO-MEDICAL WASTE MANAGEMENT

Biomedical waste means any waste, which is generated during the diagnosis, treatment or immunization of population or animals or in research activities relating to the production or testing of biological. Biomedical waste poses various health and environmental hazards. Hence, it should be handled with the utmost care and disposed off safely. Several lacunas exist in the management of biomedical waste in India, and the pandemic posed by the corona virus has made it even more challenging. The sudden outbreak of the virus led to an exponential rise in the quantity of biomedical waste. Furthermore, the poor infrastructure and lack of human resources have aggravated this situation. To combat this serious problem in a timely manner, the government has formulated various standard operating procedures and has amended the existing rules and guidelines. "Biomedical waste treatment facility" means any facility wherein treatment, disposal of biomedical waste or processes accompanying such treatment or disposal is administered.

According to a Central Pollution control panel (CPCB) report, India generates about 101 Metric Tonnes per day (MT/day) of COVID-19 related bio-medical waste. The outbreak of Novel Corona virus has not only uncovered the poor healthcare infrastructure and lack of watchfulness to battle a pandemic but also loopholes in the waste management procedure in the country. According to a report filed by the Central Pollution Control Board (CPCB) in the National Green Tribunal in July, India generates about 101 Metric Tonnes per day (MT/day) of COVID-19 related bio-medical waste. This amount is in addition to the usual bio-medical waste generation of about 609 MT per day. The report clearly states that the available capacity for incineration of COVID-19 biomedical waste in the country is about 840 MT against the total generation of about 710 MT per day. Disposal of biomedical waste generated from hospitals treating COVID-19 patients also demands extreme care as they can be potential carriers of the virus – SARS CoV2.

Incineration is one of the most popular ways to deal with Bio Medical waste; it has an advantage that it results in converting infectious waste into biologically sterile products. The ashes produced are roughly 5-10 per cent in volumes and can be managed appropriately as by-products/aggregates if toxins or hazardous materials are below the threshold limits. The **disadvantages of incineration** are connected with high treatment costs and resulting air pollution in forms of Black carbon, dioxins and others, only if they are not properly handled. Incineration isn't the sole medium to treat bio-medical waste. There are many greener options available like **bio-mechanization** – an anaerobic digestion process to convert biodegradable waste into electricity. To avoid the spread of disease through waste routes, it should be ensured that all waste are segregated and managed appropriately.

This study will try to find out if there are any loopholes in the system of treating Bio Medical waste during the outbreak of Corona virus and what all appropriate

measures can be opted to bring about more efficiency in the system to deal with the same. For collection of primary data due to protocol of Covid- 19 method of online and telephonic survey was used.

Introduction

Biomedical waste (BMW) differs from general municipal waste as it poses various health hazards. BMW management rules 2016 and the amendment rules 2018 are the latest guidelines from the ministry of environment, forest & climate change to regulate the handling of BMW activities in the country. India is the second-most populous country after China and one of the worst-hit nation by the corona virus disease 2019 (COVID-19) Due to the flawed biomedical waste management system and lack of resources, India faces severe consequences during the COVID-19. Untreated and improperly managed BMW is a potential source of infection. The untreated or the rudimentary handling of BMW creates a nuisance.

The JAIPUR city generates one tonne of biomedical waste daily, which is collected from hospitals and covid care centres, but patients under home isolation have to carefully dispose of biomedical waste such as masks as it is the responsibility of patients to prevent others from getting infected. The firm roped in by Jaipur Municipal Corporation for collecting biomedical waste is responsible for collecting such hazardous waste from hospitals and covid care centres but not from homes where Covid patients are undergoing treatment.

The number of persons infected with the corona virus disease (COVID-19) is continuously rising throughout the world. Due to viral outbreak, many types of additional medical and hazardous waste are generated including infected masks, gloves, syringes, samples, and other protective equipment, drain bags, urine bags, body fluid or blood-soaked tissues/cotton, empty ampoules etc. Medical waste and household waste, when mixed, can create secondary impact upon the health of the community at large and the environment. Unsound management of this waste could cause unforeseen "knock-on" effects on human health and the environment and therefore, safe-handling and disposal of such waste is essential.

Process for handling and managing the BMW in India

Biomedical waste isn't handled similar to a municipal waste. The central pollution control board (CPCB) is the apex body to monitor the country's BMW management activities under the ministry of environment, forest, and climate change. There are separate state pollution control boards in each state to supervise and regulate the BMW activities within the state and report the findings to the CPCB.

The country has a rigorous policy of onsite segregation of the generated BMW and storing, transporting, and disposing of them in observance to the biomedical waste rules framed by the ministry under the Government of India. It is mandatory for all the diminutive clinics, diagnostics, laboratories, nursing houses, hospitals and other healthcare institutions to comply with these guidelines. The BMW is treated, sterilized, and sent for recycling, incineration, or land filling based on the waste category. Violating these guidelines by healthcare facilities and disposal facilities will subject them to penalties. Despite stringent rules and liability, the country reports a

high degree of non-adherence to these guidelines which show the poor biomedical handling and management in India.

Previously, the country had ten different categories of waste for segregation. Later, it was amended into four classes for easy segregation. Infected or potentially infected waste is labeled as yellow, apparently non-infected and recyclable fall within the red category, sharps and minute metallic items comes under the white category while waste consisting of glass is segregated into the blue category. The treatment of solid waste at the site of generation or storage is prohibited according to the updated guidelines.

Existing problems of BMW and crisis during COVID-19 pandemic

The most populous cities like Delhi, Mumbai, Bangalore, Chennai, Hyderabad, etc. are the most affected cities by COVID-19. The country is generating a considerable amount (Above 100 tonnes/day) of COVID-19 related biomedical waste in the country. Now the national daily waste generation is reaching around 850 tonnes/day.

The country doesn't have sufficient infrastructure and human resources to handle this huge amount of BMW. The workers involved in BMW management are pitching in extra hours to cater to this need. Additionally, inadequate safety measures for the BMW workers continue to remain another major challenge in the Indian context. At present, around five million sanitation workers are performing their duty and cleaning the country and these laborers (Safai karamchari) are simultaneously handling the biomedical waste as well, they are not provided with the necessary personal protective equipment. According to the evidence from scientific literature, the virus may stay for more than 24 h within the cardboard, boxes, other rigid substances and around 72 h on the surfaces of metals and sharps, which is a considerable danger for the workers collecting the waste for their continued existence. More than thousands of waste workers have contracted the virus and hundreds of them have lost their lives.

S. No.	States /UTs	Generated BMW (In tons)							Total Number of CBMWFs (Till December 2020)
		June 2020	July 2020	August 2020	September 2020	October 2020	November 2020	December 2020	
1	Delhi	333.42	389.58	296.14	382.5	365.893	385.47	321.32	2
2	Rajasthan	177	7.15	50.43	145.08	171.554	141.93	105.93	8

Details on the generation of COVID-19 related BMW from June 2020 to December 2020.

The approach of the nation towards biomedical waste handling during the COVID-19 pandemic

The pandemic scenario added to an unexpectedly high BMW amount from the hospitals, testing laboratories, and quarantine centers. This increment in the volume and quantity places a high demand for additional resources and training. There is an urgent requirement for additional personal protective equipment and workers to manage biomedical waste safely.

A lack of sufficient data and accurate information on BMW during COVID-19 exaggerates the problem further. To overcome this alarming situation, the central pollution control board and the All India Institute of Medical Sciences, New Delhi, framed new guidelines for the safe handling and disposal of BMW. The likelihood of health hazards has seen an increase by many folds during the pandemic due to the high infectivity of the virus

Measures required within the healthcare facilities for safe handling and disposal of biomedical waste

The guidelines recommend the utilization of color-coded bins for onsite segregation and the usage of double-layered bags in the COVID-19 seclusion areas. There should be extra and temporary bins for disposable gloves and masks and separate containers for reusable materials.

The feces from the confirmed COVID-19 positive patient should be collected within a diaper and segregated as the yellow category BMW or it can be collected in a pan and flushed in the toilet.

The bags and containers should be well labeled as "COVID-19" for easy identification, treatment, and disposal of BMW. The outer and inner surfaces of the containers and trolleys should be cleaned daily by using a 1–2% sodium hypochlorite solution.

A separate record should be maintained for BMW generated from COVID-19 related activities, and the same should be reported to the pollution control board.

The facilities can download the official application of the central pollution control board (COVID19BWM) from the Google play store and register in the app in order to upload the details with ease.

A separate arrangement for the transportation of BMW from the hospital to the common BMW disposal and treatment facility should be made.

There should be dedicated vehicles for the transportation of BMW, and it should be sanitized after every trip.

BMW generated from COVID-19 related activities should be strictly disposed of within 24 h.

All the waste collected from the nearby isolation and quarantine centers should be treated as BMW generated inside the hospital and the particulars should be documented and reported to the pollution control board.

Liquid waste should be treated chemically, and the disinfection process should ensure the inactivation of corona viruses in an effluent treatment plant.

All the persons involved in the treatment of BMW (COVID-19) should be given the requisite training and personal shielding equipment. These individuals should adhere to the standard operating procedures, follow basic hygiene and infection control measures, and undergo regular health screening. This should be accompanied by education, training and awareness at regular intervals.

The amendments mentioned in the guidelines should be communicated to all the people involved and should follow prompt implementation.

Managing the liquid waste and wastewater from hospitals and laboratories

The wastewater and liquid waste generated within the healthcare facilities while performing COVID-19 related activities should be handled and treated with the utmost care. The management of liquid waste differs from solid waste due to its physical nature and hence, the processes used for the management of solid BMW are not applicable to liquid waste. The following measures as directed by the central pollution control board can be taken into consideration:

- All the healthcare facilities operating STP and the terminal sewage plant operators are responsible for treating the liquid waste.
- The hospital and the person involving in its handling should ensure the inactivation or death of corona virus.
- The workers involved in the handling of wastewater treatment should be protected with PPE
- The utilization of treated water from the STP can be avoided during the pandemic.

How to pile up, move, and dispose of biomedical waste generated from the quarantine centers?

The waste generated in the quarantine centers should be segregated at the site of generation and kept in the designated bags/bins/boxes like the handling of BMW in healthcare facilities. All the quarantine centers should be sufficiently supplied with yellow and red bags, blue cardboard and white puncture-proof containers for onsite segregation and waste collection. The biomedical waste generated in the quarantine centers should not be stored for more than 24 h after production. The BMW should be transported to the common disposal facilities for final disposal. The state pollution control board should continuously monitor the BMW handling and management procedures in the quarantine centers and ensure compliance with the standard guidelines.

Duties of the authorities and people involved in the BMW treatment during the COVID 19

The authorities should give the utmost priority to the management of BMW to prevent virus transmission. An excellent team who are trained, prepared and informed on the updated guidelines should be in charge of the handling and processing of biomedical waste in these centers.

Duties of biomedical waste management company, hospital and CBMWF (Common Bio-Medical Waste Treatment Facility)

- Timely collection of BMW from the quarantine centers (at least twice a day).
- Providing all the personal protective equipment to the persons involved in the transportation and disposal of BMW.
- Regular sanitization of the BMW workers.
- Encouraging the strict adherence to the guidelines during the transportation and disposal of waste.
- Providing the information regarding the reception of BMW to the generating facilities.
- Handing over the disinfected or sterile waste to the respective agency for recycling.
- Providing updated information to the BMW handlers.
- Assist healthcare facilities and quarantine centers during the training.
- Maintaining proper records and documents for at least five years.
- Auditing the records with the generating facilities.
- Any injury or accident case should be reported to the quarantine facility in charge or the sanctioned authority.
- Continuous education, training, monitoring and supervision of BMW handling processes (daily basis).

Duties of state pollution control board

- They should ensure the compliance of healthcare facilities and other BMW generating centers to the BMW rules 2016.
- They can allow the CBMWF for additional hours of work, but it should be monitored and recorded accurately.
- They should make sure that the minimum documentation for the authorization of quarantine centers is received and maintained.
- They shall monitor and supervise the BMW handling activity of all the facilities regularly and document the same.
- Remote quarantine centers beyond the reach of CBMWFs should be permitted for the deep burial of BMW.
- The state control board should assist CBMWFs with any required resource collection and disposal during the pandemic.
- In case the amount of BMW exceeds the capacity of CBMWFs, the hospital or healthcare setting can be permitted for incineration within the health care setting.
- State pollution control should download and use the COVID19, BWM app and stay updated with the uploaded data regularly.

Survey Analysis

Do you know that Bio medical waste is a separate category of waste, which needs to be treated separately?

68 responses

- Yes
- No

8.8%

91.2%
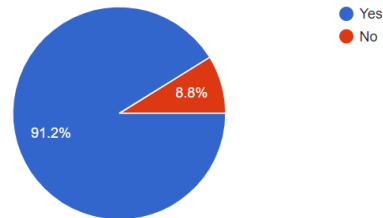
91.2% of respondents showed awareness about Bio medical waste as a separate category which should be treated separately, while 8.8% of the respondents were unaware about separate category of bio medical waste.

Do you think that the sudden outbreak of the virus led to an exponential rise in the quantity of biomedical waste?

68 responses

- Yes
- No
- Don't know

11.8%

85.3%
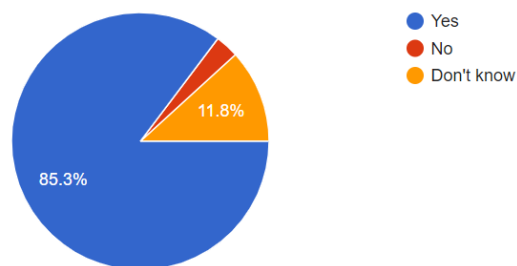
85.3% of respondents were of the view that sudden outbreak of the virus has lead to an exponential rise in the quantity of biomedical waste, 2.9% disagreed with the same while 11.8% showed disagreement with the same.

Safe management of healthcare waste is not an issue at all.

68 responses

- Agree
- Disagree
- No comment

16.2%

63.2%

20.6%
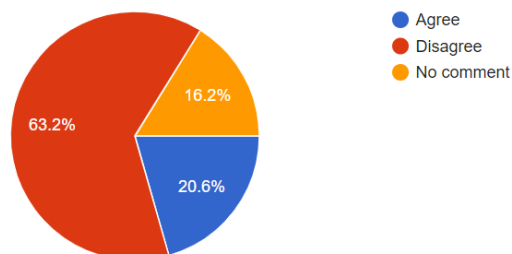
63.2% respondents disagreed with the statement that safe management of healthcare waste is not an issue at all, 20.6% agreed that healthcare waste safe management does not make a difference while 16.2% didn't commented on the same.

Biomedical waste management is team work.

68 responses

- Agree
- Disagree
- No comment

89.7%

8.8%
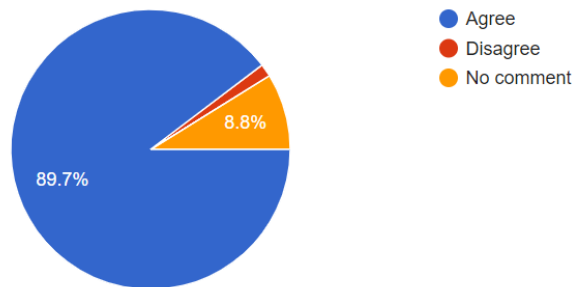
89.7% respondents agreed that biomedical waste management requires team work if government, private sector, NGOs, public join hands together biomedical waste can be treated more efficiently. 1.5% respondents disagreed while 8.8% respondents didn't comment on the same.

Safe management of Health care waste is an extra burden on work?

68 responses

- Agree
- Disagree
- No comment

30.9%

39.7%

29.4%
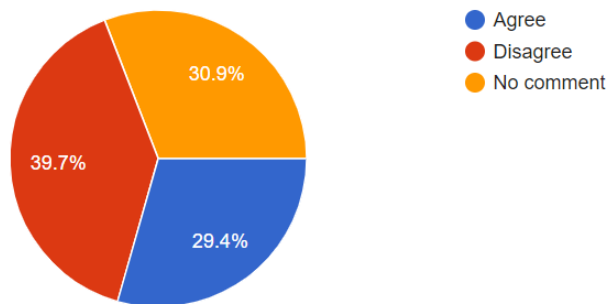
28.4% respondents agreed that safe management of health care waste poses extra burden of work, 39.7 % are of the view that it is extremely important and does not pose extra burden while 30.9% respondents didn't commented on the same.

What agencies regulate waste generated at health care facilities?

66 responses

- State
- Private
- Don't know

45.5%

15.2%

39.4%

149
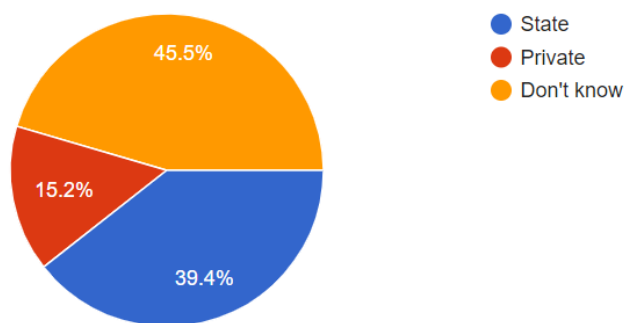
39.7% respondents are of the view that state owned agencies regulate waste generated at health care facilities, 15.2% are of the view that this work is done by private sector agencies while 45.5 % showed unawareness in this regard.

Biomedical waste (Management and Handling) rules were first proposed in?

55 responses
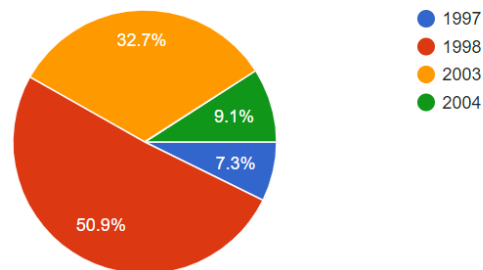
50.9% respondents are of the view that Bio medical waste (management and handling) rules were first proposed in 1998, 32.7% said that rules were proposed in 2003, 9.1% said in 2004 while 7.3 % held that the rules were proposed in 1997.

However, in July 1998, first BMW rules were notified by Government of India, by the erstwhile Ministry of Environment and forest. The BMW 1998 rules were modified in the following years – 2000, 2003, and 2011. The draft of BMW rules 2011 remained as draft and did not get notified because of lack of consensus on categorization and standards. Now Ministry of Environment, Forest and Climate change in March 2016 have amended the BMWM. These new rules have increased the coverage, simplified the categorization and authorization while improving the segregation, transportation and disposal methods to decrease environmental pollution. The Biomedical waste management rules, 2016 have been further amended on March 28, 2018 as "Bio-Medical Waste Management (Amendment) Rules, 2018".

Do you know about color-coding segregation of BM waste?

66 responses
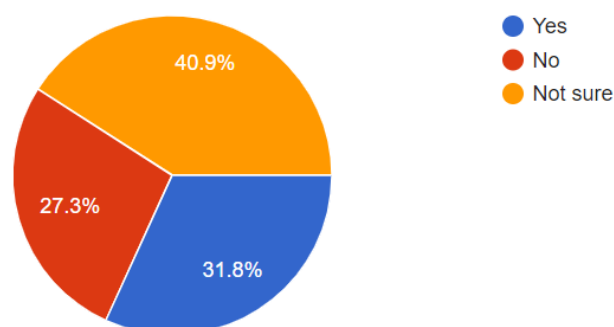
31.8% respondents agreed that they have heard about color coding segregation of biomedical waste, 27.3% refused to have heard about color coding of BM waste, while 40.9% were not sure about it.

## Can inappropriate bio medical waste disposal cause health hazards?

67 responses

- ● Yes
- ● No
- ● Don't know

10.4%

83.6%
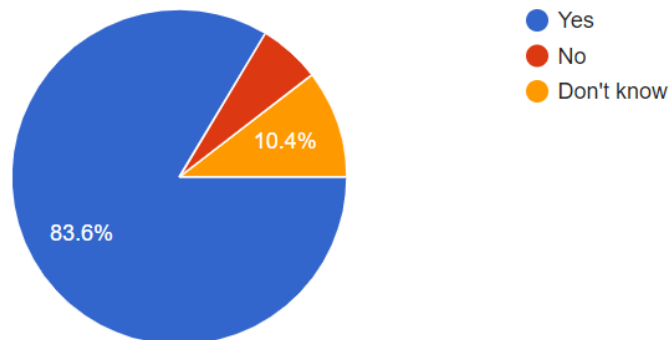
83.6% respondents are of the view that inappropriate disposal of bio medical waste can cause health hazard, 10.4% expressed their unawareness in this regard while 6% showed their disapproval in this regard.

## Would you like to have a lecture or programme to enhance knowledge regarding biomedical waste management?

66 responses

- ● Yes
- ● No
- ● Not sure

18.2%

25.8%

56.1%
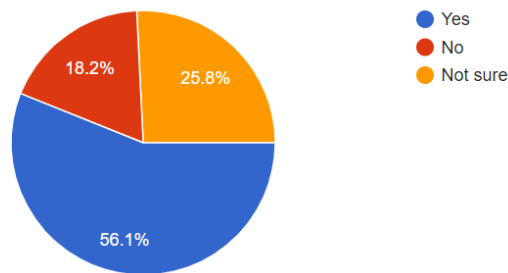
56.1 % respondents were of the view that they would like to have a lecture or programme to enhance their knowledge regarding biomedical waste management, 25.8 % were not sure about it while 18.2% refused.

Should health care institutions have bio medical waste audit on regular basis?

67 responses

- ● Yes
- ● No
- ● Not sure

9%

14.9%

76.1%
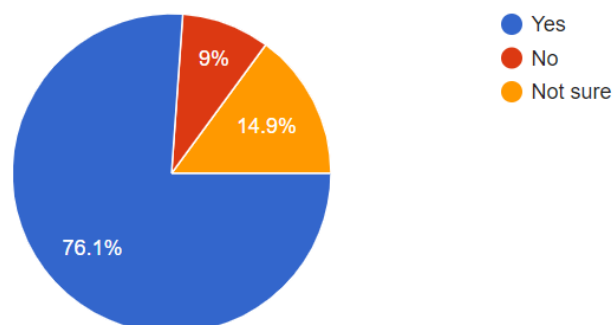
76.1% respondents are of the view that health care institutions should have audit on regular basis this will ensure that they strictly abide by Bio-medical waste rules, 9% showed their disapproval in this regard while 14.9% were not sure about it.

How can you describe the state of the public bind near your home?

62 responses

- Rusting/rotting
- Adequate size
- Inadequate
- In a good state
- Not in a good condition
- Don't know
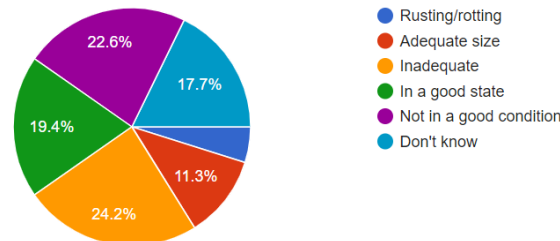
Only 19.4% respondents said that public bins near their houses are in good condition, 22.6% said they are not in good condition, 17.7% said that they do not know about the condition of public bins near their houses, only 4.8% said that public bins near their houses are rusting/ rotting, 11.3% said that the bins are of adequate size while 24.2% said that the size of public bins was not adequate,

Are you satisfied with bio medical waste collection and disposal process?

63 responses

- Yes
- No
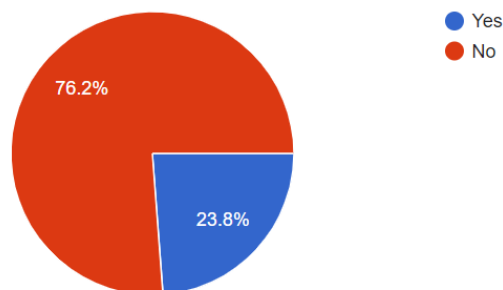
76.2% respondents expressed the opinion that they are satisfied with bio medical waste collection and disposal process followed in the city, while 23.8% showed their dissatisfaction in this regard. However there are always chances of betterment.

Conclusion

Untreated biomedical waste is a potential source of pathogens. The etiological agent of the pandemic is extremely contagious and rapidly transfers from one person to another via different routes owing to its high transmission rate, the danger of getting infected is persistently high. Realizing the threat of disease, state and central pollution control boards in association with AIIMS New Delhi have framed various guidelines. These guidelines are focused on the prevention of healthcare personals and workers involved in its handling and management.

Strict compliance with these newly framed guidelines will make the management of the exponential increase in BMW easier and safer for the environment and community. Community participation and awareness programmes can bring about progressive change in the management of the situation. Neo-participatory role for the public and private sectors in promoting the well being of the people is being appreciated throughout the world. The 21st century PPP can augur a refined strategy for societal governance.

References

1. Ministry of Environment, Forest, and Climate Change, Biomedical waste management rules, New Delhi (March. 2016), pp. 1-63
2. S. Chand, C.S. Shastry, S. Hiremath, J.J. Joel, C.H. Krishnabhat,U.V. MatetiW ater, sanitation, hygiene and biomedical waste disposal in healthcare system: a review Biomedicine, 40 (2020), pp. 14-19

3. Ramteke S, Sahu BL Novel coronavirus disease 2019 (COVID-19) pandemic: considerations for the biomedical waste sector in India. Case Studies in Chemical and Environmental Engineering. https://doi.org/10.1016/j.cscee.2020.100029.Google Scholar
4. Medical waste generation during COVID-19 (SARS-CoV-2) pandemic and its management: an Indian perspective Asian Journal of Environment & Ecology, 13 (1) (2020), pp. 10-15 CrossRefView Record in ScopusGoogle Scholar
5. Annual Report 2017/2018. Ministry of Environment, Forest, and Climate Change (2018), pp. 1-153 https://cpcb.nic.in/openpdffile.php?id=UmVwb3J0RmlsZXMvOTIyXzE1NjQ wMzg5OTFfbWVkaWFFwaG90bzE0Mjg2LnBkZg==,
6. Annual Report 2018/2019. Ministry of Environment, Forest, and Climate Change (2019), pp. 1-160 https://cpcb.nic.in/openpdffile.php?id=UmVwb3J0RmlsZXMvMTExOV8xNT k3MDM3NTM0X21lZGlhcGhvdG8xOTY1Ni5wZGY=, View Record in ScopusGoogle Scholar
7. Y. Ma, X. Lin, A. Wu, *et al.* Suggested guidelines for emergency treatment of medical waste during COVID-19: Chinese experience Waste Dispos. Sustain. Energy, 2 (2020), pp. 81-84, 10.1007/s42768-020-00039-8 CrossRefView Record in ScopusGoogle Scholar
8. A. Arya, G. Mandavkar Impact of bio-medical waste management on corona virus in India: a critical analysis International Journal of Law Management & Humanities, 3 (2020), pp. 733-74402 View Record in ScopusGoogle Scholar
9. COVID-19: protecting waste workers, maintaining regular waste collection https://www.iswa.org/home/news/news-detail/article/blog-waste-management-during-the-coronavirus-pandemic/109/
10. K. Alversion COVID 19 management, how COVID 19 pandemic is changing waste management Health management, the journal, 20 (2020), pp. 332-33404View Record in ScopusGoogle Scholar

CHAPTER 14

E-LEARNING: THE NEW NORMAL

ABSTRACT

The entire education system, from preschool to higher institutions, has collapsed during the lock-down period of the novel coronavirus disease 2019 (COVID-19) not only in India, but across the globe. As a result, curriculum has evolved significantly, with a marked spike in e-learning, whereby teaching is taking place online and on digital platforms. However, there are obstacles to be addressed. Any students lacking adequate internet connections and/or technologies are failing to engage in digital learning; this disparity is visible across countries and across national income brackets. In the wake of the COVID-19 crisis, online education became a pedagogical change from the conventional system to the new approach of teaching-learning from classroom to Zoom, from personal to interactive, and from seminars to webinars. Previously, e-learning, distance learning and correspondence courses were commonly regarded as part of non-formal education, but from now onwards, it appears that it might eventually overtake the formal education system if conditions continue over time.

This Research study will provide both a quantitative and a qualitative approach to the study of teachers' and students' views of online teaching-learning modes in the institutions of Rajasthan. The purpose of this research is to draw a holistic image of the ongoing online teaching-learning practices during the lock-down phase, including the link between the change management process and the online teaching-learning process in the education system in the midst of the COVID-19 outbreak, in order to resolve the continuing instructional disruption and ultimately ensure the resumption of educational activities. The analytical approach is being used wherein combination of numerical measurement and in-depth exploration has been involved. The numerical primary data was collected for a sample size of 150 students, 40 teachers and 30 parents. The questionnaire for all three categories was circulated through Google-Forms. It also explores the in-depth exploration viewpoint of students, teachers and parents through the conclusions drawn from questionnaires.

INTRODUCTION

The Covid-19 pandemic has wreaked havoc on education systems on a level that is not seen before in human history. Since the Covid-19 pandemic had devastated people's normal lives all over the planet, the virtual world has stepped into cope. Although, it has served as a catalyst for education systems to develop and choose platforms with new unimaginable technologies. To effectively remove the challenge of the pandemic, the education sector has been struggling to survive the crises with a new strategy and digitizing the challenges. E-learning had been found to be a significant tool for effectively continuing the teaching–learning process during the lockdown. The delivery of learning and training through digital resources is known as E-learning. Technology has long been recognized as a vital component of school reform, and it has gained tremendous popularity during the pandemic. The development in technologies has offered a favourable domain for teaching-learning process. Furthermore, both government and non-government agencies, as well as ed-tech

Firms, are collaborating to assist the school system in making a seamless transition to the virtual world. Hence, this research focuses on the latest virtual experience for students, teachers, as well as parents. The positive and negative effects of COVID-19 on education are addressed, and some useful strategies for carrying out educational activities during the pandemic scenario are also presented.

REVIEW OF LITERATURE

According to Hindustan Times, "According to teachers and experts, online education throughout the year has adversely affected students' abilities to learn and grasp various things. The lack of understanding among students about various topics and subjects came to fore during various assessment exercises. This has led to worries among teachers and parents at a time when final exams are approaching."

According to the Indian Express, "Smartphones and laptops, which were not allowed in classes and meant for restricted usage at home as well, became the backbone of education throughout the year as COVID-19 pandemic prompted a 360-degree shift from classroom teaching to the online space, including YouTube lectures, Zoom classes, WhatsApp exams and online quizzes. While students miss going to schools or colleges, experts say the "new normal" has opened doors for blended learning which is going to stay in the future and is not just a "stop gap arrangement"."

According to UNICEF, "the Covid-19 pandemic has battered education systems around the world, affecting close to 90 per cent of the world's student population. In India, over 1.5 million schools closed down due to the pandemic, affecting 286 million children from pre-primary to secondary levels. This adds to the 6 million girls and boys who were already out of school prior to Covid-19. This disruption in education has severe economic implications too. A World Bank report, 'Beaten or Broken: Informality and Covid-19 in South Asia', has quantified the impact of school closures in monetary terms-India is estimated to lose $440 billion (Rs 32.3 lakh crore) in possible future earnings."

According to Economic Times, "Even as the pandemic caught everyone off guard, the education sector rose gamely to the challenge. The mode of education shifted online, and, in the process, educational institutions navigated the challenges and discovered the opportunities that opened up, for the present and the future. Heads of some of India's top institutes spoke to Sreeradha D. Basu on how Covid-19 has been a game changer for Indian education, not just for their institutes but the ecosystem at large."

OBJECTIVES

- To Find the benefits of online mode of education for students.
- To highlight the opinion of teachers, students and parents on this mode of education.
- To give the suggestions for better implementation of it.

STATEMENT OF PROBLEM

The research focuses on the perspective of students, teachers as well as parents on the new normal education system adapted by the colleges, due to the covid-19

pandemic. The point of convergence is whether this new online method of teaching is beneficial to the students or not and how does it influence students' performance.

SIGNIFICANCE

During this pandemic many schools and colleges have started online education due to lockdown and to avoid the spread of the deadly disease. In addition to completing the children's course, the doubts are also being cleared online. Before these situations arrived, it was always a big-time debate regarding which is better online classes or traditional classrooms and now that almost all schools and colleges are using online modes for teaching, there are many points of views regarding the same, positive as well as negative. But this arrangement is very new to students as well as their parents and teachers. Most parents and teachers consider it as a problem for them. According to them, the responsibility has been piled on them more than anybody else in the name of online education. The research paper shows the prospective thoughts and problems faced by students, teachers and parents.

RESEARCH METHODOLOGY

Research Methodology is the pathway chosen by researcher to conduct their research. It shows the direction along which the researchers formulate their problems and objectives, and present the results of the data collected during the study period.

The Analytical Approach is being used in the research wherein combination of numerical measurement and in-depth exploration will be involved. The numerical primary data is collected for a sample size of 150 students, 40 teachers and 30 parents. The questionnaire for all three categories was circulated through Google-Forms. It also explores the in-depth exploration viewpoint of students, teachers and parents through the conclusions drawn from questionnaire.

DATA ANALYSIS AND INTERPRETATION

STUDENTS' QUESTIONNAIRE

1. **Do you have previous experience in e-learning?**
   The Graph here shows that there is no big difference between the experienced students and unexperienced ones. There is only the difference of 10%.
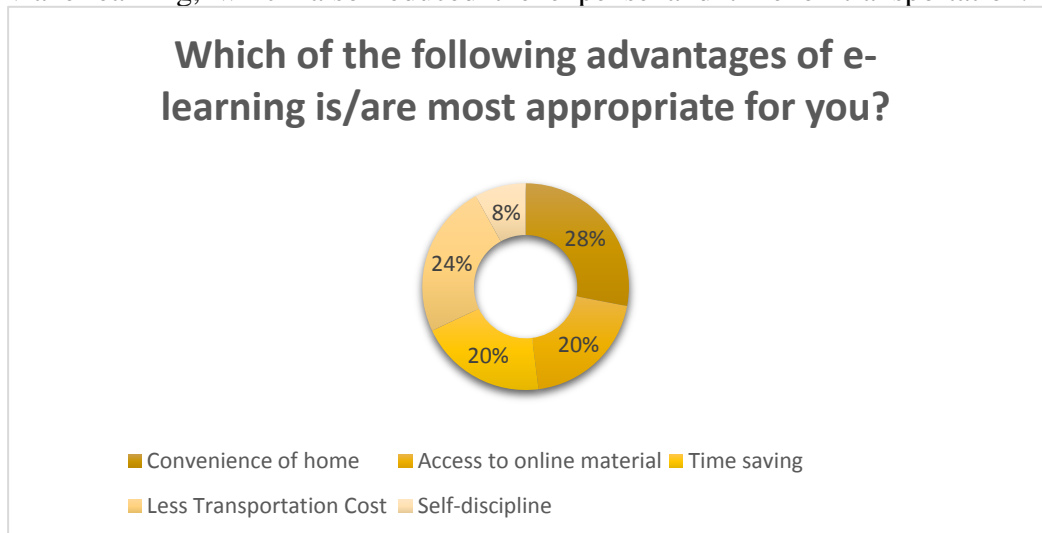

Do you have previous experience in e-learning?

■ Yes ■ No

45% 55%
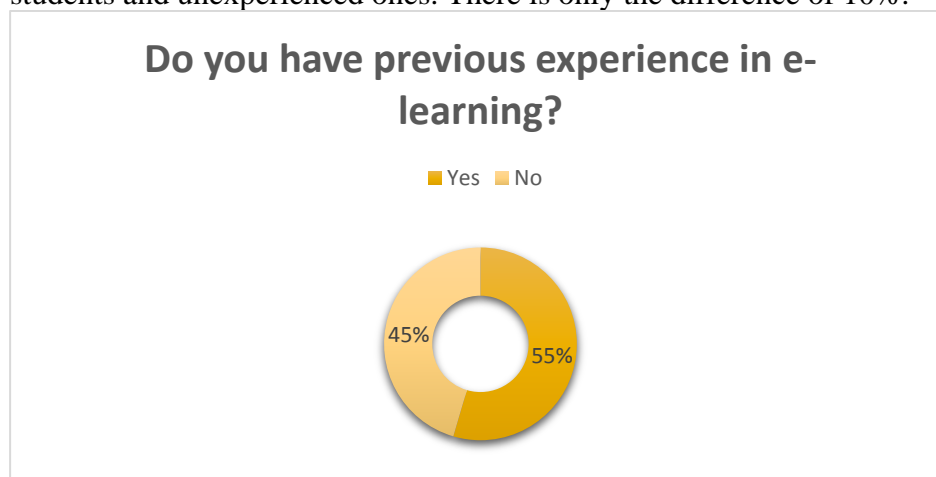
Graph 1.1

2. **How will you rate your IT skills?**
   A good number of the students believe that they have high level IT skills.

How will you rate your IT skills?

■ High ■ Moderate ■ Low

9% 9%

82%
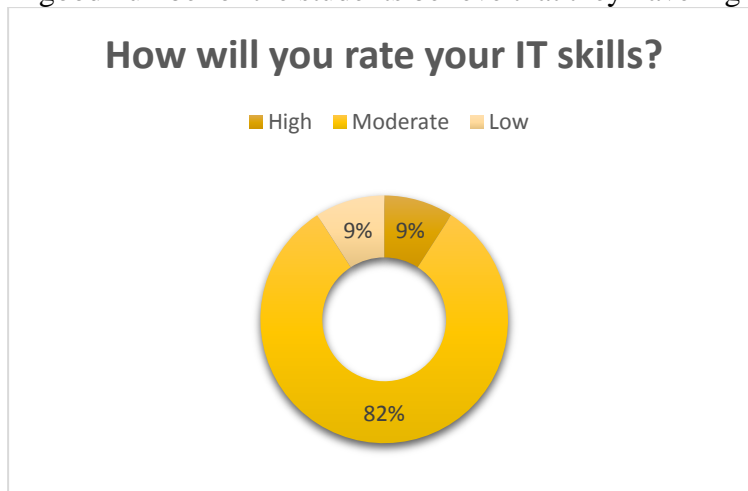
Graph 1.2

3. **Which of the following advantages of e-learning is/are most appropriate for you?**
   Most students found it convenient to be able to learn from the comfort of home via e-learning, which also reduced the expense and time of transportation.

Which of the following advantages of e-learning is/are most appropriate for you?

8%

28%

24%

20% 20%

■ Convenience of home ■ Access to online material ■ Time saving
■ Less Transportation Cost ■ Self-discipline

Graph 1.3

4. **Which of the following disadvantages of e-learning is/are most appropriate for you?**
   Students found the e-learning method more distractive compared to the normal way. The use of technology lead to technical problems and increase screen time as well. There were a few students who feel isolated or compelled to procrastinate.
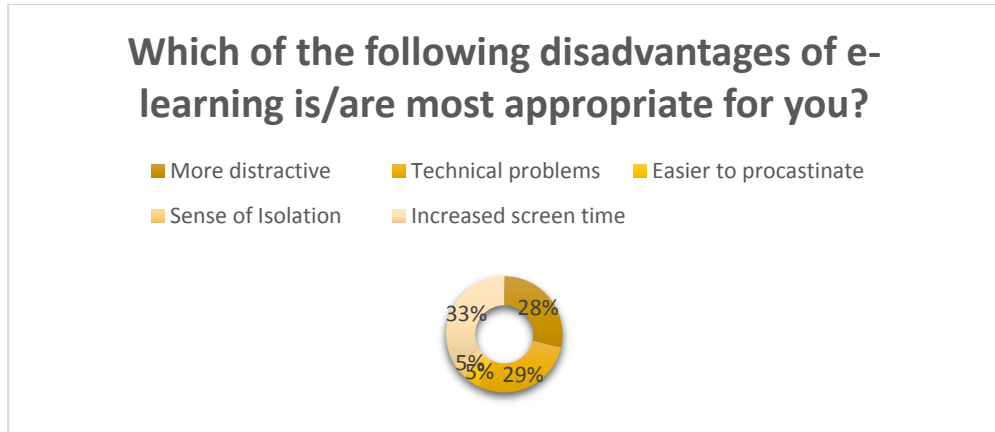
Graph 1.4

5. **Do you believe that online education was equivalent to face-to-face instruction in terms of learning?**

   But for a few students who felt positively about it to some degree, none of the students felt that face-to-face and online learning were nearly similar.
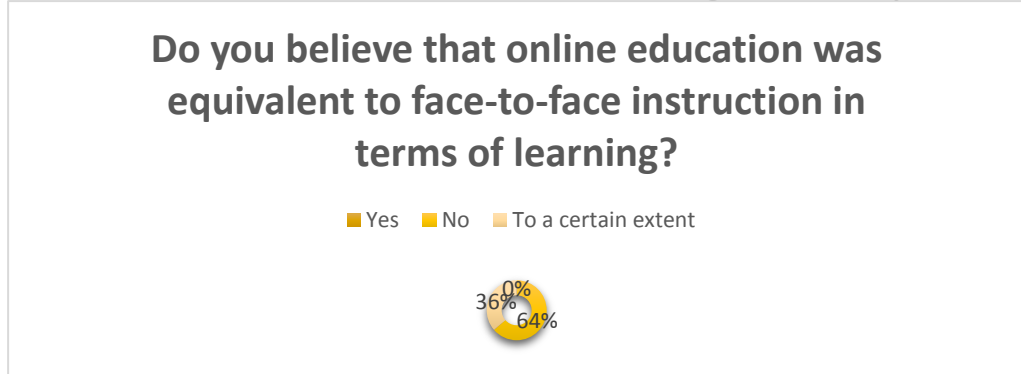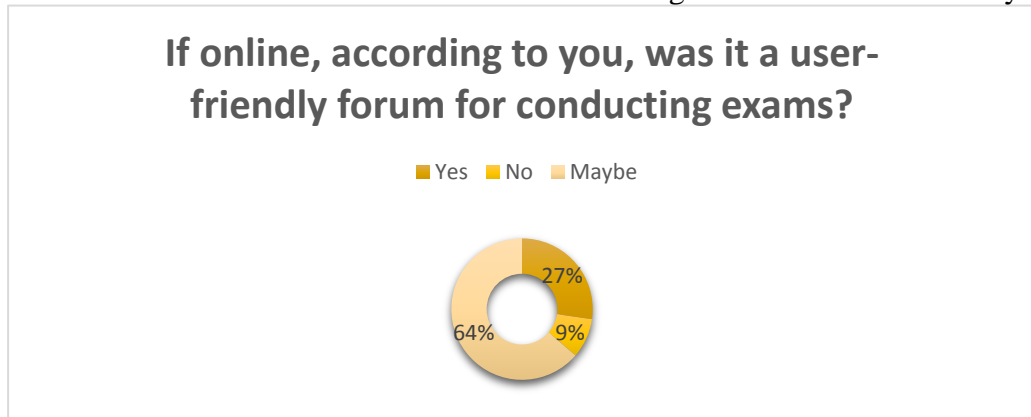

Graph 1.5

6. **How did your college conduct exam during pandemic?**

   All of the colleges conducted exams through online mode during the pandemic.

7. **If online, according to you, was it a user-friendly forum for conducting exams?**

   Owing to technological difficulties or a lack of expertise with IT, very few students considered the online method of conducting exams to be user-friendly.

Graph 1.6

8. Would you like to continue your studies through the internet?
Only 64% of the students would like to continue studying through the mode of internet.
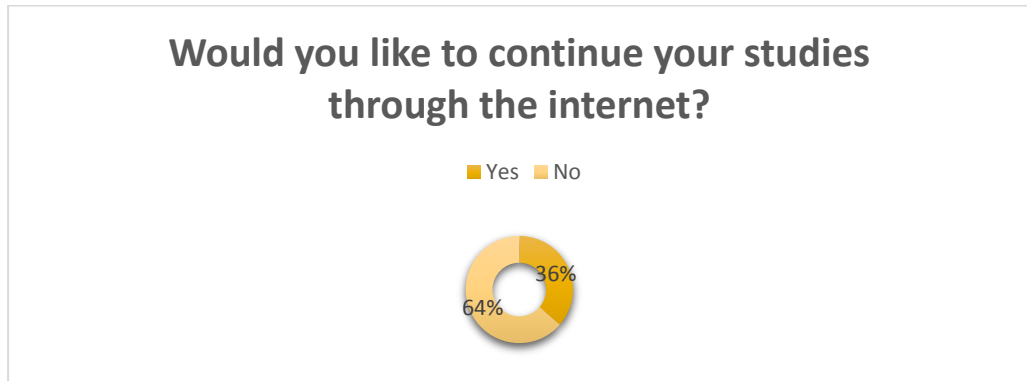
Graph 1.7

TEACHERS' QUESTIONNAIRE

**1. What is the total strength of your class?**
Graph 1 shows the answer to this question. Most of the teachers have 100 or more than 100 students in one class. Around 66% of sample size gives these results.
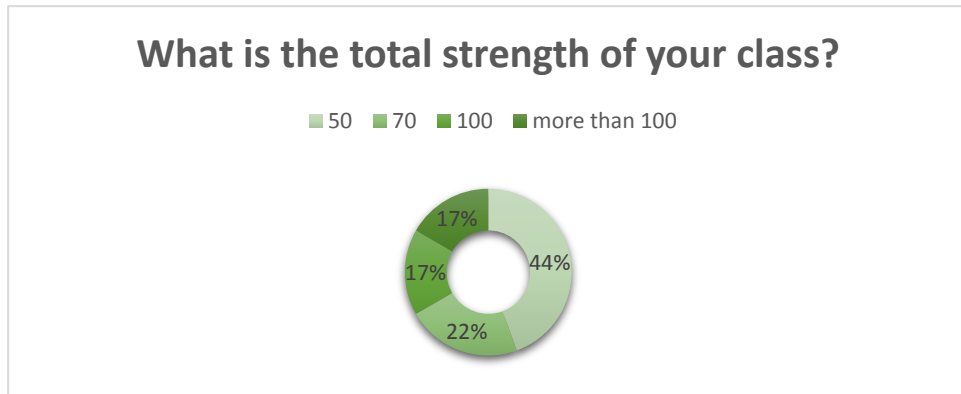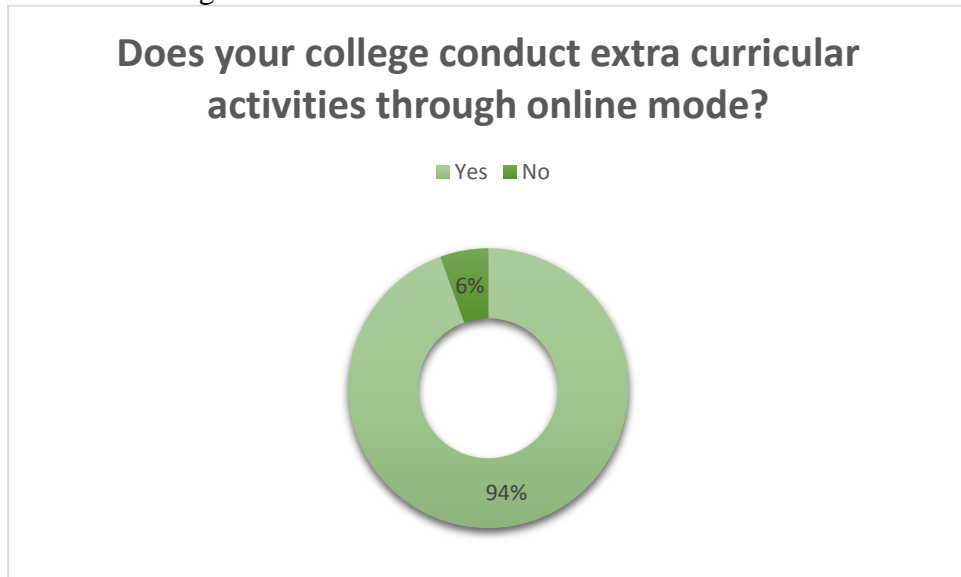

Graph 2.1

2. How many students attend your class?
In the classroom, about 61 percent of teachers have 70 percent of their overall strength present. During the pandemic, only a few teachers had nearly all of their students present.
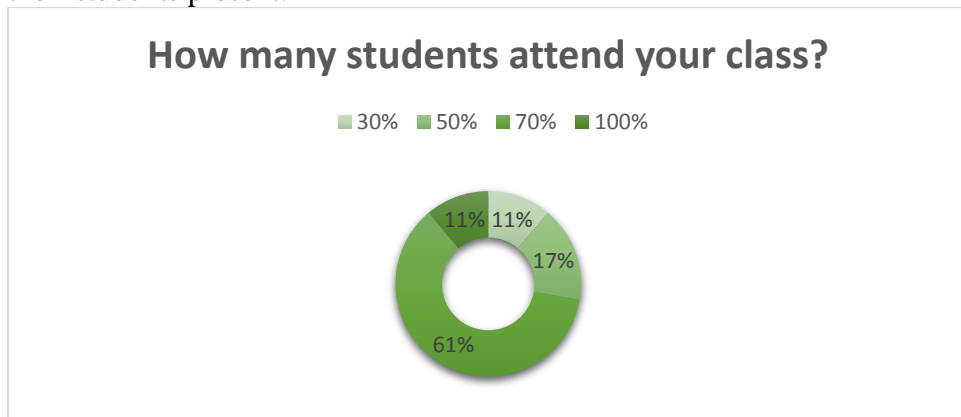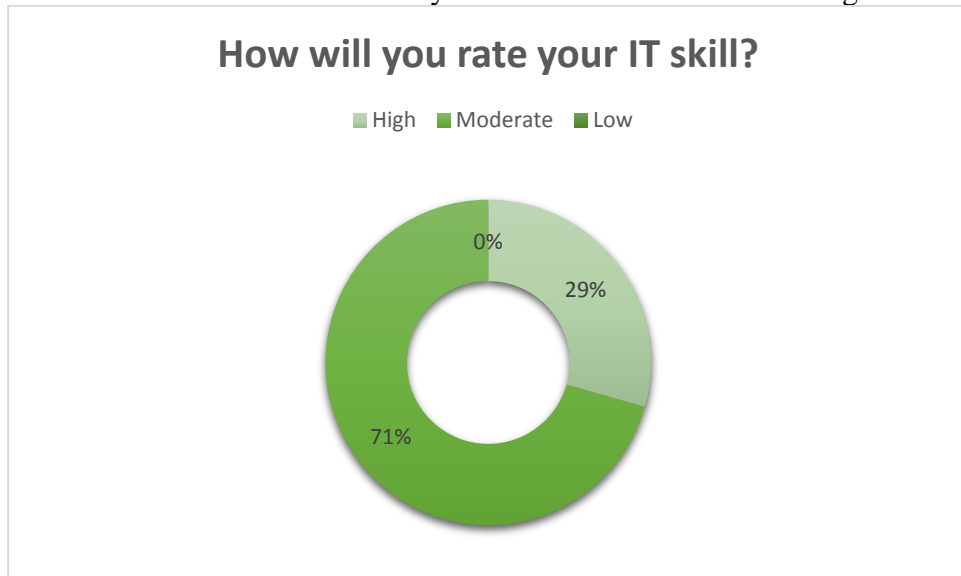

Graph 2.2

3. **Does your college conduct extracurricular activities through online mode?**
Even during the pandemic, the colleges manage to conduct the extra-curricular activities through online mode.

Does your college conduct extra curricular activities through online mode?

■ Yes ■ No

6%

94%

Graph 2.3

4. **How will you rate your IT skill?**
The majority of the teachers only have basic IT skills. However, none of the teachers in our research is entirely new to online mode of teaching.

How will you rate your IT skill?

■ High ■ Moderate ■ Low

0%

29%

71%

Graph 2.4

5. **Which of the following advantages of e-learning is / are most appropriate for you?**
Teachers saw the ability to stay at home and be in their familiar surroundings as a great benefit. However, only 20% of them mentioned it as a means of lifelong learning.
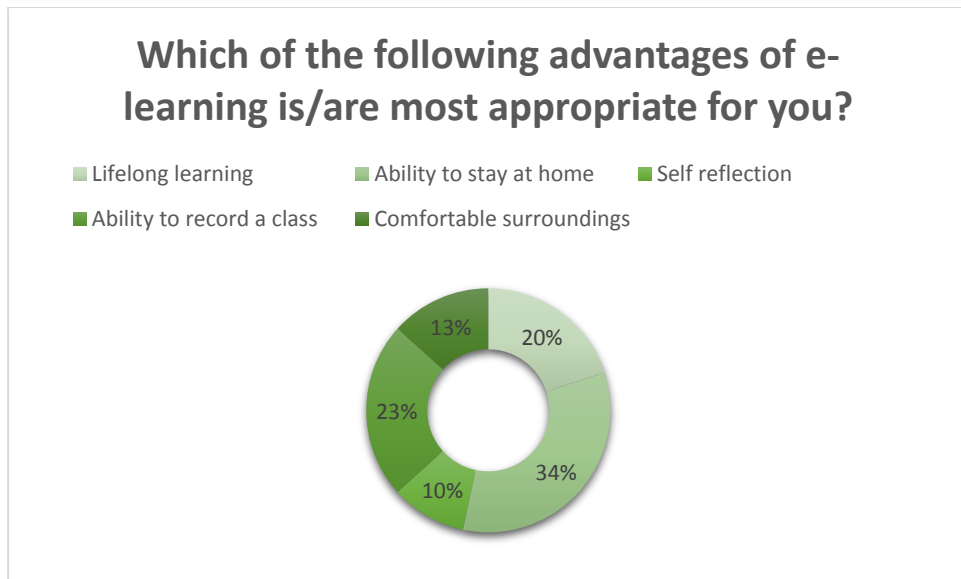
Graph 2.5

6. **Which of the following disadvantages of e-learning is/are most appropriate for you?**
Reduced contact with students is seen as a drawback by 52 percent of teachers, and even as a disadvantage, they see it as a poor learning atmosphere for students. Due to a lack of technical expertise, 36% of teachers experienced technical issues during the same.
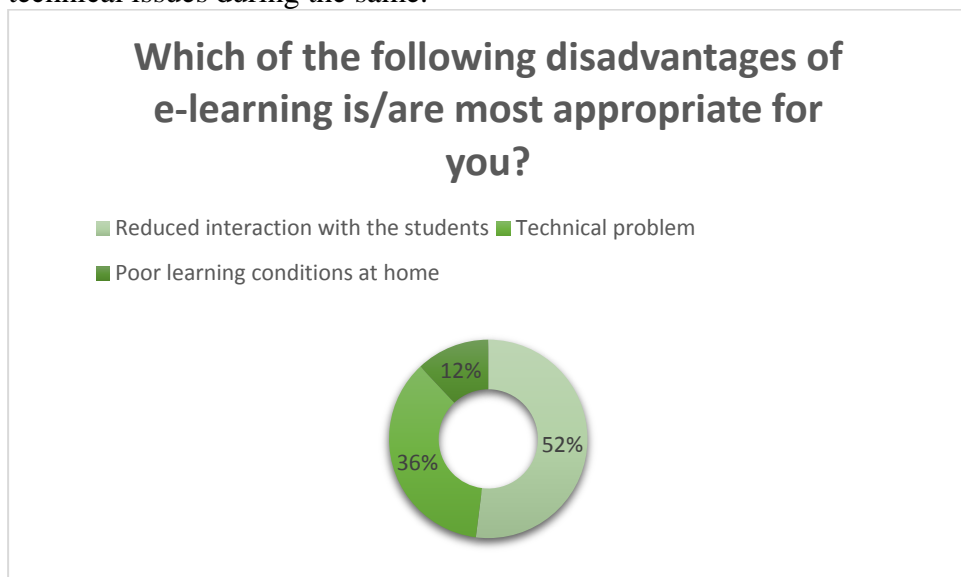
Graph 2.6

7. **According to you what is the impact of e-learning?**
There is equal no. of teachers who found the impact of E-learning neutral or positive. Only a few felt it to be negative.

According to you, what is the impact of E-Learning?

■ Positive ■ Negative ■ Neutral

39% 39%

22%
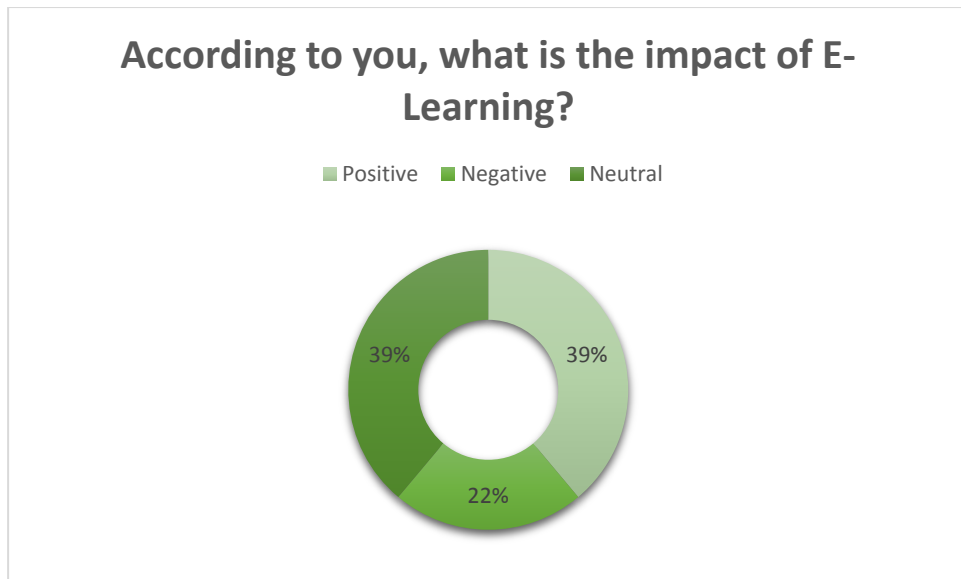
Graph 2.7

8. Does the technology the prioritize privacy, and safely store your data?
Around 83% of the teacher felt that their data is not safe due to technology and it can be used and manipulated by others.

Does the technology the prioritize privacy, and safely store your data?

■ Yes ■ No

17%

83%
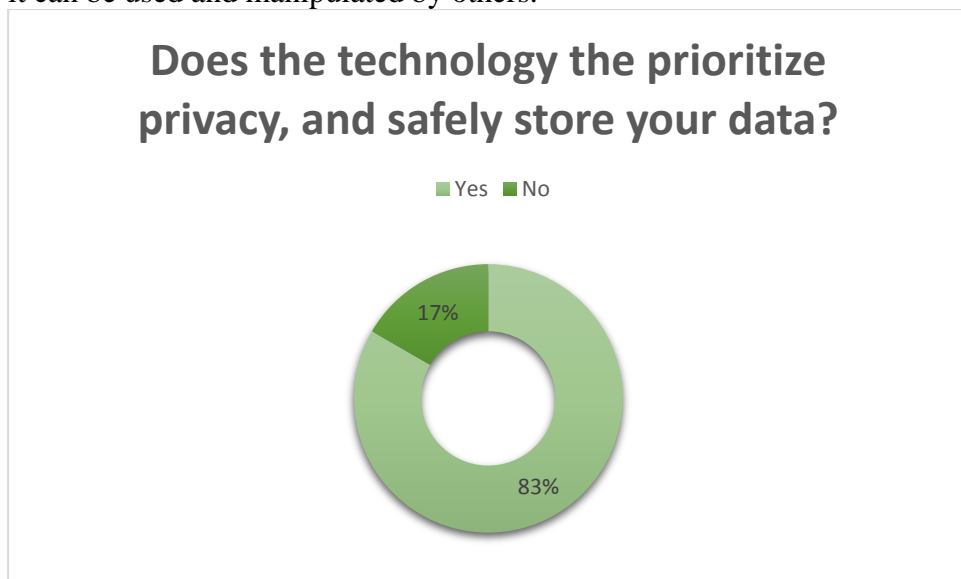
Graph 2.8

**9. How do your college conduct exams?**
While 78 percent of colleges administered exams online, teachers found it difficult to test students in this method due to the high risk of cheating and the lack of a better means of invigilation.

How do your college conduct exams?

Offline　Online

22%

78%
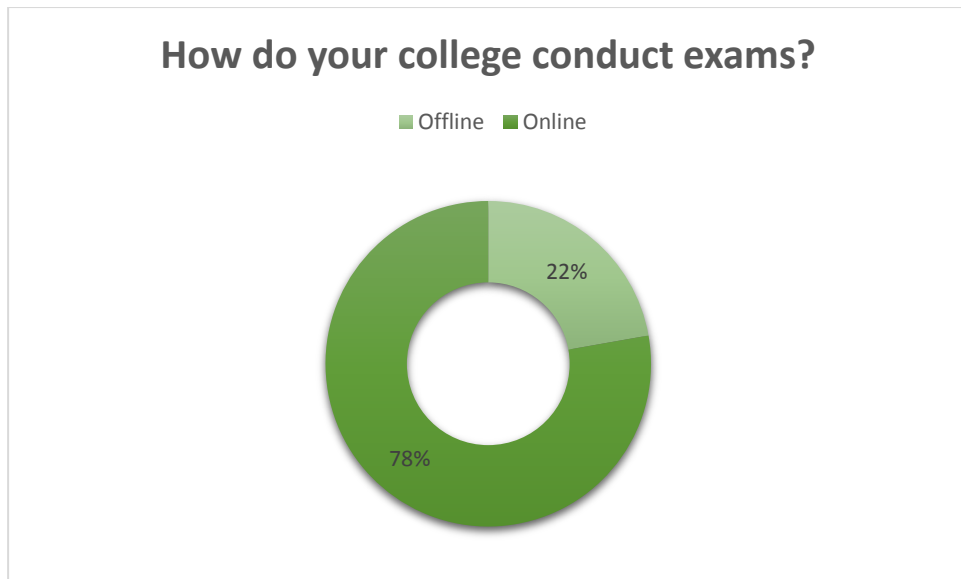
Graph 2.9

10. **Would you prefer to take classes continue teaching through this online mode?**
   During the pandemic, teachers found it more convenient to teach online, however 44 percent of them remain against. The gap between the two groups is very little.

Would you prefer to take classes continue teaching through this online mode?

Yes　No

44%

56%
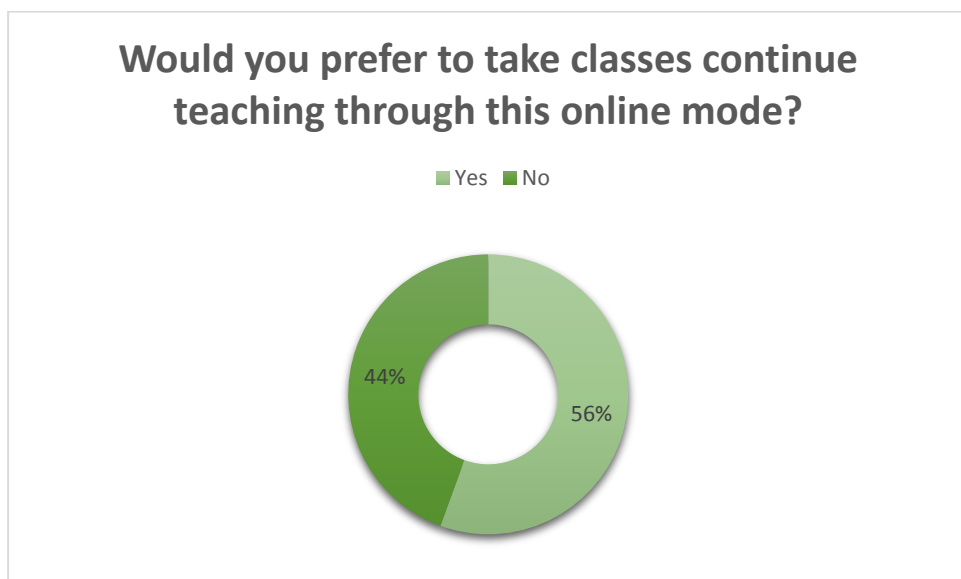
Graph 2.10

PARENTS' QUESTIONNAIRE

1. **Does your ward have a good internet connection while he/she attends classes?**
   97% of the parents believe their wards have good internet connections while taking online classes.

Do your ward have a good internet connection while he/she attends classes?

■ yes ■ no

3%

97%
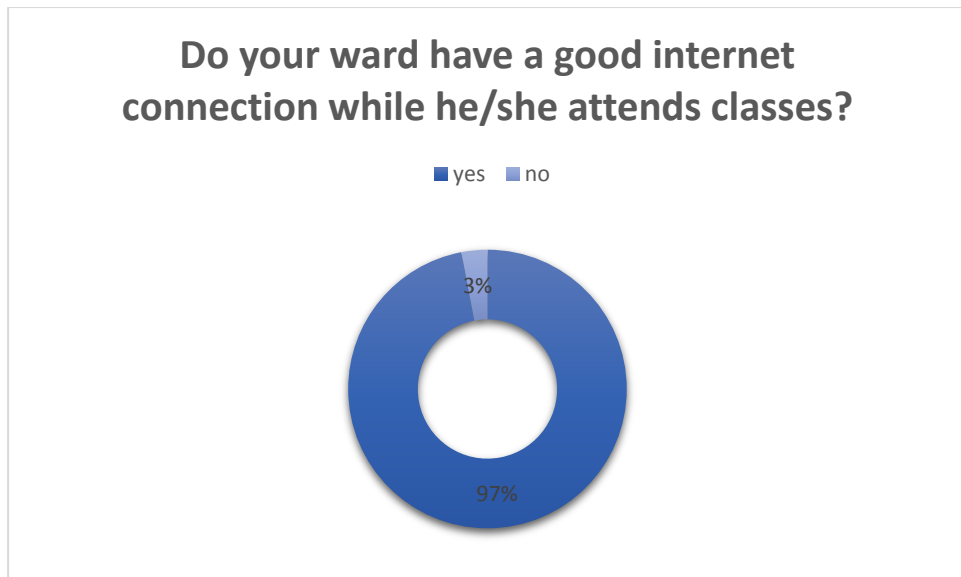
Graph 3.1

2. **Would you prefer that your ward will continue in this system of online education?**
   Though 97% of the parents believe they have good internet connection only 90% wants their wards to continue online education.

Would you prefer that your ward will continue in this system of online education?

■ yes ■ no

10%

90%
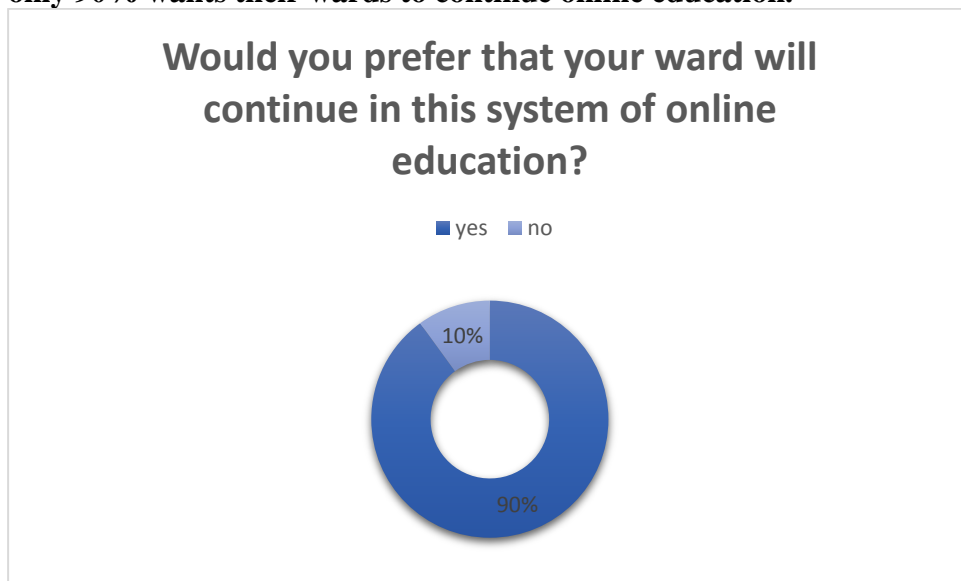
Graph 3.2

3. **What do you think for this kind of teaching platform?**
   81% of the parents think that it is neutral, 5% believe positive and 2% feels it is negative.

What do you think for this kind of teaching platform?

positive neutral negative

2% 6%

92%
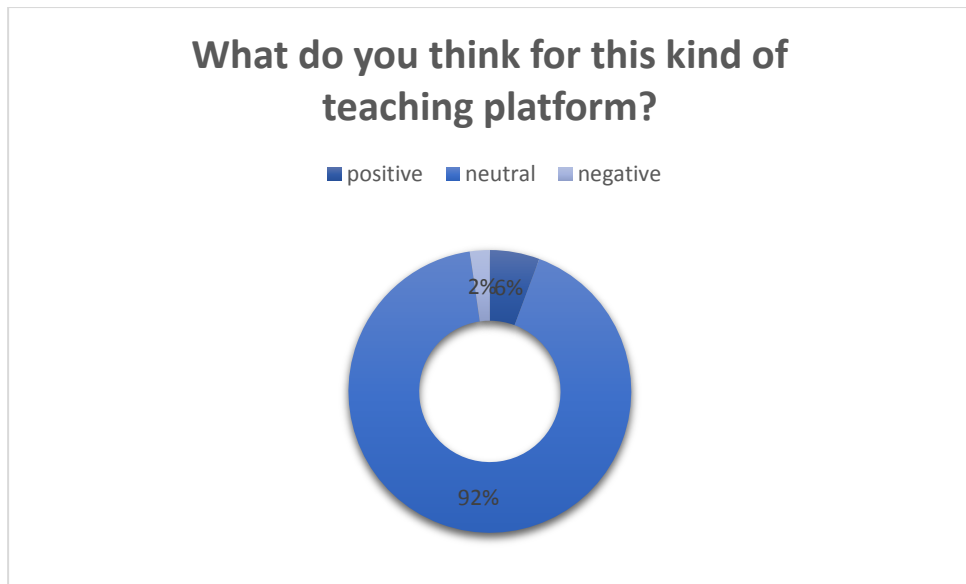
Graph 3.3

4. **Do you think that because of these online classes, the quality of interaction improved?**
**83% of the parents thinks that the quality of interaction does not improved in online platform. 17% of them believe that quality of interaction is improved in online classes.**

Do you think that because of these online classes, the quality of interaction improved?

yes no

17%

83%
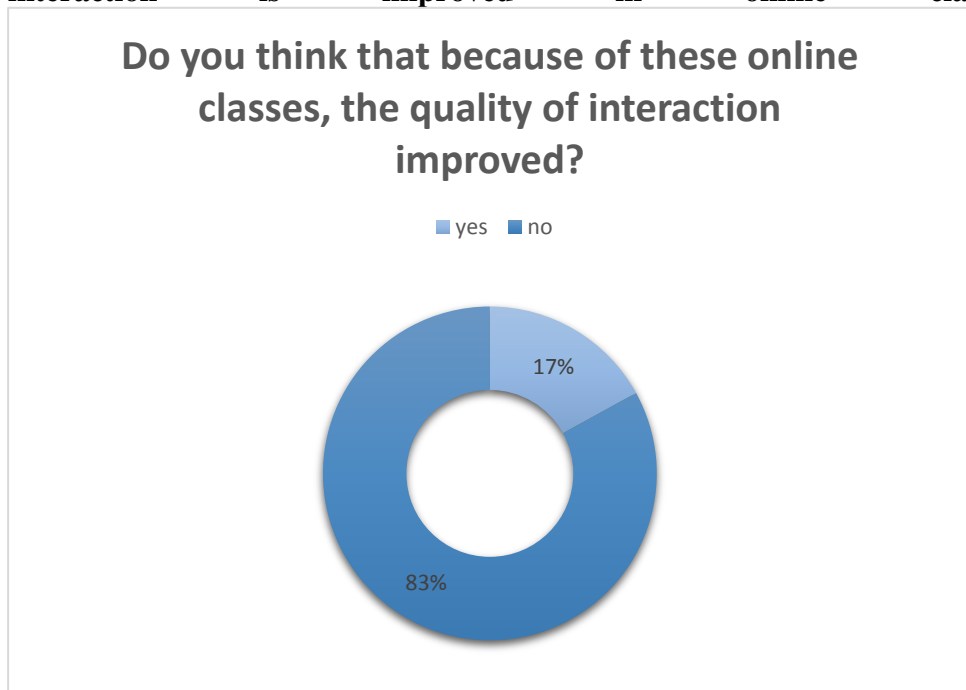
Graph 3.4

5. **Do you recommend educational institutions to continue with online learning after coronavirus?**
86% of the parents want that education institutions should adopt online learning after COVID. 14% of them says no.

Do you recommend educational institutions to continue with online learning after coronavirus?

yes ■ no

14%

86%
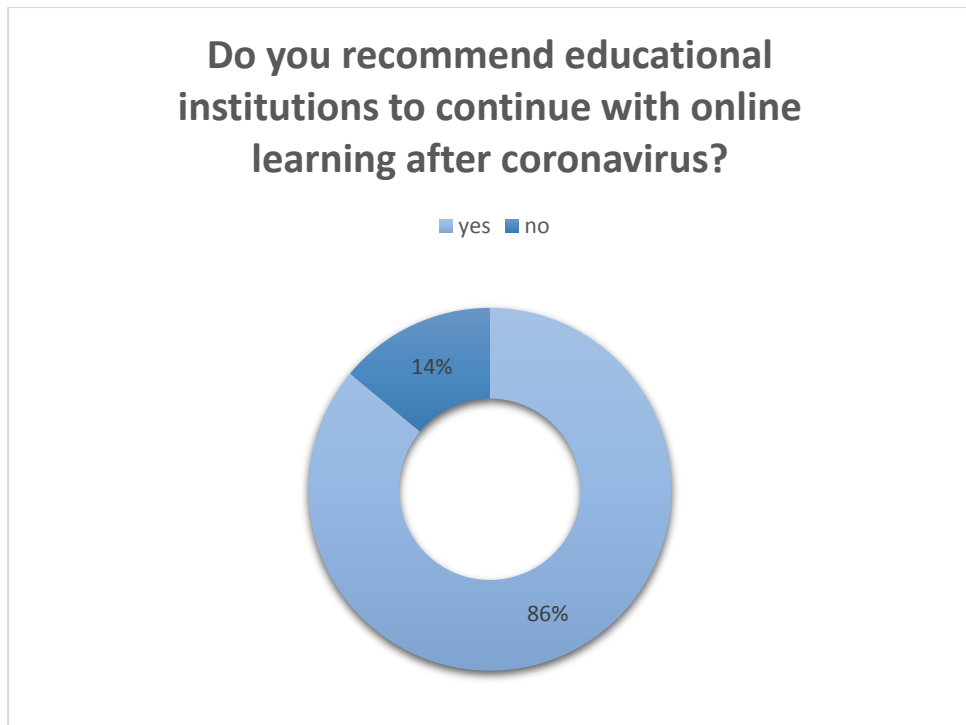
Graph 3.5

6. **Do you think online video lectures are equivalent in terms of learning, to face to face learning?**
   82% of the parents think that online video lectures are not equivalent to face-to-face learning and 18% of them thinks they are same.

Do you think online video lectures are equivalent in terms of learning, to face to face learning?

yes ■ no

18%

82%
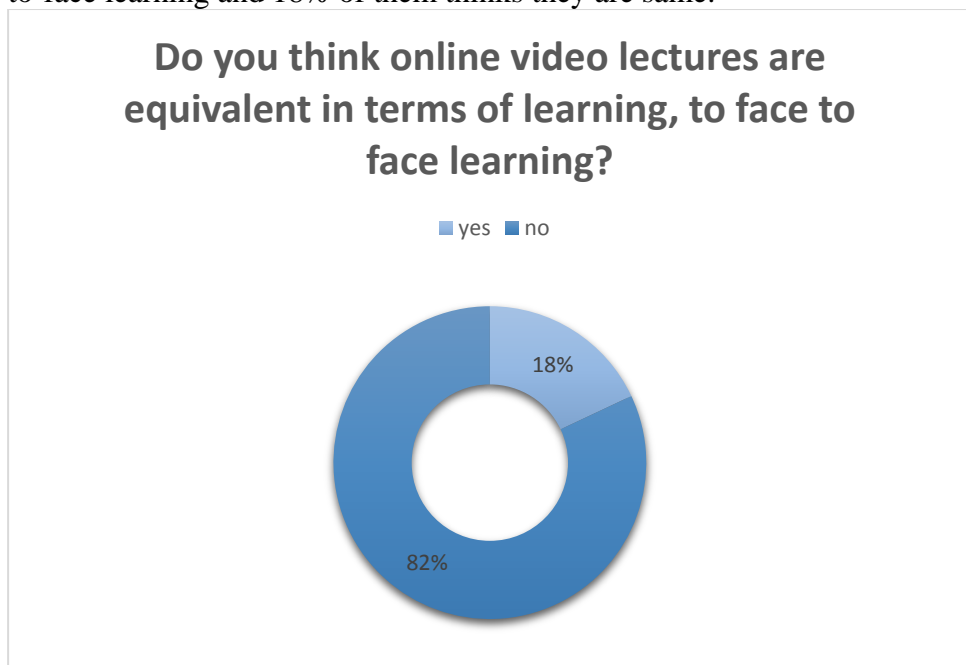
Graph 3.6

7. **Does the technology protect the child, prioritize privacy, and safely stores the child's data?**

Majority of the parents of our survey population believe that the online technology is not safe for their children. As no online platforms completely secure the users data therefore parents do not find them reliable.

Does the technology protects the child, prioritize privacy, and safely stores the child's data?

■ no ■ yes

30%

70%
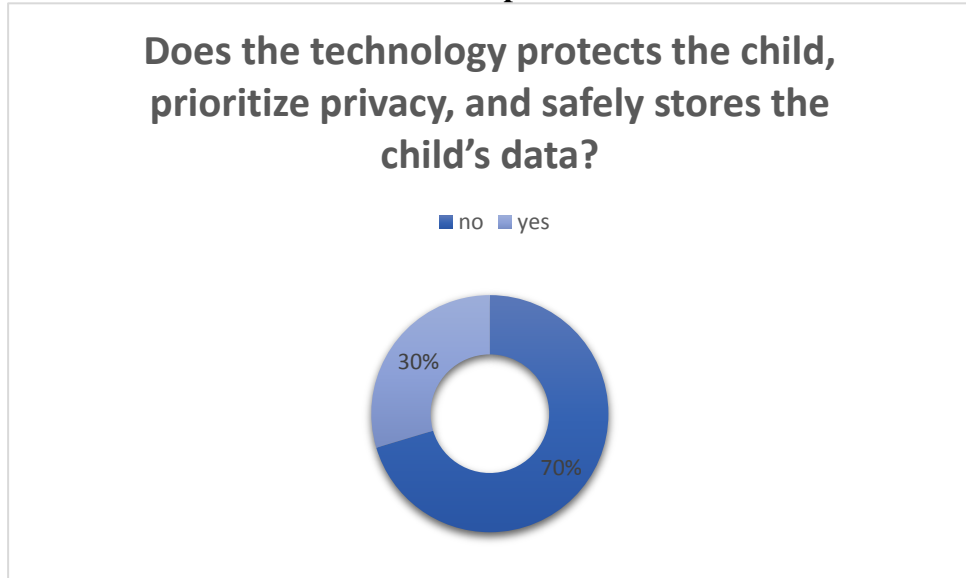
Graph 3.7

8. **What do you feel is the biggest challenge?**
   Majority of our parents feel that the biggest challenge of online learning is difficulty in focusing as there is not proper study environment at home. Also, 33% of the survey population feels doubts clearing is another setback of online learning.

What do you feel is the biggest challenge?

■ poor internet connection   ■ difficult to focus   ■ difficulty in learning of doubts

19%

33%

48%
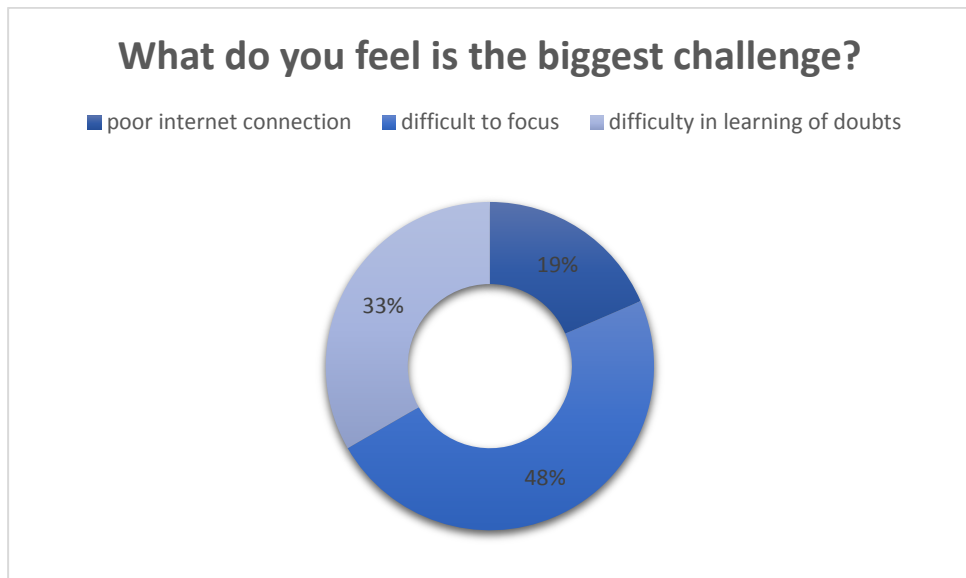
Graph 3.8

9. **What would you like to say about its information quality and system quality?**
   **Approximately half of the survey population of parents find the information and system quality to be good and that is why it came out to be a great alternative to offline learning during corona times.**

What would you like to say about its information quality and system quality?

good bad

48% 52%
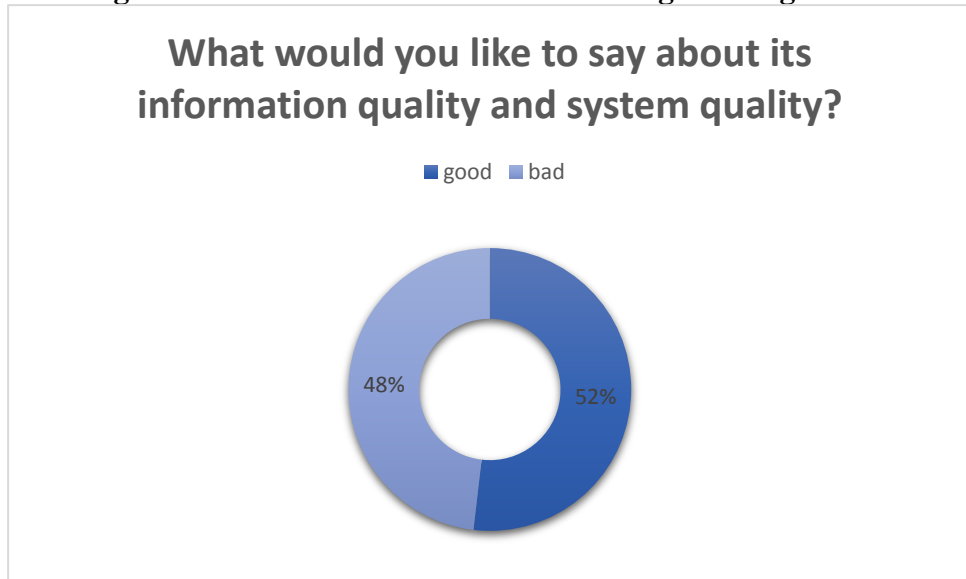
Graph 3.9

10. **Is the technology designed for responsible use and to prevent addiction?**
    63% of the parents think that the online technology cannot prevent addiction to the gadgets on which students will be studying. They find that students will not responsibly use their gadgets.

Is the technology designed for responsible use and to prevent addiction?

yes no

37%

63%
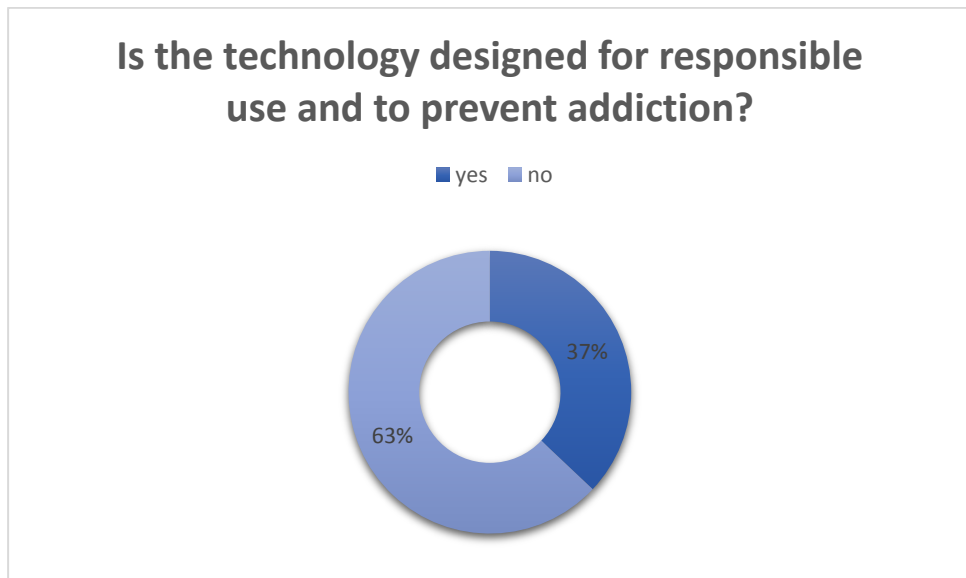
Graph 3.10

11. **Up to which extent the user's satisfaction is there in online classes?**
56% of parents do not find online classes satisfactory most probably because of lack of focused study and unawareness of the new technology.

Upto which extent the users satisfaction is there in online classes?

■ yes ■ no

44%

56%
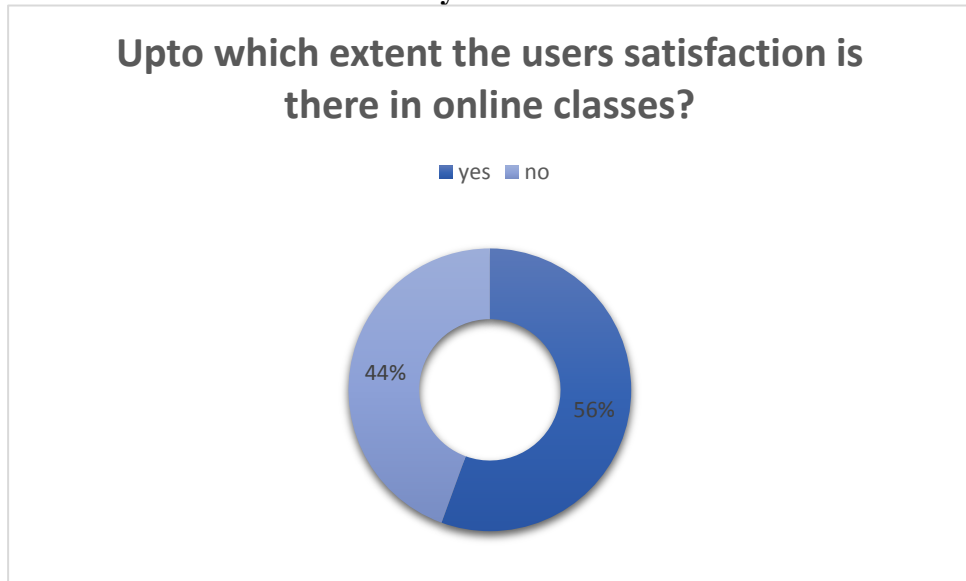
Graph 3.11

12. **What do you think for this kind of teaching platform?**
41% of the parents are neutral towards the thought of this online teaching platform. They find no difference in online and offline learning.

What do you think for this kind of teaching platform?

■ positive ■ negative ■ neutral

28%

41%

31%
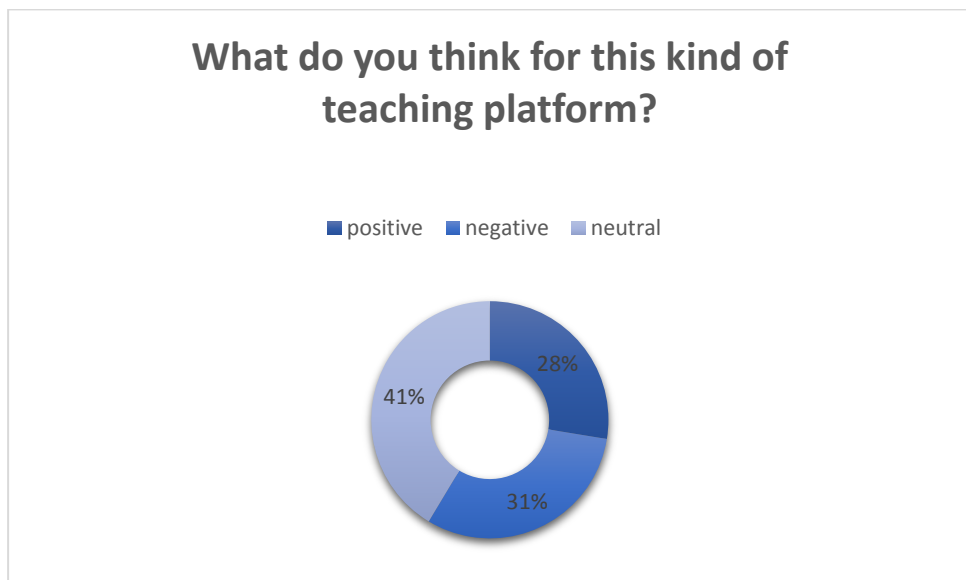
Graph 3.12

CONCLUSION

As of 2021, the COVID 19 pandemic is an ongoing global pandemic. Its impacts are broad and had hit every sector of the economy. Education sector is no exception. Due to the lockdown situation, no education institutes were open. But online education came as a solution to minimize the loss of education and learning of students.

Based on our findings, we can conclude that the change to online learning as a result of the coronavirus is useful to students since it keeps learning going, although it's not as successful as continuing education. Students and teachers experienced challenges such as unfamiliarity, a lack of technological knowledge, logistical issues such as a lack of internet access, a lack of interactions with students and teachers, data privacy concerns, insufficient assessment and appraisal, and, most importantly, difficulties concentrating at home. But still it was helpful for students to keep them busy and filled with learning. While online learning through videotelephony software such as zoom, Google Classroom, or Google Meet is still in its early stages, the online mode will flourish once students and teachers become acquainted with it.

SUGGESTIONS

- Online education should provide more stringent evaluation features so that teachers can better evaluate students and communicate the true status of the student to parents.
- Good quality of internet should be accessible to students and teachers.
- As majorly teachers and parents lack awareness of technology they should be supported on the use of digital tools.
- As students struggle to concentrate, more online classes should be more engaging in order to mentally engage students in class.
- Data protection and privacy features are necessary. Online applications must be used in a way that does not breach students' data privacy.
- Research plans must be developed so that students do not abuse the digital devices that have been provided to them.
-

REFERENCES

- Gaur, P. "Recent Trends in E-Learning" Media Communique (2015)pp 29-41
- Beatty, B., Ulasewicz, C. (2006). Online Teaching and Learning in Transition: Faculty Perspectives on Moving from Blackboard to the Moodle Learning Management System, *TechTrends*, 50(4), 36-45.
- Benta, D., Nitchi, S. I., Suta, D., Pop, R.F. (2011). Efficient Team Building for On-Time Projects, *Journal of Information Systems pp 41-53*
- Zhang, X., Luo, N., Jiang, D. X., Liu, H., Zhang, W. (2004). Web-Based Collaborative Learning Focused on the Study of Interaction and Human Communication, Springer-Verlag Berlin Heidelberg, *LNCS 3143*, 113–119.
- Tuckman, B. W. (1965). Developmental Sequence in Small Groups. *Psychological Bulletin*, 63(6), 284-99.

CHAPTER 15

COVID 19 AND VOTING BEHAVIOUR DURING ELECTIONS OF JAIPUR MUNICIPAL CORPORATION: AN ANALYSIS

INTRODUCTION

Severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), which causes corona virus disease (COVID-19), was first identified in December 2019 in Wuhan city, China, and later spread to many provinces in China. World Health Organization (WHO) declared COVID 19 as a Pandemic as it has been spread to over more than 100 countries and in country like India the situation is not so good as the second wave of the pandemic is heading towards the nation and states like Maharashtra are on the verge of enforcing the complete lockdown. Already country like India had to face some serious issues in the previous years as the Government ordered the lockdown due to which there was no revenue in the country which directly had a huge impact on the GDP which went down miserably as a result the local Indian Market was shut down and millions of the workers were unemployed, homeless. People belonging to the poor section of the society couldn't even afford one-time meal which was although taken care by the community food distributors. It was a worst period not only for one country but for the entire world to think about a normal life style. But human race has an exclusive wish to live and grow further and similarly it happened after a few months when the states unlocked their boundaries gradually with cautious steps. When society came back to track for growth of the Socio- economic system political structure also got chance to test its fate. Henceforth, even after having such brutal pandemic situations the Election commission of India decided to take the big step and conducted the general Legislative elections in the States and later on in various local self-governing bodies. Election is a political activity that confirms the voting behaviour of citizens in a country. For an election at any level of the federal model, the regions are divided into certain 'parts' by the delimitation commission of India. These parts of the regions are called as 'constituencies' for Lok Sabha/ Rajya Sabha/ State Legislative Assemblies. While these parts are called 'wards' in case of municipal corporations. A representative is chosen by the people of this area.

Political Structure of Local bodies in India

Local bodies are institutions of the local self-governance, which look after the administration of an area or small community such as villages, towns, or cities. The Local bodies in India are broadly classified into two categories. The local bodies constituted for local planning, development and administration in the rural areas are referred as Rural Local Bodies (Panchayats) and the local bodies, which are constituted for local planning, development and administration in the urban areas are referred as Urban Local Bodies (Municipalities). However, provisions contained in Parts IX (Eleventh Schedule) and IX-A (Twelfth Schedule) of the Constitution providing for Panchayats and Municipalities respectively, exempt certain areas from the applicability of these Parts.[1] The origin of local self-government had very deep roots in ancient India. On the basis of historical records, excavations and archaeological investigations, it is believed that some form of local self-government did exist in the remote past.

Ancient period and Local Self Governance

In the Vedas and in the writings of Manu, Kautilya and others, and also in the records of some travelers like Magasthnese, the origin of local self-government can be traced back to the Buddhist period. The Ramayana and the Mahabharata also point to the existence of several forms of local self-government such as Paura (guild), Nigama, Pauga and Gana, performing various administrative and legislative functions and raising levies from different sources. Local government continued during the succeeding period of Hindu rule in the form of town committees, which were known as'Goshthis' and 'Mahajan Samitees'. Independence brought a new kind of activity in every sphere of public life. It opened a new chapter in the history of local government in India. The present Constitution came into force in 1950 and the local self-government entered a new phase. The Constitution of India has allotted the local self-government to the state list of functions. Since Independence much important legislations for reshaping of local self- government have been passed in many states of India. The constitutions of local bodies were democratized by the introduction of adult suffrage and the abolition of communal representation. In July 1953, the U.P. Government took a decision to set-up Municipal Corporations in five big cities of Kanpur, Agra, Varanasi, Allahabad and Lucknow, popularly known as KAVAL Towns. As a result, the state of U.P. adopted a new Act for Municipal Corporations in 1959.[2]

Constitution of India and Urban local self-government

The Constitution (74th Amendment) Act, 1992 is a landmark initiative of the Government of India to strengthen local self-government in cities and towns. The Act stipulates that if the state government dissolves a Municipality, election to the same must be held within a period of six months. Moreover, the conduct of municipal elections is entrusted to statutory State Election Commission, rather than being left to executive authorities. The mandate of the Municipalities is to undertake the tasks of planning for 'economic development and social justice' and implement city/town development plans.

The main features of the 74th Constitutional Amendment are as under: Committee: Committee means a Committee constituted under article 243S of the Constriction.[4]

Metropolitan area: Metropolitan area means an area having a population of ten lakhs or more, comprised in one or more districts and consisting of two or more Municipalities or Panchayats or other contiguous areas, specified by the Governor by public notification to be a Metropolitan area.

Municipal area: Municipal area means the territorial area of a Municipality as is notified by the Governor.

Municipality: Municipality means an institution of self-government constituted under article 243Q of the Constitution. Constitution of Municipalities: As per Article 243Q, every State should constitute three types of municipalities in urban areas. Provided that a Municipality under this clause may not be constituted in such urban area or part thereof as the Governor may, having regard to the size of the area and the municipal services being provided or proposed to be provided by an industrial establishment in that area and such other factors as he may deem fit, by public notification, specify to be an industrial township.

The constitution of three type of municipalities by every State are as under:

• Nagar Panchayat: Nagar Panchayat (by whatever name called) for a transitional area, that is to say, is an area in transition from a rural area to an urban area.

• Municipal Council: A Municipal Council is constituted for a smaller urban area; and

• Municipal Corporation: A Municipal Corporation is constituted for a larger urban area.

MUNICIPAL ELECTIONS IN JAIPUR:

Local self-government is a grass root level political structure that ensures the public participation in a decentralised manner. Recently the State of Rajasthan had witnessed both the Panchayati Raj and Municipal corporation elections in the Jaipur. The municipal elections were divided into 2 segments which were Greater and Heritage Jaipur which consisted of total 250 constituencies.

Before moving forward Election Commission had to face several challenges to conduct elections during the pandemic when most important thing was social distancing.

The foremost doubt was regarding elections be held safely for voters and without leading to further spreading of the virus, abuse elections by incumbents to extend their mandates. The increasing number of postponed elections lead to longer term legitimacy deficits and how long will it take to recover from this deficit was another issue during the phase. Whether the elections can be held safely, will they be credible, will the turnout suffer were more such queries in everyone's mind that needed an appropriate reply. [4]

To solve these issues and ensure better working of the general elections the EC released a set of general guidelines to be followed by the voters, polling booths and through the election campaigning which is worth mentioning here in view of such a historic election pattern like:

- Every person shall wear face mask during every election related activity.
- At the entry of hall/ room/ premises used for election purposes: (a) Thermal Scanning of all persons shall be carried out; (b) Sanitizer, soap and water shall be made available.
- Social distancing shall be maintained as per the extant COVID-19 guidelines of the State Govt. and Ministry of Home Affairs.
- As far as practicable, large halls should be identified and utilized to ensure social distancing norms.
- Adequate number of vehicles shall be mobilized for movement of polling personnel, security personnel to ensure compliance of COVID-19 guidelines.

It is worth maintaining here that earlier elections only required a voter-id card of voter whereas this exclusive set of elections of new era after Covid has brought a new mandate.

- **Number of Electors in a Polling Station**

There shall be maximum 1000 electors instead of 1500 electors in a polling station. (Commission's Instruction No.23/SEC/2020-ERS, dated 23rd July, 2020)

- **Campaign by The Political Parties/Contesting Candidates**

1) Door to Door Campaign- Subject to any other restriction(s) including existing COVID-19 guidelines, a group of five persons including candidates, excluding security personnel, if any, is allowed to do door to door campaigning.

2) Road Shows - The convoy of vehicles should be broken after every five vehicles instead of 10 vehicles (excluding the security vehicles, if any). The interval between two sets of convoys of vehicles should be half an hour instead of gap of 100 meters. (In supersession of Para 5.8.1 of Returning Officer's Handbook 2019)

3) Election Meetings - Public gatherings/ rallies may be conducted subject to adherence to extant COVID-19 guidelines. District Election Officer should take following steps for this purpose:

(a) District Election Officer should, in advance, identify dedicated grounds for public gathering with clearly marked Entry/Exit points.

(b) In all such identified grounds, the District Election Officer should, in advance, put markers to ensure social distancing norms by the attendees.

(c) Nodal District Health Officer should be involved in the process to ensure that all COVID-19 related guidelines are adhered to by all concerned in the district.

(d) District Election Officer and District Superintendent of Police should ensure that the number of attendees does not exceed the limit prescribed by State Disaster Management Authority for public.[4]

OBJECTIVE
- To find out the voting behaviour in elections during Covid Era
- To analyse the voting percentage in elections during COVID
- To observe the reasons of impact on elections during COVID
- To observe the level of public awareness towards their voting right
- To analyse female voting ration in elections during Covid

REVIEW OF LITERATURE
- **BIDYUT CHAKRABARTY, COALITION POLITICS IN INDIA, Oxford India Short Introductions, Oxford University Press, Delhi, 2014, pp. xxix+213,** The article emphasised on the coalition politics in India which also a major part of the elections in general. Coalition Politics in India by Bidyut Chakrabarty highlights the fact that coalition has been an integralpart of Indian politics. It is also reflective of fragmentation of social in- terests at the grassroots thatremain unrepre- sented (p.2). The post-Nehruvian era was sig- nificant in tracing its roots. The 1967State Assembly election altered India's political equation, non-Congress voices were rising.

- **Issues, Challenges and Protocols for Conducting Elections during COVID-19: Sharing Country Experiences, International ideas, Speech delivered: 21 september,2020.** From the above mentioned article we learned the issues and challenges faced by covid 19 and also the protocols which were to be followed during the elections in 2021. The article shared the experiences

throughout the country while there were elections in different states across the country.

- **Sustainable development goals: Gender Equality, United Nations in India** https://in.one.un.org/page/sustainable-development-goals/gender-equality-sdg-5/ The article on the sustainable development goals emphasized on SDG5 which is gender equality throughout the world. Through this we learned the importance and equality of female voters during elections. Goal 5 aims to eliminate all forms of discrimination and violence against women in the public and private spheres and to undertake reforms to give women equal rights to economic resources and access to ownership of property.

- **Prannoy Roy and Dorab R. Sopariwala, The Verdict: Decoding India's Elections, 14 March 2019, ISBN-10 0670092266, Publisher Vintage Books.** The book emphasis on what are the key factors that win or lose elections in India? What does, or does not, make India's democracy tick? Is this the end of anti-incumbency? Are opinion polls and exit polls reliable? How pervasive is the 'fear factor'? Does the Indian woman's vote matter? Does the selection of candidates impact results? Are elections becoming more democratic or less so? Can electronic voting machines (EVMs) be fiddled with? Can Indian elections be called 'a jugaad system'?

- **Farhat Basir Khan , The Game of Votes: Visual Media Politics and Elections in the Digital Era,5 September 2019, SAGE Publications, ISBN-109353286921.** The book is a veritable prime on Indian politics, as it runs through the entire history of Indian polity and provides insights into how political parties gradually shifted from campaigning on their own to hiring top-notch advertising agencies. It tells the story of how Modi won the election in 2014 and repeated an exceptional performance in 2019. It also gives a bird's eye view of how Barack Obama and Donald Trump ran their election campaigns and how to understand critical developments in political communication. The book provides glimpses of international politics in the US and Europe and covers important developments in Egypt and South East Asia, drawing comparisons between the Western world with the fast-changing developments in India. This book brings the readers face-to-face with the changing dynamics of election campaign and democracy. This is the inside story behind the game of votes in India.

- **Dr Samir Kapur and Jaishri Jethwaney. When India Votes: The Dynamics of Successful Election Campaigning, 20 March 2019, Rupa Publications, ISBN-109353333806** The book provides that Elections have always been festive occasions in liberal democracies, and India is no exception. Media becomes one of the most important players in elections because of its power of reach and agenda-setting. From one government-controlled television in India in 1984, to hundreds of news channels owned by various interest groups, a burgeoning print media, the coming of the social media and the tiniest and most 'lethal' of mass reach weapon, the mobile phone—all these have changed the way elections are now contested! The power of mass contact through rallies and public gatherings, reinforced by the event-driven media channels and the power of digital media to reach out to the young audience, has redefined electioneering in India.

- **Waldemar Wojtasik , University of Silesia, Poland, Functions of Elections in Democratic Systems, Political Preferences", No. 4/2013** This article emphasizes that elections are a procedure typical for democratic systems, but also systems which do not respect the principles of democracy oftenemploy them. However, due to their different functional positio ning, they fulfillvarious functions. The presented text is an attempt to present the most important functions performed by the elections in democratic systems. Th e adopted model of generalization has allowed for separation of seven basic func tions, present in all elections: delegation of political representation; selection of t he political elite; legitimisation of those in power; control over authorities; politi cal accountability; creation of political programmes; recreation of public opinio n image

HYPOTHESIS

1. Election process was negatively affected due to covid.
2. There was a decline in the voting percentage due to covid.
3. Pandemic resulted in loose campaigning.
4. Voting process adopted a large number of changes due to the pandemic.
5. Negative effects on the voting process.
6. Female voting percent was same as ever before during Covid.
7. Having elections amid the pandemic was a big step to protect our democracy.

RESEARCH METHODOLOGY

In this project both primary and secondary data have been used for the research. A survey has been conducted in the form of a questionnaire generated through google forms and was circulated among people and the sample size for the survey conducted was 103 responses. The survey emphasised on the topic of the research in the research areas of Jaipur Heritage and Jaipur Greater. The survey was circulated among citizens of Jaipur. As Jaipur had its municipal elections so the survey emphasized on the constituencies that fall under Jaipur Greater and Jaipur Heritage municipal corporation. The number of constituencies is 250 wards.

The secondary data was gathered from books, journals, newspapers and online websites as mentioned in the review of literature.

ANALYSIS

The survey was conducted in two major zones of Jaipur, namely- Jaipur Heritage and Jaipur Greater. 47.6% responses were from Jaipur Heritage and 52.4% responses were from Jaipur Greater that more or less made this research a balanced one in getting the responses from both the regions. From this survey we tried to understand the voting behaviour of people of Jaipur in local self-governance and their awareness of voting and political rights even during such a horrifying situations of pandemic who already had gone through the lockdown for more than 2 months. Although the pandemic had affected the lives and psychology of people to great extent but during the elections they were observed attentive about their civil rights as per the survey.

When it was asked like Are you eligible to vote? Do you have a voter ID? Have you ever voted before?

It was found 96.1% of people were eligible to vote, out of them 68.9% had a voter id and 31.1% were not having a voter id. 50% people had voted before during other elections and 50% had never voted before.

When it was asked like Did you vote in the recent Jaipur Municipal Elections held in 2020?
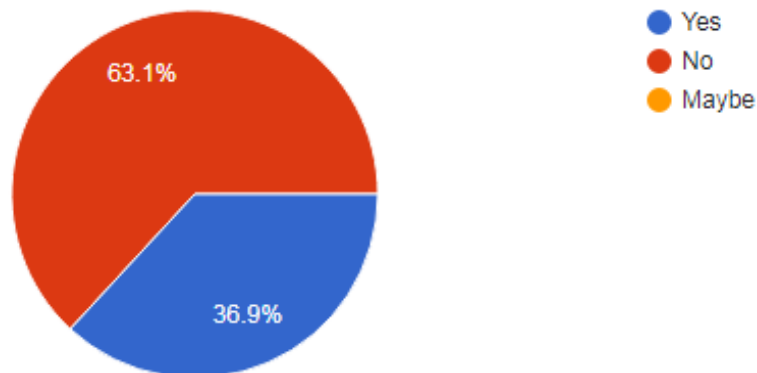

The percentage of people who voted in the recent Jaipur Municipal Elections held in 2020 was 36.9% and those who didn't vote constituted 63.1% percentage. It means this time election were affected due to some reasons out of which pandemic might have been one. Due to fear of Covid infection people opted for staying at home that is evident from next response.

**The next question was if no, were you afraid to vote because of the pandemic?**
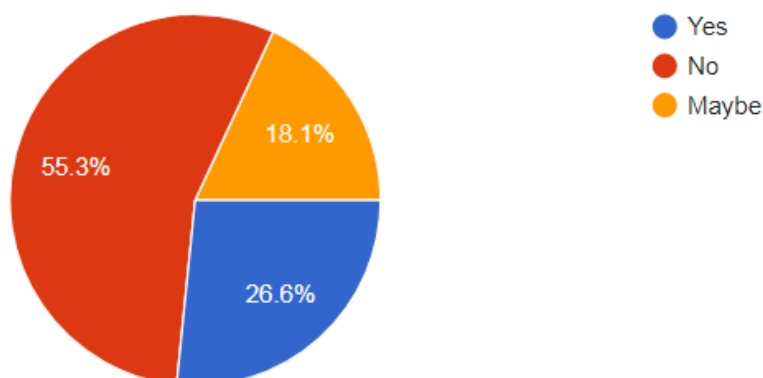
Some of the voters who didn't cast their votes were afraid because of the pandemic. 26.6% were afraid, 55.3% were not afraid and 18.1% were not sure whether they were afraid or not that shows their lack of awareness about their political rights of participation. Henceforth it was a historic election when people did not choose for voting because of pandemic fear that was a practical problem of the time yet it was not a big number so it gives a good indication towards well aware citizens of largest democracy of the world.

On the question do you think that the polling booths maintained the COVID-19 protocols?
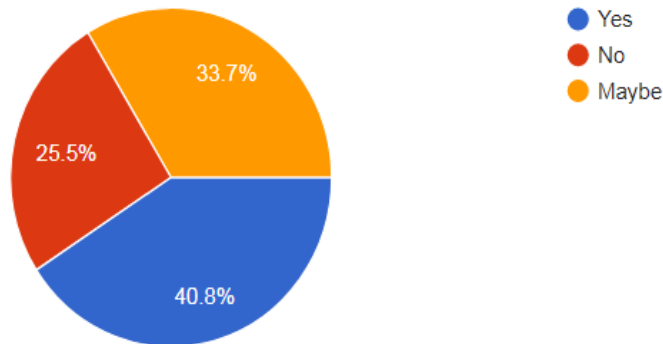

40.8% people thought that the polling booths maintained the COVID-19 protocols, 25.5% people thought they didn't, and 33.7% people were not sure. This also causes a fear of spread of virus which kept people away from going for voting which is really a worth mentioning fact to be taken care of in a democratic country where elections are the reality.

On a question did the recent elections witness active participation of voters?
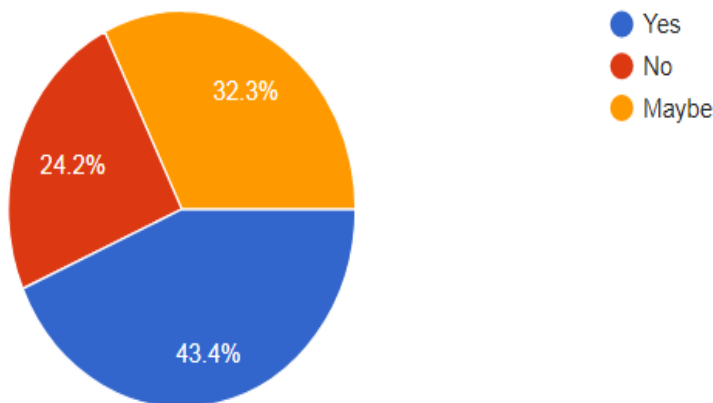

Regarding the question of active participation, 43.4% people believed that the elections witnessed an active participation of voters, 24.2% people believed it didn't witness an active participation, and 32.3% were not sure. Though it is believed by the public that the voting percentage was not hampered a lot but still from the above mentioned responses it is clearly signifying the fact of less participation. As per the facts over 57.82% voters had exercised their votes in Jaipur Heritage and Greater respectively which is really a positive figure to understand the power of right to vote and political participation.[3]

The question related to the election campaigning was effective enough during the pandemic?
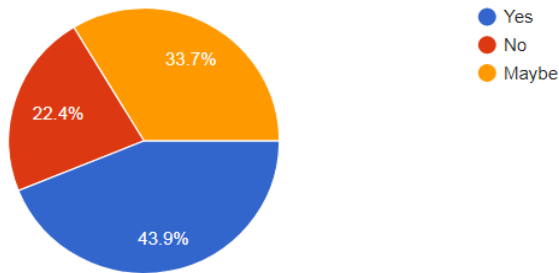

According to 43.9% people in the survey, the election campaigning was effective enough during the pandemic, for 22.4% people it wasn't, and 33.7% people were unsure.

When asked like did the migrant labour crisis affect the vote casting percentage in the elections?
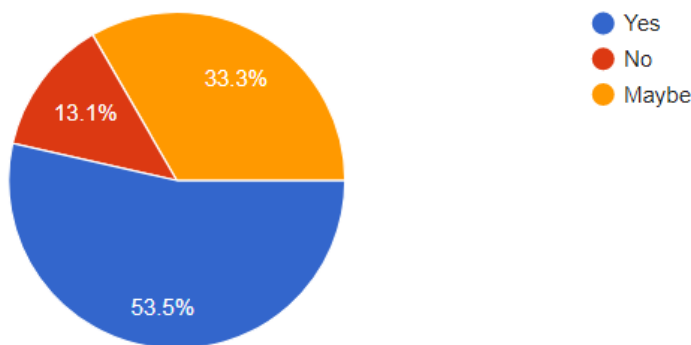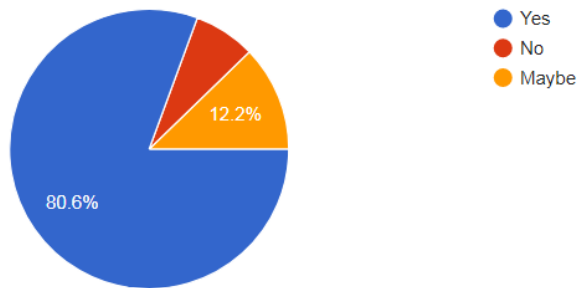

Majority of the people believed that the labour crisis affected the vote casting percentage. 53.5% believed it did, 13.1% believed it didn't, and 33.3% were not sure. This shows that so many people who were having election card of Rajasthan after living here for so many years they also had not vote for the elections which affected the voting percentage.

**When asked do you think there was more proxy vote as compared to the past four years?**
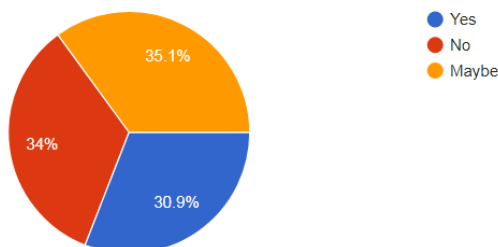
There was a mixed response. 34% people thought that there were no proxy votes in the election, 30.9% thought that there was, and 35.1% were not sure about it. Hence it reveals that people were not really sure about the same.

It was asked that learning from the experience of the COVID era do you think that development of health care infrastructure should be one of the top priorities of every political party's manifesto?

Majority of the people believed that the development of health care infrastructure should be one of the top priorities of every political party's manifesto. 80.6% believed yes, 7.1% believed no, and 12.2% were not sure. This response presents its affiliation to policy making that is the real requirement of any research.

When asked do you think that the conducting of the elections was a fair play during the pandemic?
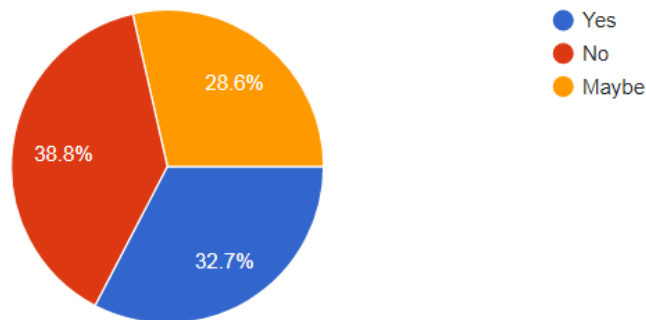
People had a mixed response about whether the conduction of the elections during the pandemic was a fair play or not. 38.8% believed it was not, 32.7% believed it was, and 28.6% were not sure.

PROVING THE HYPOTHESIS
1. **The election process was affected negatively due to COVID 19**

The findings of the research revealed that COVID 19 did affect the election process to an extent. Out of all the respondents only 36.9% of them voted in the recent Jaipur Municipal Elections while remaining 63.1% didn't. Further, 26.6% of the respondents stated that they didn't vote because they were afraid of the pandemic. If we compare the voters turnout from last years', about 71.53% people voted in 2019 Jaipur Municipal Election, whereas, in 2020 Elections there was only around 60% turnout.[6] These research finding reveal that due to the COVID 19 pandemic the election process was hampered as it resulted in less people voting in the recent Municipal Elections.

2. **There was a decline in the voting percentage due to the pandemic**

Through the survey we came to know, that most of the people who participated in the survey believed that the recent Jaipur Municipal Elections held in 2020, witnessed an

active participation of voters. Despite the Covid situation and several restrictions in the state, 79.90% voters exercised their franchise during the 2020 election. This percentage is higher than the percentage of votes that were casted for the November 2019 elections before the Covid outbreak. Only 71.57% of votes were casted in the November 2019 elections.

So we can say that the voting percentage was not declined only due to the COVID-19 pandemic in the 2020 elections but there were few other responsible causes also.

3. The pandemic resulted into loose campaigning.

According to the findings of the research the same question was also asked in the survey conducted through the questionnaire i.e. ques 16 which concluded and observed that according to 43.9% people the election campaigning was effective enough but for the 22.4% it wasn't. Which concludes that election campaigning did not suffered the loose ends that much but yes there was a communication gap between the voters and the candidates which was shown during the elections. Because of the covid protocols that were to be maintained the voters might have felt the lack of campaigning which might have been visible during the polls.

4. Voting process adopted a large number of changes due to the pandemic.

Yes, there was a change in the voting process due to the pandemic as the Election commission of India released the straight guide lines for the polling booth which were as followed:

1) Every person shall wear face mask during every election related activity.

 2) At the entry of hall/ room/ premises used for election purposes: (a) Thermal Scanning of all persons shall be carried out;

 (b) Sanitizer, soap and water shall be made available.

 3) Social distancing shall be maintained as per the extant COVID-19 guidelines of the State Govt. and Ministry of Home Affairs.

4) As far as practicable, large halls should be identified and utilized to ensure social distancing norms.

 5) Adequate number of vehicles shall be mobilized for movement of polling personnel, security personnel to ensure compliance of COVID-19

Which was the first time when the guideline was drastically changed for the sake of health protections to the voters which was essential in such a period. It is also noteworthy that 14 Covid infected people also had voted that was really a big challenge for the administration to run smooth voting.

5. COVID 19 pandemic affected the electoral processes negatively.

The electoral exercise is a mammoth task, especially in a country Like India, as it involves quite a lot voters due to the population. And in the current COVID 19 situation it posed various challenges. Not all the people have facilities like secure connection to the internet, due to which the extent of the reach of virtual campaigning and political communication of social media was limited in nature. Moreover, such

excessive use of social media and other virtual modes of communication for the political campaign was lopsided in nature due to the immense digital divide that persists in India. The pandemic also posed various challenges for the Election Commission. Besides the usual norms related to sanitising and social distancing, the guidelines by the Election Commission included reduction in the limit of electors per polling booth in order to prevent overcrowding, addition of polling stations, EVMs, restricting door-to-door canvassing to groups of five persons and many more such steps. Furthermore, health experts called holding elections during the pandemic a 'blunder'. They stated that crowding cannot be avoided during elections. With door-to-door campaigning, there are chances of the virus spreading from house to house. Thus, these findings point out that the election process was affected negatively due to the COVID 19 pandemic which was really a great challenge.

6. **Female voting percentage was same as ever before during the covid.**

As per the data from 2014 municipal corporation election total no. of women electoral votes were 94900(approx.). And in 2015 it was around 1 lakh (101212). And in the year of 2019 there was a rapid increase in women electors was seen i.e 11 lakh. But in the pandemic, women were the active participants in the election of 2020 of municipal corporation the total no. of women voted were 17.21 lakh which is 6lakh more than the previous year. In our research paper there was a major no. of women who voted in the election of MUNICIPAL CORPORATION JAIPUR 2020. From the past years women are getting aware of their rights . For many years women were forced to stay at home but in this election women were in great no. Even though there was a deadly virus in the air, even the courage to come out of their home and vote . And in the current time more than ¾ population of women know their rights and they fight for it.

7. **Having elections during the pandemic was a big step towards protecting the Democracy.**

As democracy is of the people, by the people and for the people, it was a big step to protect the democracy as free and fair election are the basis for the democracy.

The president of India said that we should always respect the right to vote as it is not a simple right, people around the world have struggled for it. In that sense it was a great step for the protection of our democracy as it valued the important right to vote.

If we look on the other side around only 32.7% respondents believed it was a fair play to conduct the elections during the pandemic while 38.8% people didn't think it was a good decision.

Elections during the pandemic also increased the risks of spreading of the virus and the health experts condemned it as the gathering of people for voting and campaigning was inevitable.

Thus, we can conclude that it was both sided as it protected our right to vote while it also increased the risks.

References:

1. Constitution of India, Central law Publication, Allahabad, 2013
2. www.mospi.nic.in
3. Constitution of India, Central law Publication, Allahabad, 2013

4. https://www.idea.int/news-media/media/issues-challenges-and-protocols-conducting-elections-during-covid-19-sharing

5. Board guidelines for conduct of General Elections/Bye-Elections during COVID-19 by Election Commission of India, Dated August 2020, Document No. 324.6.EPS.OT.001.2020

6. www.world360news.com

7. https://www.india.com/news/india/rajasthan-municipal-election-2019-results-urban-local-bodies-polls-live-news-and-updates-counting-underway-3848740/

CHAPTER 16

SURVIVING PANDEMICS: EVOLVING LITERATURE

ABSTRACT -

Literature as an expression of experiences tends to be as diverse as they are and as such challenges all the rigid definitions based on form or style. Whenever mankind has been on thresholds of destruction, literature has been a light in the dark; be its great battles, world wars, revolutions or any pandemic, literature has always been the mirror of the society, solace to the souls and guiding light to the lost. Be it any situation, writers have been loyal to their pens, complimenting their agony by putting them into words that the entire world reads today. The novels, ranging from science fiction to historical accounts and self-narrated memoirs of the life, reveal more than just their narrative content. The same goes for the literature on pandemics. They depict the underlying struggles and mannerisms of the people experiencing the said pandemics. This research paper aims to study the ongoing pandemic, **COVID-19, and its impact on literature** as a general topic and specifically question **'how literature produced during earlier pandemics can help people in 2020 fight and survive Novel Coronavirus 2019'.** It explores the literature written during previous pandemics. With the help of significant survey and clear research, we see how diction, style, genre and themes have changed from the times of normalcy.

INTRODUCTION -

> Literature may not explain away or fight off things such a state of minds pandemics, even as modern science sometimes can't, but it does become a source of consolation, a way of sharing our common humanist concerns, and, in its own way, provides the deepest and most insightful record of events.

-Prof. Harish Trivedi

According to Merriam Webster, literature is defined as writings having excellence of form or expression and expressing ideas of permanent or universal interest. It stands tall through all phases of time and becomes the main source of knowledge about past and future interpretations. Literature has taught humans about the entire world. Thinking of going on a voyage can be well complemented by just a reading of Daniel Defoe's *Robinson Crusoe* and one may feel like a sailor who has travelled the seven seas and lands without even leaving one's home. It possesses a power no other thing can hold. And so happens in times of pandemics and epidemics.

Pandemics are no new things, they have accompanied us since times immemorial. And today, in a COVID-19 hit world, people are fighting two battles - battle against the virus and battle against the mind. Following this, is the literature on pandemics. '**Surviving Pandemics**' specifically proves the point of learning from the past. Ever since there have been pandemics, there is the literature on pandemics produced. While we as human beings know that almost every half a century welcomes a pandemic or an epidemic, it always brings in surprise, unpreparedness and helplessness. But former scientific, historical, statistical and literary manuscripts are prime sources that can help us survive future pandemics and COVID-19 in particular. Whereas, '**Evolving Literature**' stands on the argument that environmental factors, psychological changes and new emotions during pandemics evolve literature into a never-seen-before version. Literature has always been adaptable to the changes of time and tide. It helps us to know humanity, both at its best and worst.

OBJECTIVES -

1.   To study how literature (scientific, historical, statistical, fictional and non-fictional) produced during earlier pandemics can help humans in 2020-21 fight and survive Novel Coronavirus 2019 and show that past literature foretells the present and future problems humans go through during pestilences.

2.   To analyse the Literature produced during COVID-19 and to develop a prognosis about the evolution of literature in the aftermath of COVID-19.

METHODOLOGY-

This paper includes both qualitative and quantitative study. The quantitative study includes analysis of a questionnaire whereas a qualitative study is a product of selective readings to understand the vision of the respondents better. This paper aims to gather an in-depth understanding of how literature affected/impacted people during COVID-19 and evaluate different probable sects of literature produced in the aftermath of the pandemic.

RESOURCES -
● **Tools -**

1.   Questionnaire

2.   Selective Readings (research papers, articles, prose and poetry)

● **Subjects -**

1.   For questionnaire - School and college students, working or employed people and housewives.

I- PART ONE: SURVIVING PANDEMICS

'Surviving Pandemics' in today's time means readiness to face the flu, plague or virus epidemic/pandemic, disaster management, panic control, containing the spread and infection, prevention of infection and rising death polls, preparation of an antidote or vaccine, and handling the aftermath of the disease spread. Likewise, literature holds the power to contain the psychological surprise, unpreparedness and helplessness brought along by the pestilences. This section shows how the literature on past pandemics can help us survive future pandemics and the present one called COVID-19.

A) ANALYSIS OF THE QUESTIONNAIRE -

Using the research method of survey, the paper's research associates designed a questionnaire to support the research. The survey gives us a view of the reading activity among the respondents and their indulgence and interest in any literary works from past pandemics. The observations drawn are studied on a small level as the responses were around 100 in number. So, it must be kept in mind that the said results can vary with the difference in the number of subjects.

● The main objective of this questionnaire was to evaluate the reading pattern of people during the COVID-19 pandemic.
● Out of 99 respondents, 25.3% read books every day, 11.1% read once a week and 34.3% read whenever they were free.
● The survey population indulged more in reading during the COVID-19 pandemic.

a. On being asked about the helpfulness/usefulness of reading (on a scale of 1 to 5) during COVID-19-19, the following results were obtained-

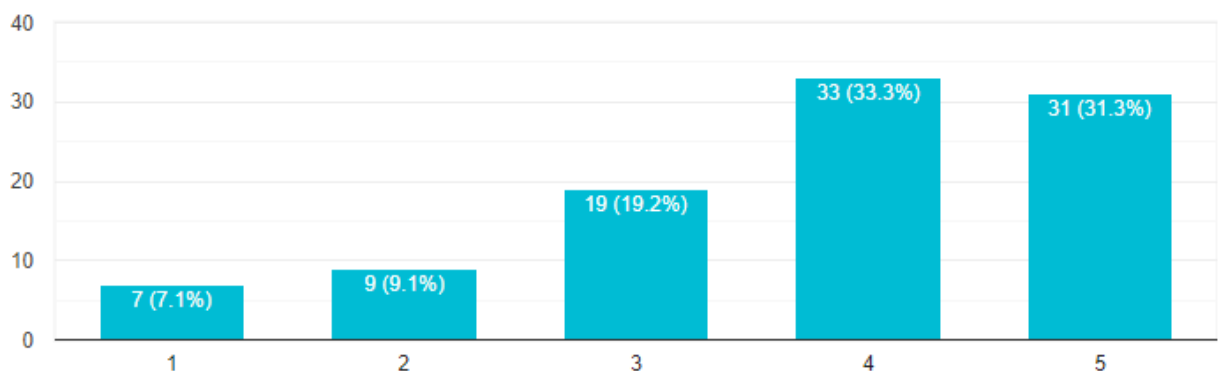● This shows that about 64% of people find reading books helpful.

Figure 1

b.   Most of the respondents read holy books or watched religious serials like Ramayana and Mahabharata during the lockdown period and the majority of the respondents concluded that it had positive effects on their mental or psychological health.
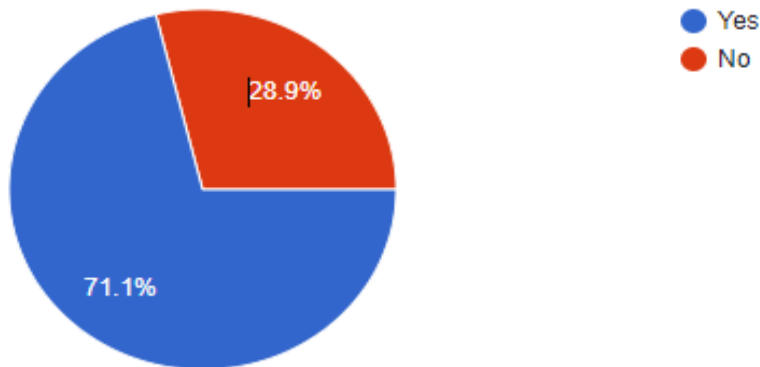

Figure 2

c. Amidst the time of the pandemic, people switched more to books or movies that had positive endings or those that served as a ray of hope.

Figure 3

d.   Through the survey, it was recognised that more people indulged in writing poetry, articles, diary entries or journals during the COVID-19 pandemic.
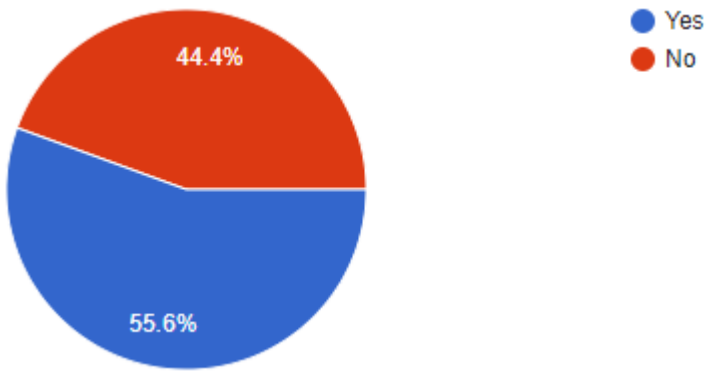
Figure 4

e. The majority of people read or watched past-pandemics works.
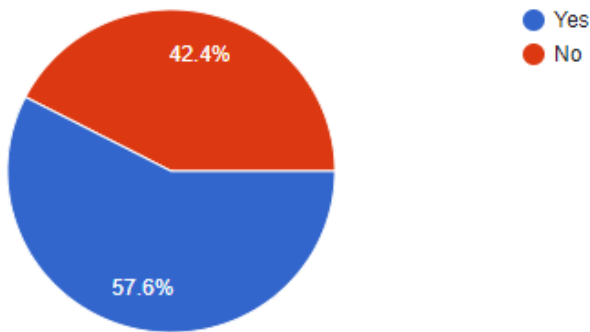

Figure 5

f. On being asked about activities they indulged in, the responses were divergent. Yet books/poetry constituted a major part of it.
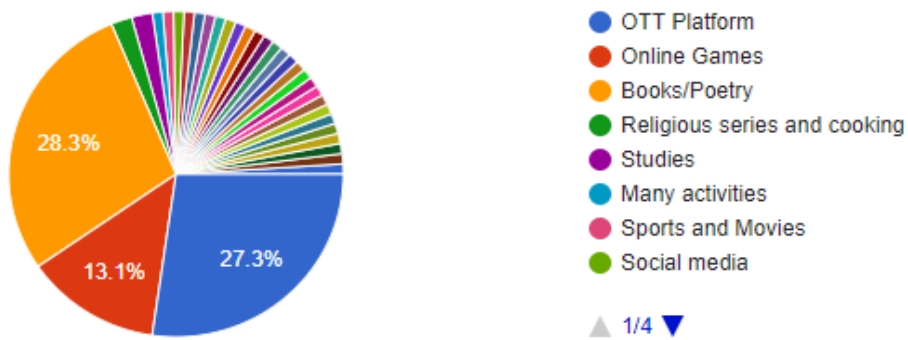

Figure 6

B) ANALYSIS OF SELECTIVE READING -

On being asked to mention some books read during the COVID-19 pandemic, the responses ranged from **Motivational/ Self-help books** (Think and grow rich, The Alchemist, Ikigai, Fear Not Be Strong), **Religious books** (Bhagavad Geeta, Garuda Purana, Kabir, Ramayana), **Nationalist/Patriotic books** (Hind Swaraj, Inquilab, Nationalism in India), **Fiction books** (The Song of Achilles, Chronicles of Narnia, The Shawshank Redemption, 13 Reasons Why), **Educational books** (Harvard Business Review, Books for Competitive exams, Think and Grow Rich, Copycat Marketing 101) to **Classics** (To Kill a Mockingbird, Paradise Lost, Hindi Classics by Premchand).

Relevance of Selective Reading -

Selective reading aims to understand why the respondents read the specific works mentioned by them in the survey. The project associates read these works and analysed their core components to understand how respondents were profited by reading these works. It was observed/analysed that the emotions and state-of-mind experienced by the readers while reading these works(fictional or real) was quite similar to the emotions being evoked by COVID-19. All these books, to much extent, depicted the effects of isolation and loneliness, loss of normalcy, the threat to survival along with an emphasis on having a will to survive the darkest moments of history and retain hope for a better future. The readers were able to empathise with the situations and characters of the books and that is the reason they switched to such books.

The Plague by Albert Camus

➢   *Summary* - This novel by Camus highlights the story of the plague-stricken city of Oran on the Algerian coast. The 'Bubonic Plague' spreads in the city of Oran and claims more than half of the town's population. The citizens are shut off from the rest of the world and they long to meet their loved ones during the period of isolation. The plight created by the plague is quite similar to the current scenario. The novel gives us various lessons, which help us to tackle the ongoing pandemic of COVID-19.

➢   *Relevance* - A reading of the novel makes us think of our responsibilities towards society in such moments of crisis. Such times of crisis require preparedness, and people need to prepare not only as an individual but in terms of society as a whole. It offers valuable insight that collective efforts of homo-sapiens can lessen the plight and help to tackle pestilences efficiently. No matter how long the pestilence grips human lives, there is always an end to it and a 'new normal' awaiting us. This novel, in times of helplessness, offers consolation and adds to the value of optimism.

Love in the Time of Cholera

➢ *Summary* - Love in the Time of Cholera, written in 1985 by the Nobel winning Colombian author Gabriel Garcia Marquez, draws a parallel between two polar opposite ideas i.e., love and the fatal calamity "Cholera". The narrative is set across a span of six decades from about 1860 to 1920, with civil war or "La Violencia" between the conservatives and liberals, and the cholera outbreak acting as a backdrop. The novel revolves around the journeys of three protagonists, Dr Juvenal Urbino, Florentino Ariza, and Fermina Daza. It consists of a large number of characters who make transient appearances but each has its role in shaping the course of the novel. For instance, Fermina develops a lifelong friendship with her cousin Hildebranda Sanchez during the pandemic, which makes her realize that romantic love is not necessary for feeling at peace with herself and her life. Even in the face of the outbreak, she managed to achieve personal growth by developing a relationship with her cousin.

➢ *Relevance* - On the contrary, The theme of death and mortality looms throughout the narrative like a grim reaper indicating the inevitability of death. The three protagonists are troubled by the fear of death and ageing in this cholera-stricken world, but love ties it all together and they reach their respective destinies/fates. While healthcare is the most prominent and exigent aspect/issue at hand, personal relationships, more specifically love, being an individualistic one, is often overlooked during such hard times. The ending to this "journey" is a happy yet desperate one, indicating that love makes way for contentment even if it is faced with innumerable obstacles. In conclusion, even in today's dire situation, we as humankind can always hold on to love to pull us through.

The Stand

➢ *Summary* - The Stand, firstly published in 1978, happens to be Stephen King's magnum opus. "A second of virus contraction, gene mutation or virus release changes the entire world." Many Stephen King fans have revisited their old friends and taken this beauty out to be read during the pandemic. It happens to be a relevant book as its plot begins with a manufactured viral epidemic that wipes out most of the human race and the only few humans left resolve to stick together and fight the evil. Of course, the actual pandemic situation is far worse than depicted in the novel or the miniseries and happens to be just an environmental backdrop to base the story of good against evil. But the sequential effects of the virus on the people of America, cross-border contraction of the virus and fight against other evils while fighting the plague are some common points one can see today in the Coronavirus world as well.

➢ *Relevance* - The main inspiration point to gather from this novel is that even in the times of pandemic struck world, humans can find adventure, friendship, romance and fight a wildfire of a lethal strain of an unknown virus altogether.

Pale Horse, Pale Rider

➢ *Summary* - Pale Horse, Pale Rider, a novel written by Katherine Anne Porter, with the post-pandemic world as its zeitgeist, deals with the influenza epidemic of 1918 at the end of World War I. It is a collection of three short novels- 'Old Mortality', 'Noon Wine' and 'Pale Horse, Pale Rider' and was published in 1938. The novel in focus is the last of the segment - *Pale Horse, Pale Rider*. It deals with the harsh life in 1918 with World War I right outside the door and influenza crossing the threshold. A woman named Miranda is struck with fever during the influenza pandemic. The novel shows us the struggle of a patient with the disease as well as the depression that comes along with the sense of helplessness. The story also deals with the loss of loved ones as the main theme is 'pain of living' because in the end Miranda survives the fever but her beloved, Adam who takes care of her and stands by her while she struggles with the physical ailments, dies of the same disease which invokes the feeling of guilt in her. The title of the book is derived from the song that Miranda and Adam hummed '*Pale horse, Pale rider',* which represents the main theme: *"It done taken away the whole family besides the lover"* and *"leaves one to mourn"*.

➢ *Relevance* - The novel points out the fragility of mortal lives. Many books on pandemics end on a note that 'Pandemics don't last forever and eventually there's a new normal awaiting us'. This one takes a step further ahead as it makes us realise that though people may survive pandemics they leave behind an indelible imprint on certain individuals. Grief, here, quote that they may recover from the disease but the pangs of anxiety and loss of loved ones may haunt them and it might take quite a while to return to their normal lifestyle.

I- PART TWO: EVOLVING LITERATURE

Evolution is defined as the successive advancement in a race due to contemporary environmental changes.

Literature possesses the power to break the four walls of the room without physical pressure. In challenging times of pandemics, like present COVID-19, literature evolves itself by the hands and creativity of its creators in such a way that it becomes a dove flying window to window connecting people with a bond of togetherness. From the Spanish Flu to Bubonic Plague to the Ebola outbreak, literature has proved itself to be successful, passing every pestilence and has brought people together through words. From physical inconveniences to psychological struggles to the loss of loved ones,

writers have captured every essence of the pandemic and delivered it with utmost generosity and delicate emotions. In a series of research analyses, this paper contracts the 'newness' in the written word and proposes that literature is subject to change and eventually evolves when met with catastrophic situations and it changes in the mode of presentation, genres, themes, diction, characters, tone and setting, and criticism resulting in a new form of expression.

Digitalization of Literature -

One of the major reasons behind the digitalization of literature is the range of freedom it provides in experimenting with its traditional form and structure. New forms of literature have emerged from its digitalization- hypertext fiction, network fiction, interactive fiction, to name a few. "Electronic media are not simply changing the way we tell stories: they are changing the very nature of the story, of what we understand (or do not understand) to be narratives" (Unsworth, 2008).

● Modes of Availability of Literature -

1.   Digital Libraries - Most of the critics and upcoming population of the world see digital libraries as a positive evolution in the line of library access, many also believe that it is compromising the cultural heritage of traditional libraries. The National Library of Latvia has been digitally transforming itself since the early 2000s. In 2014 they opened a brand new library building where digital efforts got put on hold. But due to the urgency of COVID-19, they've reinvested in going digital as well as traditional. As the entire country depended on this library for knowledge, it turned back to digitization and made its reading materials and resources available to not just Latvia but the entire planet. COVID-19 pandemic made authorities shut down all educational institutions, including libraries. This displaced a huge student body from their sources of knowledge. This is where digital libraries showed a sigh of relief as the material and resources were made available online with dear consideration of cultural heritage. Similarly, the National Digital Library of India - headquartered and developed by IIT Kharagpur - has established itself as a prime source of knowledge and book reading in India and has made books on a diverse range of subjects available to people since 2006. [1]As said by UNESCO, 'digital libraries are helping us achieve certain key targets of the Sustainable Development Goals. In particular, the power to 'ensure public access to information, to 'safeguard the world's cultural heritage, and to provide 'safe, inclusive

---

[1] Falt, E. and Das, P.P. Digital libraries can ensure continuity as COVID-19 puts brake to academic activity. UNESCO

and effective learning environments for all is fundamental to them all and must be maintained.'

2.   E-Books and Audiobooks - The e-book format was once regarded as the future of reading but since 2014 it has been suffering from a decline in sales. The year 2020 witnessed a massive surge in e-book sales. The lockdown imposed by the COVID-19 pandemic confined people to their homes and their inaccessibility of physical books made them switch to e-books and audiobooks. According to a study conducted in the UK, e-book sales increased by 17% in the UK and abroad in the first half of the year. Even though consumer audiobooks have been enjoying a positive outgrowth over the past few years, the first half of 2020 saw a massive increment of 42% in their sales.[2] The pandemic played a major role in these increments. Due to the isolation and unavailability of physical books, people turned to digital copies for entertainment, comfort and seeking solace. Books also became a major source of escapism from the bleak circumstances created by the pandemic. More people switched to reading apps like Kindle. Also, digital libraries and publishers offered free content and personalised collections to ensure that there is no hindrance to the reading patterns of individuals. Audiobooks are expected to surpass e-books as they are more convenient and they provide flexibility that the former does not. This is also the reason for the growth of podcasts.

3.   Choose Your Own Adventure Games - Mobile gaming industry has exploded in recent years, climbing from $17.5 billion revenue in 2013 to $39.9 billion in 2016[3] and part of the reason for their popularity is that they appeal to all sectors like Art, Education, Sports and Literature. 'Choose your own adventure' games or 'Secret Path Books' are becoming more and more popular among young teens and adults who love to read. In these games, each story is written in a second-person narrative and the reader assumes the role of the protagonist and makes choices that determine the main character's actions and the overall outcome of the story. Many classic literature books like *Hamlet*, *Lord of the Rings* and *Harry Potter* have been turned into such games giving a modern twist to the classics. There are many apps in the market with original written stories as well as books that have been rewritten with multiple outcomes and choices. Many apps encourage players to submit their written stories in a competition where the winning story gets published. These applications have become sort of a library with books in which people can read as the main character without having to imagine because it has detailed art of the characters, clothes as well as the setting where the story takes place. Netflix's original movie *Black Mirror: Bandersnatch* was an interactive movie where the audience was able to choose the actions of the protagonist to determine the ending of the movie and that movie brought 'Choose Your Own

---

[2] Sweney, M. Pandemic drives ebook and audiobook sales by UK publishers to all-time high

[3] Waldron, Valerie Lynn, The Rise of Mobile Games: Factors Contributing to their Success

Adventure' games into the spotlight and made it more popular, highlighting the fact that this potentially could change the way we experience movies as well as books. During the COVID - 19 pandemic, there was a hike in 'Choose Your Own Adventure' games' downloads. *Chapters: Interactive Stories* has almost made it into the top 20 of the US bestseller charts[4].

● **Digitization of Regional Literature -**The ongoing pandemic brought in several challenges. Everyone expressed their anguish and plight in their ways. The lesser privileged sections of the society suffered the most and many of them vented their emotions via the form of writing (either poetry or fiction) in their local/regional language.

Regional literature is a branch of literature that primarily deals with the portrayal of regional life with a language and atmosphere that is completely regional in its true spirit.[5] The era of 'Modern Advancement' made readers switch more to English works by foreign authors and poets. The Indian regional literature, though being endlessly rich in a range of subject matters does not have enough audience and recognition.

The process of digitalization can help regional literature gain popularity among the masses. Communities like Indian Cultural Forum are giving voice to the unheard regional literature and helping them find a larger audience via the platform of YouTube. The channel portrays their plight via the 'Songs of Migration'. There's no denying the fact that there was an increment in the viewership on platforms like YouTube. Regional literature is not easily available and accessible as well. With the ongoing process of digitization, audiobooks can be an option to promote regional literature. Yogesh Dasrath, country manager of Storytel, a provider of Hindi, Marathi and English language audiobooks in India writes that regional language stories, when made accessible, will find their listeners.[6] The regional literature is on its way to get recognised.

Many Urdu poets started campaigning and arguing for life through the power of their *kalam*, i.e. poetry. Poets like Bashir Badar, Jaun Eliya, Ahmad Faraz and Zafar Iqbal, among others, wrote Sher, Ghazal, Nazm, Qita and Ashra(s) promoting social distancing, sanitation, health, spirituality and collectivism. Javed Akhtar, in his poem *Hum-Safar* talks about the displacement and miseries of migrant workers and their plight during the Coronavirus pandemic.

---

[4] Business of Apps, data collected from advertising intelligence tool SocialPeta

[5] Agrawal, T. Regional Literature:The Saga of the Changing Traditions of India

[6] Mahawar,A. (2018)How Audiobooks Can Promote Regional Literature In India

Changing forms of Literature - Over time, literature has evolved according to the convenience and taste of young readers. With the advantages that blogs and other social media provide, flash fiction is gaining more and more popularity among the young population. They are short stories with a word count of less than 1000, but they can also be as short as 6 words. On one hand, this seemingly intriguing fact is adored by the aforementioned demographic. On the other hand, it is condemned by literary purists as it is said to be robbing classics of their essence. The concept of "The Death of the Author" is becoming ever more prominent in today's literary scenario. With the growth of technology, literature is also evolving. For instance, Hypertext fiction is not necessarily linear and has nurtured the concept of non-linearity in its narrative. Instead of following a linear storyline every time, it has multiple entry points and endings.

The notion that the world is made up of multiple subjective interpretations, instead of being a universal objective reality is visible across poems and works of fiction since the first half of the 20th century. The concept of Magical Realism, made popular by the Latin-American writer Gabriel Garcia Marquez, has contributed towards the promotion of the aforementioned concept. Themes such as Utopian Visions, Sweet Revenge, and Humanity vs. Nature have emerged during the latter half of 2020.

Lockdown Literature - The ill-effects of the pestilence, the numerous emotions experienced by the society are all being put into works of literature; whether it be fiction, non-fiction or poetry. This pandemic inspired writers to look beyond themselves, giving them a chance to observe human emotions more critically. Their 'writings' serve as a 'narrative' of contemporary time. Ranging from the plight of migrant workers, sufferings of the less privileged sections of society to isolation, longing to meet loved ones; writers have written about every emotion felt during the pandemic. Notion Press, a self-publishing company published around 40 titles on Corona and Lockdown. Books include Love In The Times Of Quarantine, Leaving and other stories: Lockdown Liaisons, Murder in the times of Corona, Born in Lockdown, Pandemic Spell.[7] Poet-activist Rohan Susha Mathews wrote a book during the pandemic, based on his personal experiences which drew parallels between lockdown and prison. Many Indian writers belonging to the queer community have been using literature/writing as a coping mechanism against isolation and its side effects, which in turn is giving the latter a new shape and direction.

Literature about COVID-19 economy - Books are being read and written on 'Economy' outlining its numerous aspects as well as various economic policies. The concern over the economy is seen through many books being written or talked about; which in turn is contributing greatly to the evolution of the new genre of COVID-19 Economics. There have been books like *'Economics in the age of COVID-19'* by Joshua Gans and *'Indian Economy's Greatest Crisis'* by Arun Kumar written during the

---

[7] Sharma,M.(2020)Covid-19 warriors,survivors wield pen as pandemic inspires fiction.

COVID-19 pandemic, which deal with the economic aspects. The number of researches being conducted and published has been increasing steadily since the onset of the pandemic. A major topic among these research projects is the economic consequences of COVID-19 and the government response to the same. "By the end of May, there had been 106 papers related to COVID-19. Similarly, over 60 discussion papers on the pandemic were released by the IZA Institute of Labor Economics during March-May 2020."

The Over-The-Top (OTT) Platforms - Lockdown caused as a preventive measure for COVID-19 made cinema halls and theatres come to a halt. With a huge loss accumulated in the film and entertainment industry, OTT platforms came into the spotlight as they made films and series available to people even in isolation. The COVID-19 pandemic increased the growth of OTT subscription by 60 per cent.[8] Amazon Prime, Netflix and Disney + Hotstar were among the most searched platforms as many Bollywood and regional producers decided to premiere their movies on these platforms exclusively.

OTT Platforms gave freedom to content creators to express themselves away from the shackles of the constant loop. Usually, producers are hesitant to experiment with new content from the fear of financial loss but with the surge in OTT platforms, it was witnessed that not only new experimental content was created but it also gave a chance to failed projects and some of them became cult classics like *Mulholland Drive*, *Warrior* and *The master*. Due to the independence in OTT platforms, people saw much experimental incredible content inspired by books like *Scam 1992: The Harshad Mehta Story* based on the book *The Scam* by Sucheta Dalal and Debashis Basu, *Bard of Blood* on a novel by Bilal Siddiqui, *The Handmaid's Tale* based on a novel by Margaret Atwood, *Sacred Games* based on Vikram Chandra's book and *A Suitable Boy* based on a novel by Vikram Seth. Due to the popularity of the Web series many producers started purchasing rights of the books, recently the rights of Shashi Tharoor's *Why I am a Hindu* were purchased by Sheetal Talwar. OTT Platforms are providing a stage for deserving books to be adapted into movies. There is a surge in book adaptations and more and more writers are now considering making their books accessible through OTT Platforms.

Subjective Narratives - More people started writing about their experiences and some used it as a tool to help them get rid of their negative thoughts. The state of mind of individuals being stuck in their homes, isolated; was captured in their writings(in the form of diary entries, memoirs, journals). All of this gives us a deep insight into the human responses to such times and further serves as evidence of an individual's state of mind. The uniqueness of such personal writings is that they cover every area and aspect

---

[8] Boston Consulting Group (BCG), Entertainment Goes Online: A $5 Billion Opportunity

of our daily lives that people can connect, feel and relate with those; which in turn makes them memorable as well.

Rather than the emotional aspect, there have been books that quest for the origin, nature and spread of the deadly COVID-19 virus. Doctors have written about their experiences with COVID-19 and provided us with authentic information regarding the latter. They have written about how they battled the virus. Books include The Pandemic Plot by Dr Kumar Shyam and Just Switch Off Corona by Dr Maheshwar Prasad Chaurasia.

● **Tales of Trauma and Grief -** It is seen that people have been writing about their grief process in the form of elegies, letters to their lost ones, memoirs, novels, etc. showing their way of expressing grief. With an ongoing death toll of 2.72 million people, the grief and trauma level rises in every recovered person, a family member of a COVID-19 patient and so on. The constant fear of getting infected and the stigma around the disease substantially affects trauma studies. Torn between safety and survival, benefits and ills of proximity, value and harms of freedom, and personal space and socialising, writings diversify psychological issues. Thus, people became psychologically unhealthy and saw literature as a refuge and it was heavily embodied with personal accounts of grief and trauma.

CONCLUSION -

This research is an examination of the public view of literature during COVID-19. Specifically, survey, selective reading and extensive study of materials, along with research were taken as chief methods of observation and to prove the said hypothesis. Through the scope of this research, it was explored that human conscience turns to empathetic sources of literature to understand itself in situations of social isolation and extremity of deficiency in physical and psychological self (as seen during the COVID-19 pandemic). The following findings have been rendered from the entire research process -

- The activity of reading and indulgence in literature saw a comparative rise during the COVID-19 pandemic in respect to the years before it. The profiting and helpful nature of reading was also reported as a subject of increase.
- In the effort to understand the reading pattern of people during COVID-19 pandemic, through the survey, it was seen that majority of people came across literature from past pandemics and epidemics; were indulged in reading or watching religious works; wrote subjective narratives and free-hand poetry to overcome the tenacity of their emotions and escape the gruelling reality of the pandemic; and were more inclined towards digitized versions of literature.

- Selective Reading gave an insight into the respondents' psyche and proved the first hypothesis that literature from past pandemics are capable of conquering the fight against mind and can help people get a sense of belonging and relief by empathising with the characters in books and digitized literature, and subsequently help us through the pandemic.

- The desperation of peaceful consciousness is rampant among people during pestilences and literature with words of consolation and confrontation can relieve people of their insecurities.

- 'Part Two: Evolving Literature' is a completely research-based section of this paper that unwraps new dimensions of literature in a post-COVID 19 phase. These dimensions have been in use or process since years before but COVID-19 gave them a sudden boost to flourish themselves in the literary world.

- Digital Libraries made information available to people on mobile and other gadgets over the internet, and E-Books and Audiobooks saw an increase in sales as well as production. People presented their views in all categories in a verbal medium. Mainly it made physical hard copies of books available in a digitized form to people at affordable rates, preventing physical contact with people and pursuing environmental care.

- 'Choose your own adventure games' cultivated a following and interest of literature in people and bridged the gap between fiction and gaming by combining the two. It also designed the idea of self-expression in books written by others, as the gamer had the liberty to style the story's character's life as per his/her choice and liking.

- Digitization of literature has cultivated the expression of thought and emotion of marginalised/lower sections of the society to gain recognition and build outreach. Regional Literature saw a positive turn over in viewership and recognition due to digitization.

- 'Lockdown Literature' was a new addition to the current evolution of literature. It strengthened individual voices and presented a diverse range of psychological understandings and experiences of people during the pandemic. It has become a part of history and is capable enough to become a source to enlighten people and help them survive future pandemics.

- Economy was one of the worst-hit things due to the pandemic but was also a grave opportunity for particular categories in it. Large-scale researches were conducted on the effect on the economy and start ups were on rise. Motivational and educational literature revolving around the economy was appreciated and demanded.

- OTT platforms gave opportunities to the film and entertainment industries and were demanded by the people. The viewership also increased as many books were adapted into movies and resealed on these platforms apart from common movies.

- Diary entries, journals, and memoirs were frequently seen as a product of literature during the pandemic. These 'Subjective Narratives' are personal in nature but happen to be most relatable and appreciated among people.'Tales of

Trauma and Grief' has become an archetype for psychological and humanistic studies.

- The entire research paper follows a structure of ascending importance and development. The survey studied the reading pattern of people, which is estimation of the targeted subjects and audience. Selective Reading was directed to the first hypothesis as it tried to understand why people read the works on earlier pestilences and how they can profit from them, and it dealt with past literature. Evolving literature dealt with present and future literature and directed research in the field of literature to a futuristic approach.

REFERENCES -

●Ahaskar, A. Uptake of audiobooks and ebooks grows amid COVID-19 pandemic Mint https://www.livemint.com/industry/media/uptake-of-audiobooks-and-ebooks-grows-amid-COVID-19-19-pandemic-11590509317854.html

●Anwar, N. Literature in a Post-COVID-19-19 World TNS The News on Sunday https://www.thenews.com.pk/tns/detail/690944-literature-in-a-post-COVID-19-19-world

●Dhar, S Pen and the Pandemic Times of India https://timesofindia.indiatimes.com/india/pen-the-pandemic-lockdown-literature-coming-to-your-bookshelf/articleshow/76232549.cms

●Gans, J. Economics in the Age of COVID-19-19 The MIT Press https://economics-in-the-age-of-COVID-19-19.pubpub.org

●Johny, S. Analysis | How Pandemics Have Changed the World. The Hindu. https://www.thehindu.com/news/national/analysis-how-pandemics-have-changed-the-world/article31345176.ece

●Ome, M. Dear Diary: This Is My Life in Quarantine The Atlantic https://www.theatlantic.com/family/archive/2020/08/why-are-people-keeping-coronavirus-diaries/614977/

●Roy, A. Literature and Pandemics. The Statesman. https://www.thestatesman.com/opinion/literature-and-pandemics-1502912723.html

●Sharma, M. COVID-19-19 warriors, survivors wield a pen as pandemic inspires fiction Hindustan Times https://www.hindustantimes.com/india-news/COVID-19-19-warriors-survivors-wield-pen-as-pandemic-inspires-fiction/story-IqFOjzNOyv5wKVjeimikZK

●Subramanian, K. Indian Economy's Greatest Crisis review: Economic costs of COVID-19-19 The Hindu https://www.thehindu.com/books/books-reviews/indian-economys-greatest-crisis-review-economic-costs-of-COVID-19-19/article33693844.ece/amp/

CHAPTER 17

IMPACT OF COVID-19 ON NGO

ABSTRACT

COVID-19 (Corona virus) has affected day-to-day life and has caused major disruptions the world over. The ongoing pandemic is already affecting many facets of our everyday lives and will inevitably cause instability in our globalized world. Many people are referring to this as a "before-and-after" moment. Almost immediately, thousands of NGOs in India are mobilized to provide food, healthcare, information, cash transfers, and transportation to affected populations. But at the same time, these NGOs have also been struggling with the pandemic's effects on their own capacities and sustainability. Almost all NGOs are hooked on funding coming from institutional or individual donors that support their cause; however, the Covid-19 Pandemic has placed non-governmental organizations (NGOs) in direct competition with government funding mechanisms that still need funding. These cause severe financial constraints as many of us search for Covid-19 related schemes to fund. As funds become scarce due to economic impact and wish to funnel a high amount of funds to COVID19 related issues, the necessity for NGOs to point out the impact they create per rupee spent is going to be even more important to urge continued support from donors.

To enable NGOs and social enterprises to function effectively and address the challenges created by COVID19, there is a need for developing new ideas and innovative solutions in the area of health care, livelihood support, and provision of energy in terms of finance. These solutions can evolve through cross-sector collaboration between development organizations, government, and corporate.

INTRODUCTION

The NGOs have been working for the betterment of the weaker social groups and disadvantaged communities tackling countless challenges related to the environment, education, health, women empowerment, human rights, relief work, and much more.

In the midst of India's war against the COVID-19 pandemic, non-governmental organizations (NGOs) across the world are working tirelessly to tackle the crisis. They have been working on the ground in every area to

- give the poor shelter, rations, and hygiene kits

- increasing public awareness of the virus and avoiding its dissemination

- teaching people about social distancing, which aids in stigma reduction.

- supplying emergency shelter and establishing soup kitchens for those in need

However, the crisis had an impact on the work and sustainability of the nonprofits also. Managing costs of running the organization, payment of staff salaries, early closure of projects, cutting down projects, delays in starting new projects are a number of the various problems which are faced by them. It can be broadly classified as

1. Financial insecurity

Given that traditional funding streams such as philanthropy and corporate social responsibility (CSR) are now moving into COVID-19 relief and healthcare-related work, charities are concerned about the long-term viability of their programs and organizations.

2. Inability to move to new media

The majority of organizations stated that they had been putting off the introduction of new technologies in their activities and that the abrupt lockdown took them entirely off guard. Many teams struggle to operate remotely due to a shortage of technical capabilities. Nonprofits who have already implemented new technologies in their processes and programs are finding it easier to deal with the situation.

3. Progress on ongoing programs has stalled.

Many nonprofits have had to briefly stop their on-the-ground programs to focus on humanitarian work, and there is concern that this disruption would reverse years of hard work and development, which has been exacerbated by the funding cutback. Short-term program suspensions can have long-term consequences, especially within marginalized and disadvantaged populations.

This pandemic will have an imminent and unforeseen global effect. But the solution is to 'flatten the curve 'of the negative impact for the non-profit organizations by being proactive in the overall approach, by managing the situation at hand, and in the end, trusting that the whole community is in this together. The situation is full of chaos, but at the same time there is a dire need for the development sector and the society to help such organizations that deliver humanitarian aid even after being self-injured by the crisis.

OBJECTIVES

- ➢ To review how NGOs managed to raise funds during COVID
- ➢ To check whether they were able to impart new normal situations like mask, social distancing etc through their NGO
- ➢ To know if the NGOs were able to give financial aid during this crisis.
- ➢ To acknowledge the changes faced by the NGOs to sustain.

HYPOTHESIS

H1: NGOs managed to raise funds through donations.

H2: NGOs carried out various donation drives.

H3: NGOs provided financial aids to the needy.

H4: NGOs opted for work from home method.

METHODOLOGY

A mix of quantitative as well as qualitative approach has been taken for the completion of the project so that results can be compared, integrated and interpreted.

Mixed methods are also known for the concept of triangulation in social research; triangulation provides researchers with the opportunity to present multiple findings about a single phenomenon by deploying various elements of quantitative and qualitative approaches in one research. The instruments used for the project work are Survey and Questionnaire methods.

Sample Primary data was collected from the respondents of a number of NGO's. All the respondents truly and completely responded to the questions asked in the form of Google Forms. Sample Demographic Profile and Time Period are mentioned below: The sample constituted of (n=16), i.e. 16 respondents. The survey was conducted from 18th of March 2021 till 5th of April 2021.

The responses were then organized in the form of an Excel Sheet and then analyzed on the basis of theoretical perspectives.

ANALYSIS

Count of Q.1 Did your NGO faced any kind of donation problem from others in COVID situation ?

No 17.6%

Yes 82.4%
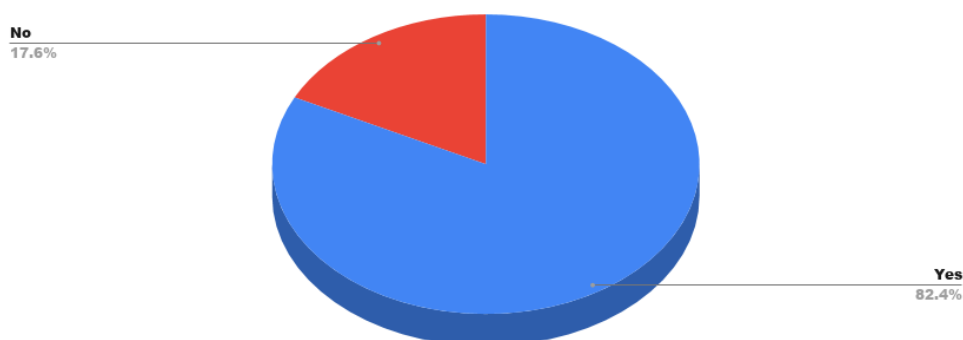
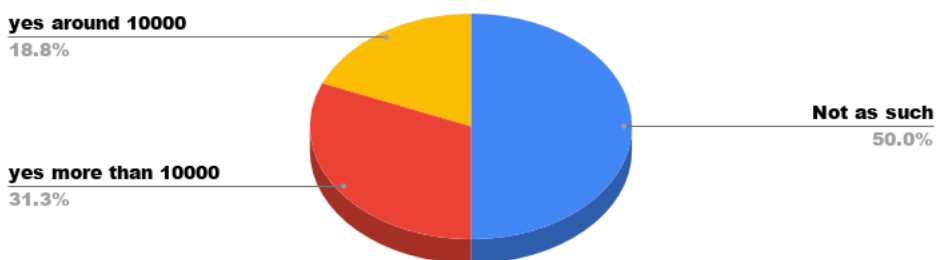Yes, NGOs managed to raise funds during the pandemic through donations.

H1 is a true hypothesis.
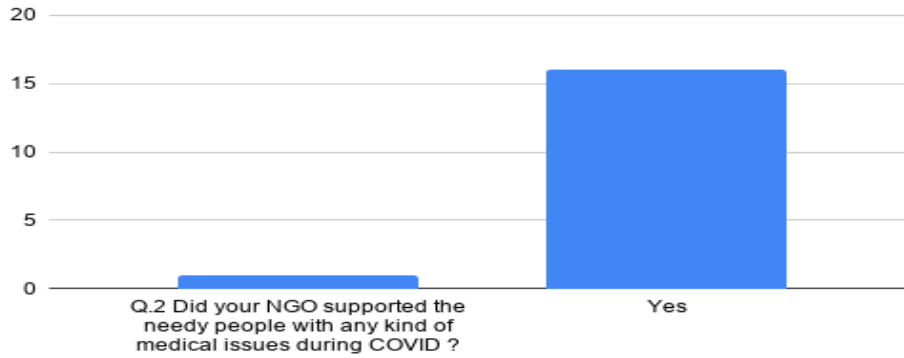
Yes, NGOs carried out drives for helping people.

H2 is a true hypothesis.

Count of Q.3 Was any kind of financial support given from your side during COVID ?

yes around 10000
18.8%

yes more than 10000
31.3%

Not as such
50.0%

NGOs did try but most of them did not help the needy financially

So H3; is a null hypothesis.

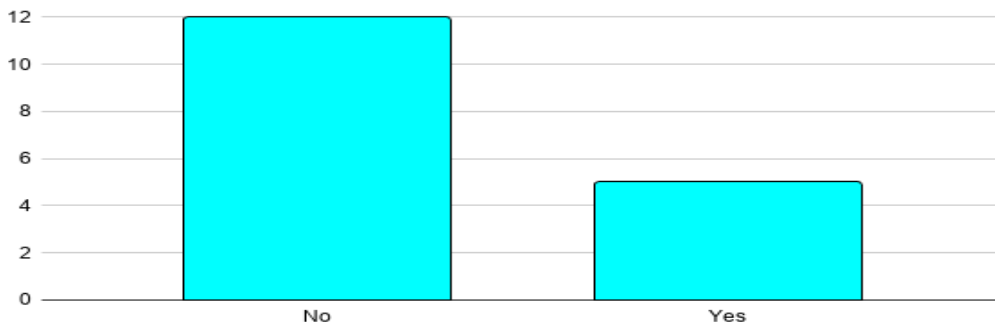Count of Q.4 How did your NGO cope up with the situation during the initial months of the lockdown?

Donation in the form of cash
25.0%

Donation in the form of grants
25.0%

Donation in the form of kind
50.0%

From this we can analyze that mainly donations were received in the form of kind majorly 60% than donations received in the form of cash and grants

Count of Q.5 How did you manage to get basic necessities of life(groceries, sanitary items ,etc.) during this time?
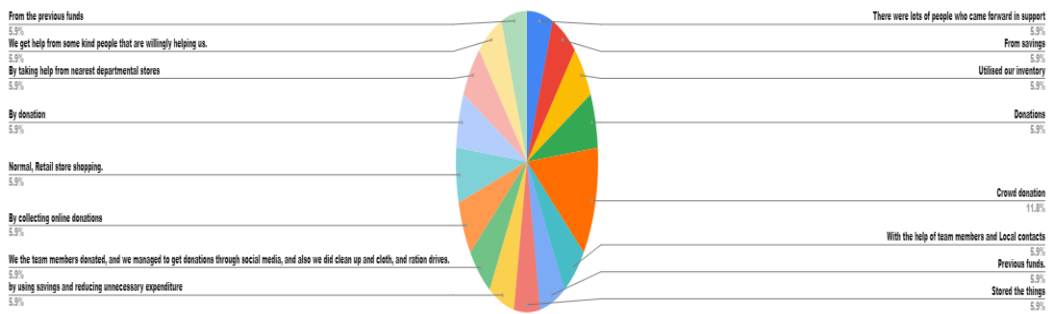
There were many ways by which Ngos managed to get basic necessities such as they get help by some kind people that were willing to help by donations by storing the things and many more.
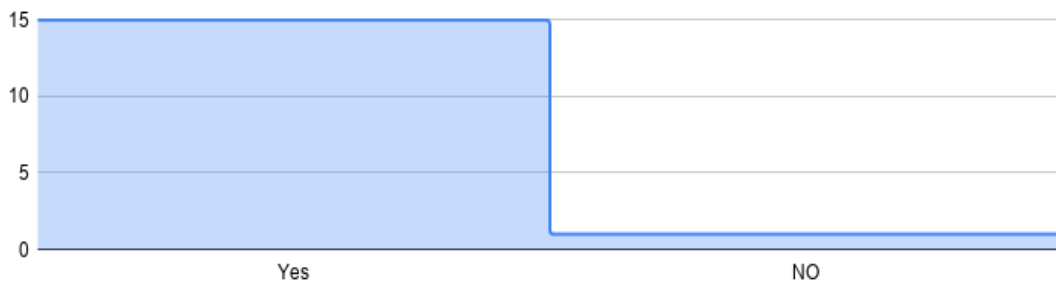

Count of Q.6 Was there any kind of resistance from your members regarding the work you do ?

Mostly all members of NGO were ready to help in the crisis.

Count of Q.7 Did you held any activities online during the lockdown period ?

From this graph,we can analyze that in covid situation also mostly all NGOs held activities online during lockdoen and they were looking for the welfare.

Count of Q.8 Do you feel this corona came as a challenge to the ngo and helped you to prepare for such further adversities?
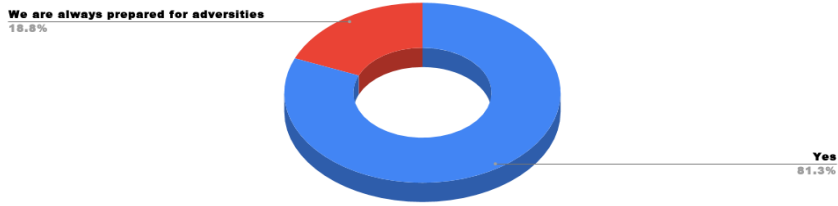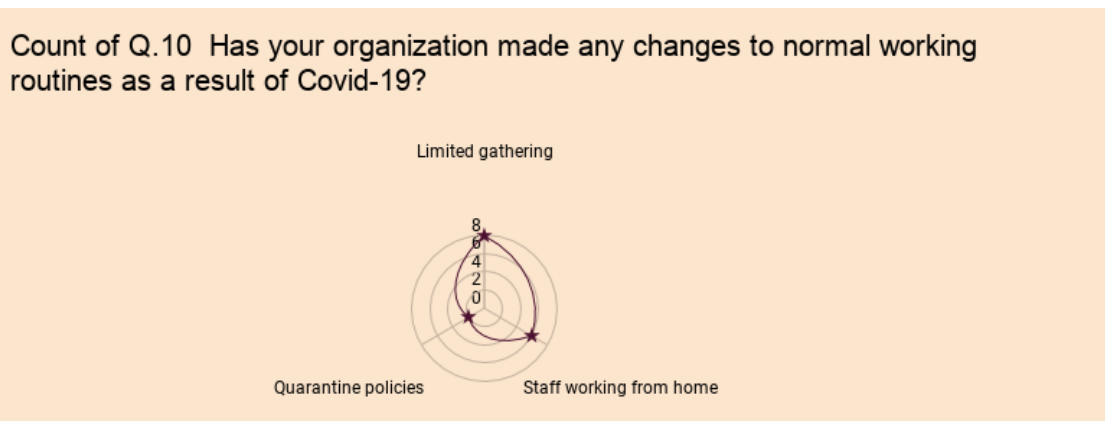

81.3% authorities of ngo felt that corona virus came as a challenge to the NGOs and they must be prepared for the further advertisies so that they can work their NGOs properly.

Count of Q.9 Any new initiatives or segments you added to your management?

Count of Q.9 Any new initiatives or segments you added to your management?

From this graph we can see that NGOs have became more formal to have thre teams as properly managed so that they can work for any problem .

Count of Q.10 Has your organization made any changes to normal working routines as a result of Covid-19?

NGOs did opt for work for home methods but most of them considered limited gathering as a better method. Thus, H4: is a null hypothesis.

Behind the Scenes

Conclusion

1. NGOs managed to raise funds during the pandemic through donations.

H1 is a true hypothesis

2. NGOs carried out drives for helping people.

H2 is a true hypothesis.

3. NGOs did try but most of them did not help the needy financially

So H3; is a null hypothesis.

4.NGOs did opt for work for home methods but most of them considered limited gathering as a better method. Thus, H4: is a null hypothesis.

RECOMMENDATIONS

1) Government should raise funds for the NGOs so that they can also come up with the post covid scenarios and maintain all possible precautions We can raise funds through masses or Donate in kinds to the NGOs

2) There can be a portal where all the NGOs connect with each other so as to help each other in any way possible. Active participation in NGO activities can help the country grow on humanitarian grounds

LIMITATIONS

1) Research is based only on the point of view of the NGOs
2) Due to covid less NGO participated in the survey.
3) We were not able to find out the minimal amount of donation needed by the NGOs to be sustainable.
4) We included only those NGOS whom we could connect with online mode.

REFERENCES

- https://globalpeacecareers.com/magazine/objectives-of-ngos/
- https://digitalmedic.stanford.edu/general/the-role-of-ngos-in-covid-19-community-based-education/?utm_source=rss&utm_medium=rss&utm_campaign=the-role-of-ngos-in-covid-19-community-based-education&utm_source=rss&utm_medium=rss&utm_campaign=the-role-of-ngos-in-covid-19-community-based-education
- https://www.mbarendezvous.com/b-school-events/impact-of-covid19-on-ngos-and-social-enterprises-nmims

QUESTIONNAIRE ON IMPACT OF COVID-19 ON NGO
IMPACT OF COVID-19 ON NGO
*Required
1. Email address
2. Contact Number
3. Name of the NGO

Q.1 Did your NGO faced any kind of donation problem from others in COVID situation?
- o Yes
- o No

Q.2 Did your NGO supported the needy people with any kind of medical issues During COVID?*
- o Yes
- o No

Q.3 Was any kind of financial support given from your side during COVID ?*
- o yes around 10000
- o yes more than 10000
- o Not as such

Q.4 How did your NGO cope up with the situation during the initial months of the lockdown?
- o Donation in the form of cash
- o Donation in the form of kind
- o Donation in the form of grants

Q.5 How did you manage to get basic necessities of life(groceries, sanitary items .etc.) during this time?

Q.6 Was there any kind of resistance from your members regarding the work you do ?
- o Yes
- o No

Q.7 Did you held any activities online during the lockdown period ?
- o Yes
- o No

Q.8 Do you feel this corona came as a challenge to the ngo and helped you to prepare for such further adversities?
- o Yes
- o We are always prepared for adversities

Q.9 Any new initiatives or segments you added to your management?
- o Yes
- o No

Q.10 has your organization made any changes to normal working routines as a result of Covid-19?
- o Limitation of staff movement
- o Staff working from home
- o Limited gathering
- o Quarantine policies

CHAPTER 18

IMPLEMENTATION OF IOT & AI IN HEALTHCARE DURING COVID-19

ABSTRACT

*Social distancing and quarantining are now standard practices which are implemented worldwide since the outbreak of the novel coronavirus (COVID-19) disease pandemic in 2019. Due to the complete acceptance of the above control practices, frequent hospital contact visits are being discouraged. However, there are people whose physiological vital needs still require routine monitoring for improved healthy living. Interestingly, with the recent technological advancements within the areas of The Internet of Things (IoT) technology, smart home automation, and healthcare systems, contact-based hospital visits are now considered non-obligatory. To this end, a remote smart home healthcare support system (ShHeS) is proposed for monitoring patients health status and receiving doctors' prescriptions while staying at home. Besides this, doctors also can perform the diagnosis of ailments using the info collected remotely from the patient. An Android-based mobile application that interfaces with a web-based application is implemented for efficient patients-doctors dual real-time communication. Sensors are incorporated within the system for automatic capturing of physiological health parameters of patients. Also, a hyperspace analogue to context (HAC) was incorporated into the present monitoring framework for service discovery and context change within the home environment towards accurate readings of the physiological parameters and improved system performance. With the proposed system, patients are often remotely monitored from their homes, and may also live an easier life through the utilization of some features of smart home automation devices on their phones. Therefore, one main significant contribution of this study is that patients in self-isolation or self-quarantine can use the new platform to send daily health symptoms and challenges to doctors via their mobile phones. Thus, improved healthy living and a cushy lifestyle can still be achieved even during such a problematic period of the 2021 COVID-19 pandemic that has already recorded Positive Cases - cumulative total- **146,881,792** so far with Deaths - cumulative total **3,105,292** deaths globally.*

Introduction

Coronavirus Disease 2019 (COVID-19) was declared as pandemic by the World Health Organization on March 11th, 2020 mainly due to the speed and scale of the transmission of the disease.Several SARS-CoV-2 samples have been isolated from different people and genomic sequences have been available aiming to better understand the virus and to provide information for the development of diagnostic tools and a potential vaccine

The shudders of the COVID-19 pandemic have projected newer challenges in the healthcare domain across the world.This work is aimed at providing a holistic view to digital healthcare during the times of COVID-19 pandemic.

Artificial Intelligence and IOT in healthcare has the most prominent role. Along with their potential applications like clinical decisions support systems and predictive risk modeling , especially in the direction of combating the emergent challenges due to covid-19 pandemic. All these factors are briefly discussed the key issues towards an extensive implementation of ehealth paradigms.

Recent years have seen a tremendous surge in domains like the Internet of Things (IoT). Technological areas like IoT and AI have received a strong push to provide fast and efficient healthcare services especially in the perspective of COVID-19, often to automate and facilitate several tasks of the healthcare personnel. In addition to intelligent analytics and decision-making, AI and IoT have specific advantages in eHealth during the emergent situations due to COVID-19.

The pandemic has caused a great deal of effect on many aspects of human life, economy, industry, etc. In some research, AI approaches are used to develop ways of managing the effects of the pandemic. In this section, we cover these research. The ways AI approaches can be used to manage the problems caused by the disease are over-viewed.

Utility services: The pandemic has surely caused unprecedented challenges for the utility and grid operators. Due to the lockdowns and restrictions, power consumption profiles around the world have shifted in magnitude and pattern, leading to making the problems a little tedious.

Helping organizations: AI tools has helped many helping organisation , leading to increase in the adoption of AI tools. AI tools undoubtedly , are used to help charities deal with the problems, they are faced during the pandemic a

n
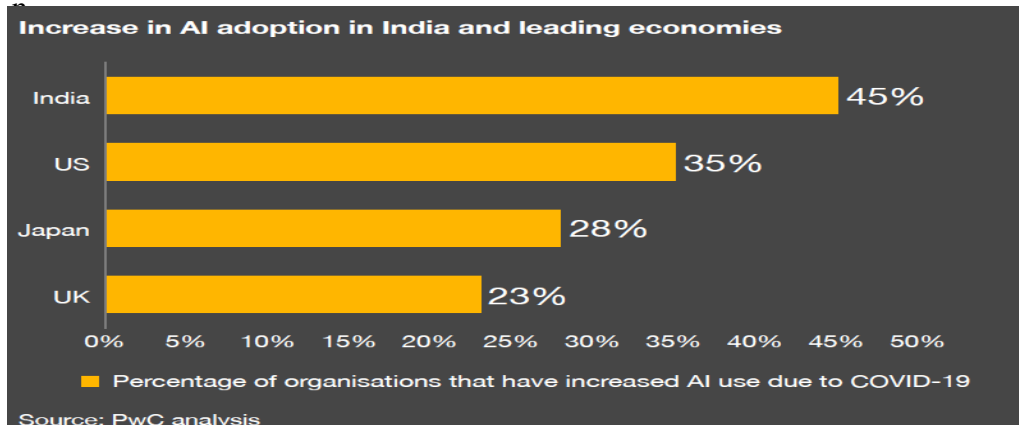
t

hem to cope up with the same. But. An AI algorithm is proposed to optimize the library services and resource allocation during the pandemic. The pandemic has made the justice system face difficulty in delivering the required service.

AI plays an important role in this aspect, especially supporting physicians in early detection of COVID-19 cases by quickly analyzing irregular symptoms and other suspicions and thus alert the respective stakeholders like the patients and healthcare authorities.It is argued that AI will be key to supporting clinical and academic studies of covid-19 and future crises and will rise the main cause of economical development.

The IoT offers a sharing platform so that the EHR collected from the patients' eHealth devices can be shared across multiple heterogeneous devices, and across health networks in an easily accessible way to the healthcare providers.
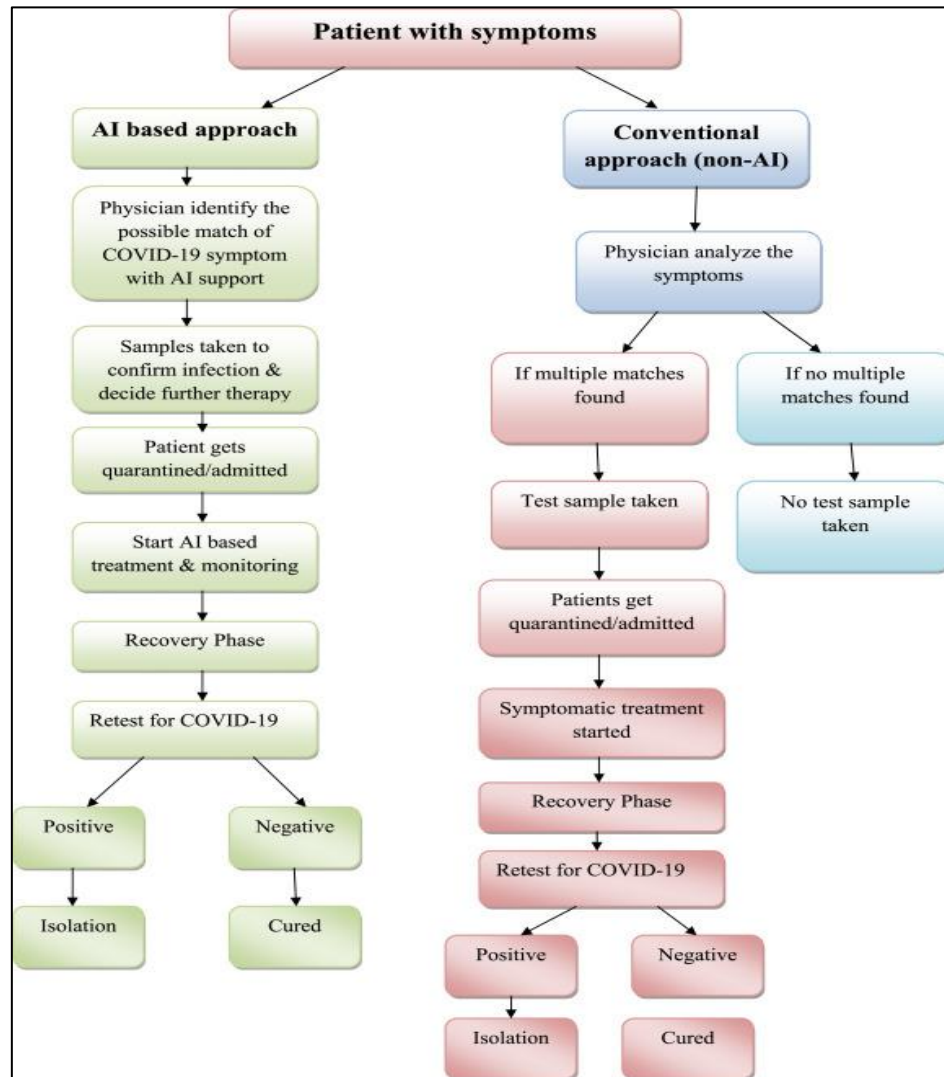
source: sciencedirect.com

METHODOLOGY:

We can now see that India was hit by the Second wave of COVID-19 in 2021 which impacted our healthcare system as a whole. In this pandemic implementation of IOT & AI in the healthcare system globally helps to fight against this Global Pandemic. So we tried to conduct a secondary survey in jaipur on the topic "Implementation of IoT & AI in Healthcare during Covid-19" by circulating a questionnaire of 10 questions, online by using Google forms and creating an analysis report accordingly as per the survey results which is filled by doctors, hospitals management, nurses, MR's. We got 15 responses only as every healthcare worker is busy in treating patients.

AI approaches in different aspects of epidemiology.:
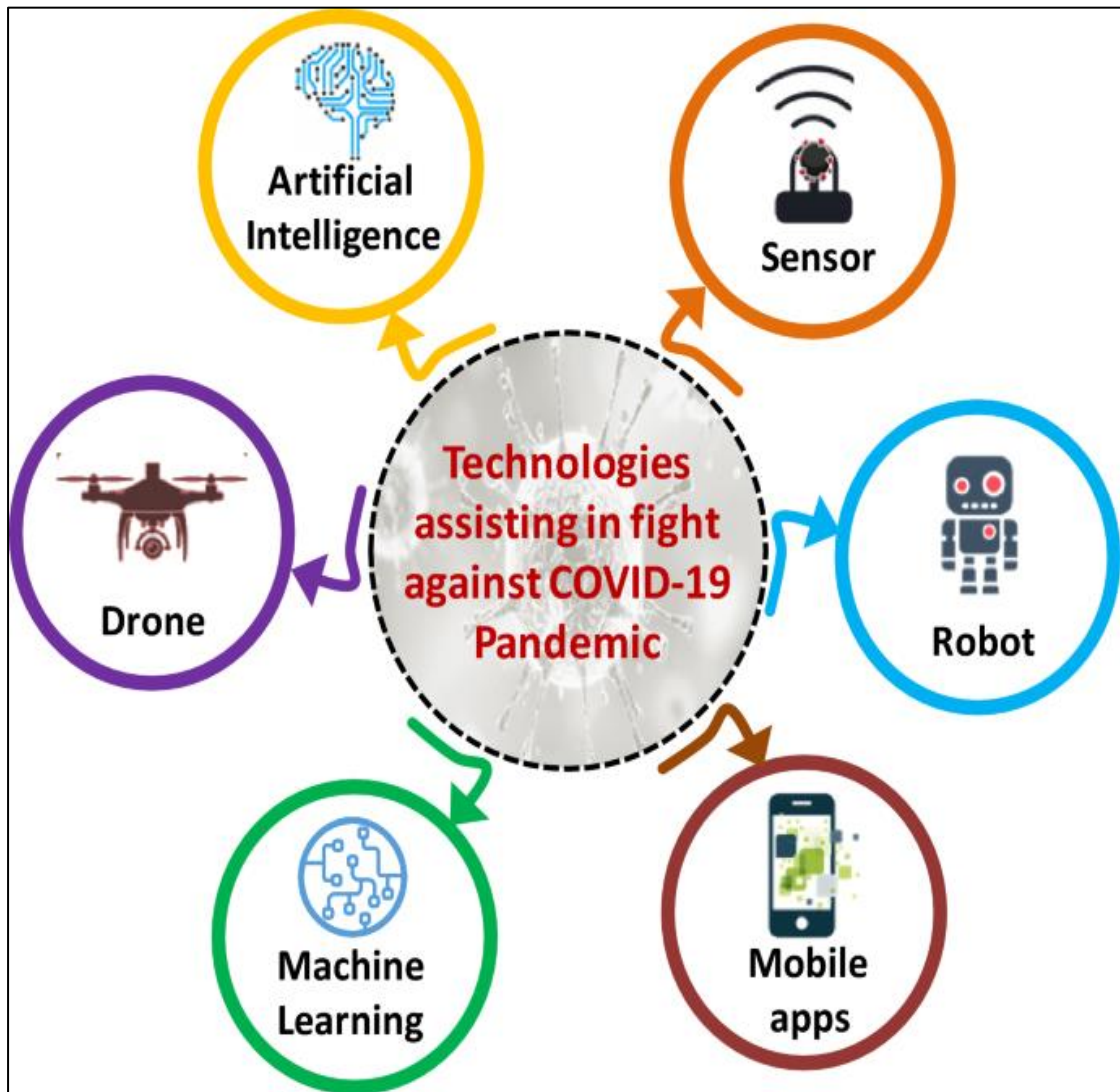
source: blogs.microsoft.com

- **Epidemic prediction**
- **Epidemiology and neural networks**
- **Epidemiology and deep neural networks**
- **Epidemiology and machine learning**
- **Epidemiology and evolutionary algorithms**
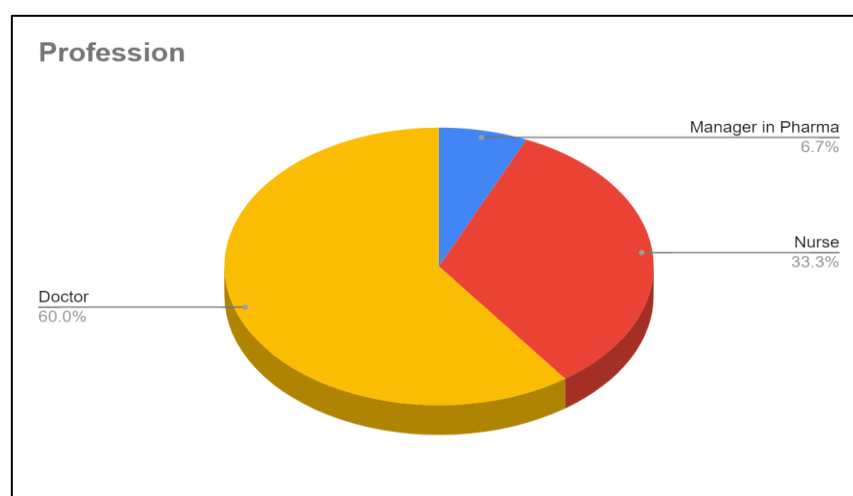- **Monitoring the pandemic**

source: pwc analysis ; pwc.com

Survey Report

A survey was done using google forms. As we all know that second wave of Covid 19 proved to be more dangerous the medical fraternity is busy solving this issue, hence we received only 17 responses. The summary of responses is as follows:-

This typology is based on an analysis of primary cases of COVID-19 digital public health technologies. Note, there might be variations because of the rapid proliferation and evolution of national, international, and private actor initiatives in this domain. Further, some technologies might combine purposes or have overlaps in approaches.
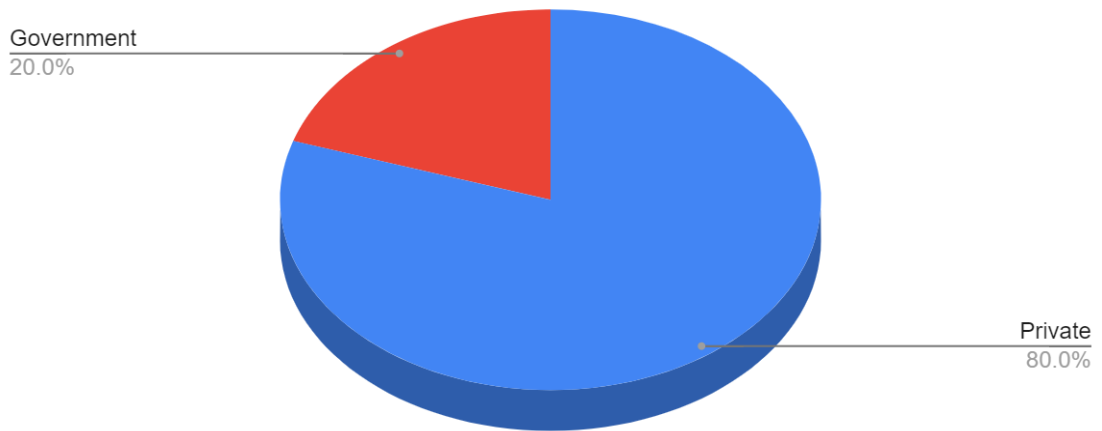

From the analysis above we can observe that we got a variety of responses from Doctors, Nurses, HRs which make this survey a successful survey.

Kind's of Hospital's/Dispensary's/Pharmaceutical Company:-

We can observe that as most of the government hospitals are really busy we get most of the responses from Private hospitals.

Hospital's which are ready to deal with COVID-19:-
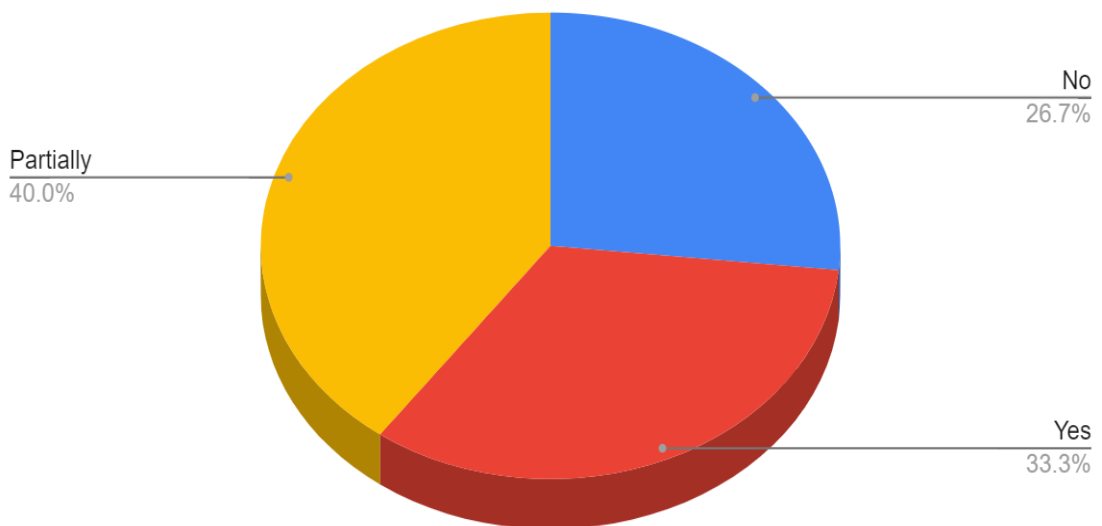
As the Covid-19 virus mutates and gives us A lakh positive cases in India in the 2021 Second Wave. We can observe that our Health infrastructure is still not able to deal with covid-19. Hence we can observe that 40% agree that hospitals are PARTIALLY

ready, while 33.3% say YES hospitals are prepared to deal, and 26.7% say NO to deal with covid-19 pandemic.

IoT and AI were helpful during the COVID-19 pandemic:-
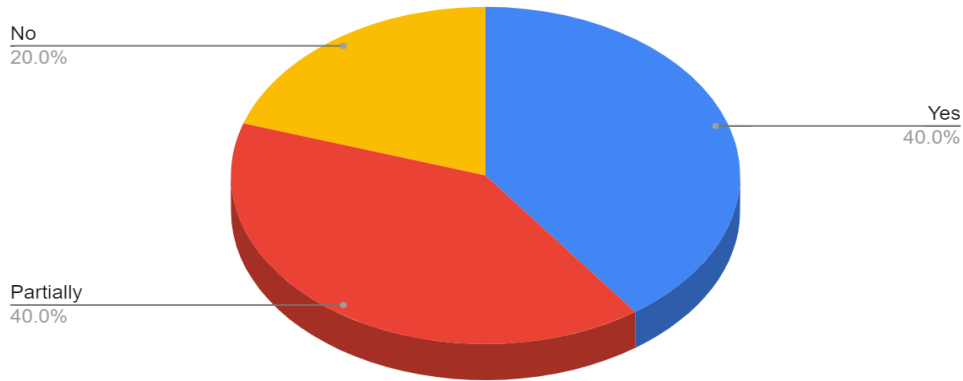
We Got a 50-50 % who found IOT & AI helpful in this Pandemic, while 20% disagree which means India still needs to improve and innovate in this sector.

Hospital's which implemented the use of IoT and AI:-
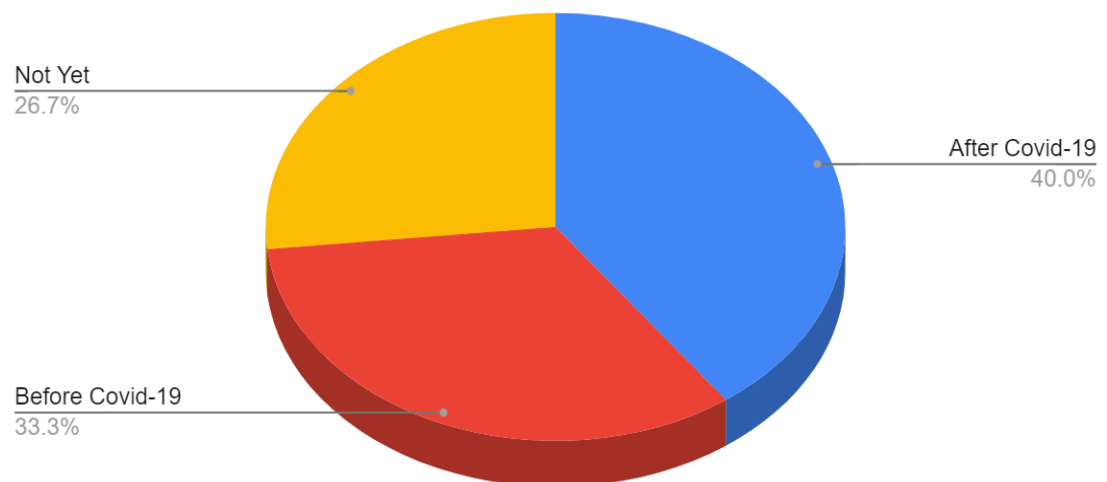
We can observe that 40% of healthcare start using IOT & AI AFTER COVID-19 started while 33.3% is using it BEFORE COVID-19 and 26.7 % is still NOT YET using IOT & AI.

COVID-19 affects the hospital's management and staff:-
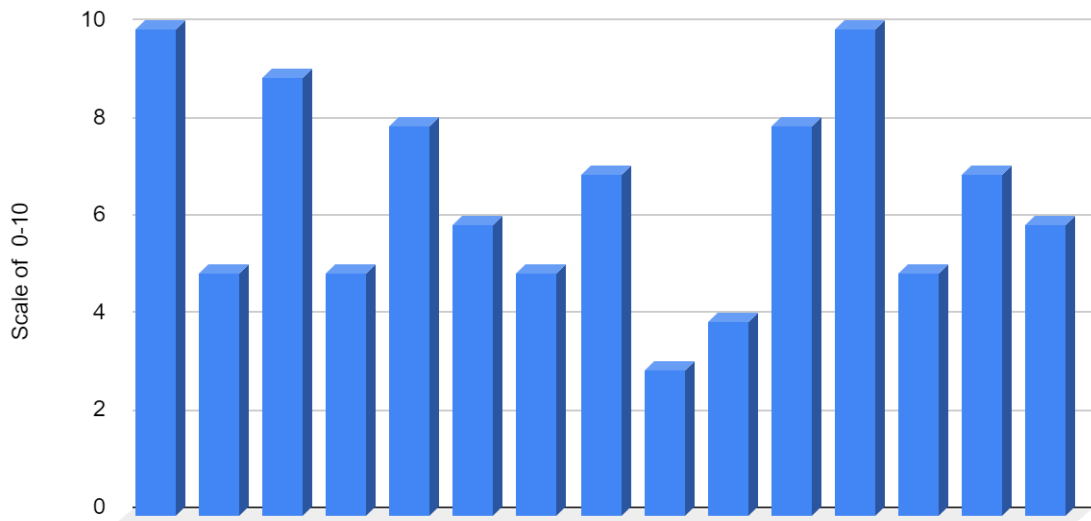
We can observe from the figure 26.7% believe that 50% of our healthcare is prepared till now while 13.3% believe that their management and staff is totally ready to face this pandemic with help of AI & IOT.

Digital health during COVID-19:-
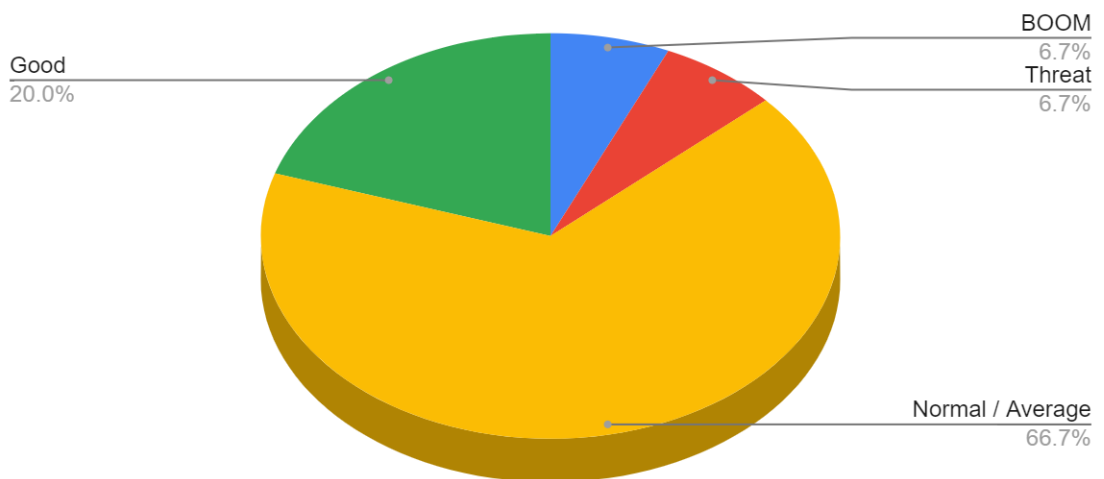
We can observe Digital Health still needs to grow and 66.7% agreed on that while 20% believed that is Good going in this scenario**.**

Modes which are more convenient in examining the patient during covid-19:-
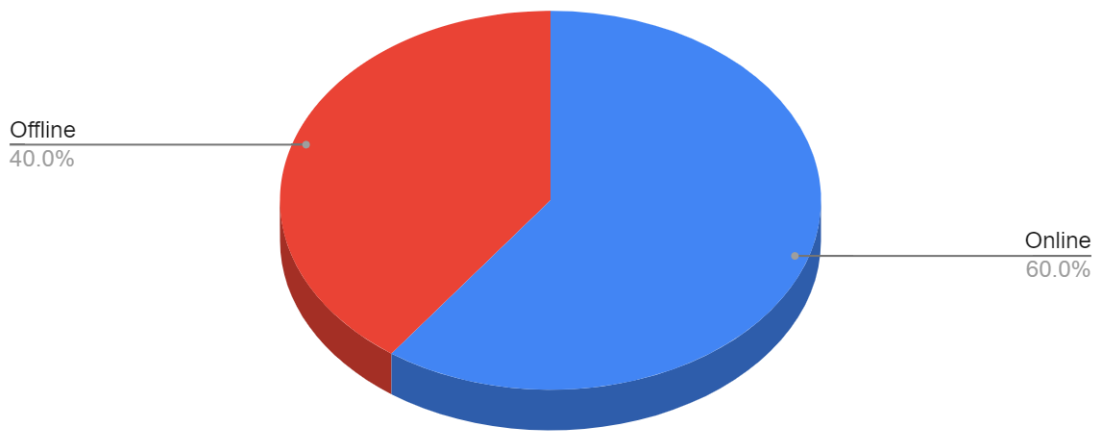
In this pandemic most agree that online is the way to deal with but as we observe still 40% of the graph is agree with Offline and 60% are agree with ONLINE.

Devices of IoT & AI used in hospital's during this pandemic:-
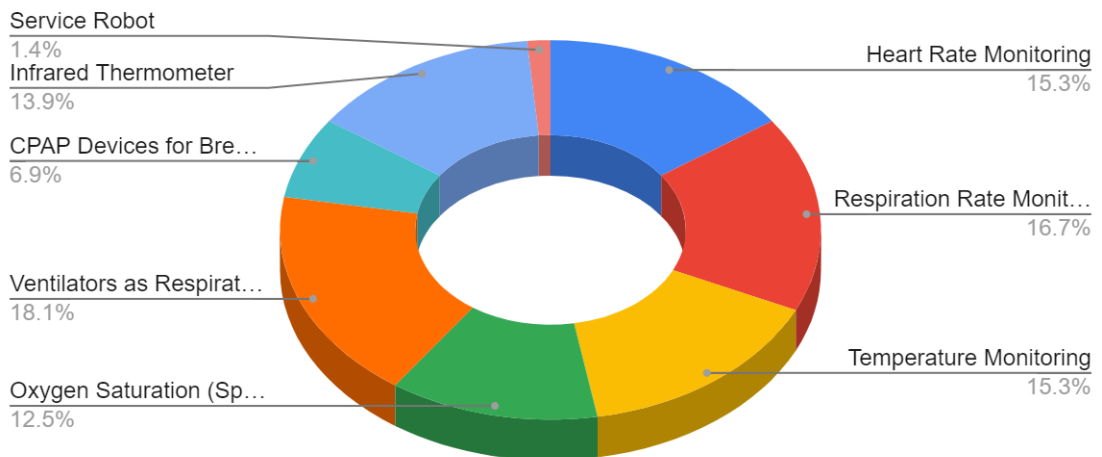
In the figure above we can observe service robots are rarely used and in jaipur it is used by SMS hospital. Also 86.7% of the hospital is using Ventilators mostly following with Respiration Rate Monitoring, Heart Rate Monitoring, Temperature Monitoring, Infrared Thermometer, Oxygen Saturation (SpO2), CPAP Devices for Breathing, Service Robot.

Need of Improvement in AI & IoT while examining a patient in a pandemic like this in the future:-
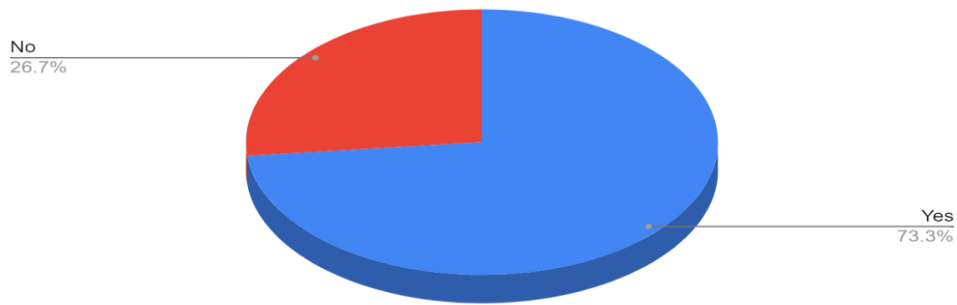
Is is obvious that we need to move to more digital way for tackling these kind of pandemic in future which our Healthcare have to adopt and same we can observe from graph that 73.3 agree to involve AI & IOT while 26.7% didn't agree as some procedure are still can be conducted offline only.

IoT & AI helped in Stabilizing cost and treatment of patients in a covid-19 pandemic:-
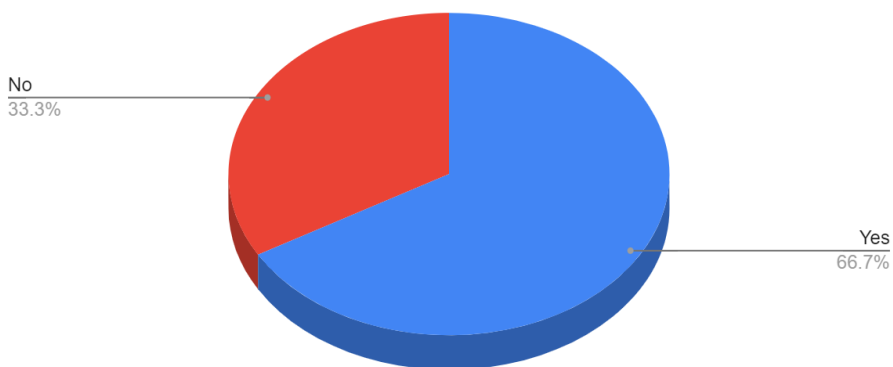
Observations depict that 68.7% agree & 33.3% disagree that Iot & Ai helped in stabilizing cost and treatment of patients in covid 19 pandemic.

IoT & AI machines help's in decreasing the workload of hospital's:-
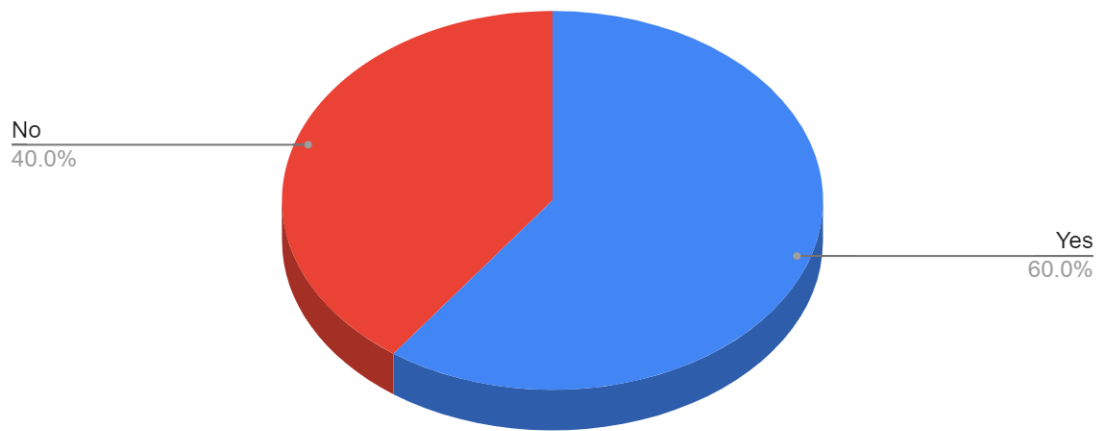
No one can deny that Automatic Sanitization, infrared sensors, Ventilators etc helped so much to our healthcare to deal with this pandemic and same we can observe in the graph that 60% totally agreed that the workload in hospitals are decreased with the help of IOT & AI machines in the Pandemic.

Conclusion

The domain of healthcare has been one of the fastest adopting sectors for IoT and AI . Especially in the times of COVID-19 pandemic, the entire healthcare sector faced new challenges. In this context, several opportunities for application of IoT and AI have been discussed. It includes efficient virtual consultations and remote monitoring of patients, intelligent diagnoses, sharing EHRs, and priority scheduling for patients.The major roles of AI during the COVID-19 pandemic are contact tracing, prevent spread of COVID-19 virus, better understanding the nature of this virus, fever detection, predict future outcomes, proper management of COVID-19 cases, controlling of misinformation, vaccine development, detect the probability of symptoms and proper surveillance systems. It is used for the assessment of patient image and helps to predict the results. In upcoming days, AI will provide an excellent source to identify the problems and reduce the shortage of doctors. Several countries like India face challenges in areas like digital-divide and disparity in population

having access to digital technologies toward healthcare. Apart from that, despite having other challenges like limited power in handling big data, interoperability of health-data among heterogeneous stakeholders, and lack of unified implementational structure for eHealth, AI and IoT put forward immense potential in the healthcare sector, especially during and after the COVID-19 pandemic.

References

https://www.livemint.com/science/health/ai-can-help-forecast-mortality-among-covid-19-patients-says-research-11612693171561.html

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7490242/

https://link.springer.com/article/10.1007/s43465-020-00218-z#additional-information

https://insights.omnia-health.com/technology/healthcare-technology-trends-accelerated-covid-19

https://www.beckershospitalreview.com/digital-transformation/10-big-advancements-in-healthcare-tech-during-the-pandemic.html

https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India#:~:text=The%20first%20case%20of%20COVID,reported%20on%2030%20January%202020.&text=Daily%20cases%20peaked%20mid%2DSeptember,second%20wave%20from%20March%202021

https://www.youtube.com/watch?v=VGsZ-5_KfRg&list=TLPQMjUwNDIwMjECmjrc8PIIcg&index=2

https://www.livemint.com/news/india/adoption-of-robots-in-india-hospitals-to-grow-during-and-post-covid-11588139029183.html

https://www.thehindu.com/news/national/other-states/coronavirus-jaipurs-sawai-man-singh-hospital-tests-robot-to-assist-covid-19-patients/article31170301.ece

https://startuptalky.com/iot-healthcare-companies-india/

https://youtu.be/z-5GHqWoq1Q

Questionnaire sample attached :-

https://docs.google.com/forms/d/e/1FAIpQLSdtMXcosqG2YjzK_1V_w4rf5y2Z9aYDnI4MqE3vHPtuWkAfBw/viewform

CHAPTER 19

BOOMING ENTREPRENEURSHIP: PRE AND POST COVID 19

ABSTRACT

It is rightly said that all you ever want is on the other side of fear. Entrepreneurship, in simple terms, means an act of setting up one's own business. Being an entrepreneur can be both rewarding and exhausting at the same time. There will be both ups and downs, good days and bad. The rewards can be huge, but so can be the losses. On the other hand, being employed is a fairly safe bet. You get your fixed salary every month and have limited job scope to work in.

The purpose of this study is to analyze the current scenario of entrepreneurship in India, it also aims in finding about the revolution that emerged in the move towards entrepreneurship as an impact of the pandemic of COVID-19. Another angle and objective of the study is finding out the youth's perspective towards becoming job seekers or job creators in the prevailing economic situation of a country like India and specifically in a state of Rajasthan and city like Jaipur. The analysis moves around adapting the primary and secondary study to reach out to the outcomes. To carry out this research a mixed approach was adopted. Primary data was collected in the form of questionnaires rotated among different age groups which was combined with secondary data. The research includes conclusion about how the youth responds to entrepreneurship and what measures are or can be taken by the government to promote it.

The most contributing factor in conducting this study was that in a country like India with significant unemployment and disguised employment rates, there is a constant need for jobs. This desperate need for employment has rendered the country dependent on a lot of external factors, which in turn is affecting the local production in the country. As India has a large youth population, it will prove to be a great asset for the country if the people start becoming inclined towards job creation rather than job seeking.

INTRODUCTION

The role that entrepreneurship plays in the socio-economic development of a country is well acknowledged. As a result, a large number of programmes to support entrepreneurship to fulfill its economic and societal roles designed by the governments and international organizations. However, due to the perception that the concepts of entrepreneurship and youth entrepreneurship are similar, youth entrepreneurship remain unaddressed in a lot of countries whereas efforts are being made to uplift entrepreneurship in general.

The issues of entrepreneurship have been tended to similarly for various gatherings inside the population by the utilization of 'one size fits all' arrangements and projects. As of late, interest in youth business venture has been fuelled because of undeniable

degrees of joblessness among youngsters and as an approach to cultivate work openings or to address social prohibition. Besides, entrepreneurship is viewed as a channel for the abilities of numerous exceptionally instructed youngsters in zones like data innovation, biotechnology and other current enterprises. Youth business venture has acquired significance as of late in numerous nations with expanded interest in entrepreneurship as a method of boosting financial intensity and advancing provincial turn of events. While youth business venture is an under-investigated field in academic and policy debates, two fundamental components represent its developing consideration in created nations. The first is the increased number of unemployed young people compared to the rest of the population; the second is the need for greater competitiveness, and the accompanying pressures for skills development and entrepreneurship as a way of addressing the pressures of globalization.

Although the writing on youth business is restricted, there is proof that youngsters feel that working for themselves as a vocation choice since it extends to them a fascinating employment opportunity, opportunity and self-rule which other working environment probably won't give

LITERATURE REVIEW

The idea of entrepreneurship fluctuated between the study of opportunity to be considered as a movement that prompts the creation and management of another association, and at times an activity that is unique or innovative. Entrepreneurship is perceived as a generator of developments or new organizations inside a current organization. Every crisis brings challenges and threats to entrepreneurs and their organizations, no matter if initiated by human behaviour , natural disasters or economic mechanisms. One such example is COVID-19.

Corona virus has fundamentally impacted the entrepreneurial engagement of independently employed people. Some entrepreneurs had to close their businesses temporarily as a result of governmental restrictions; others had to force precautionary measures and to run their exercises in diminished degree, while some started their new business in the wake of losing their positions. The pandemic brought about new business, work from home as well. They likewise expected to discover inventive arrangements in all parts of their innovative undertaking as the outcomes of the pandemic wait on.

Ascent of entrepreneurship pre and post COVID has been researched by renowned researchers who have various methodologies to handle it and ideas for different business.

"The impact of COVID-19 on small business outcomes and expectations" by Alexander W. Bartik, Marianne Bertrand, Zoe Cullen, Edward L. Glaeser, Michael Luca, and Christopher Stanton, July 10, 2020; focuses on "COVID-19 disruptions do not affect all businesses equally. Some are deemed essential and remained open, while others were required to close. Some businesses could shift employees to remote work, while others were ill equipped for the transition. Our results suggest that disparities will be larger if the pandemic ends up lasting for several months."

Subrahmanya, M. H. B. (2017). Comparing the entrepreneurial ecosystems for technology startups in Bangalore and Hyderabad, India. Indicated that "Entrepreneurial ecosystems for technology startups are unique and they do not emerge overnight. The emergence of such ecosystems takes place over a period of time. Among the economies across the world, India occupies a unique place as an emerging economy, accounting for the third highest concentration of technology startups and startup exits globally."

Bacq, S., Geoghegan, W., Josefy, M., Stevenson, R. and Williams, T. (2020), "The COVID-19 virtual idea blitz: marshalling social entrepreneurship to rapidly respond to urgent grand challenges", Business Horizons, In Pres88(6): 40–50. "a rare event with extreme consequences for people and organizations that is difficult to predict using typical models (Taleb, 2007). While we hope pandemic threats will receive greater attention, better scenario planning, and more rapid mitigation going forward, this article is intended to help entrepreneurship, management, and business scholars and practitioners to collectively consider how we can draw on our research expertise to stimulate community responses to a variety of acute and chronic societal grand challenges facing our world"

He, H. and Harris, L. (2020), "The impact of covid-19 pandemic on corporate social responsibility and marketing philosophy",Journal of Business Research, In Press, Vol. 116. Quoted that " we have offered some initial thoughts on how the ongoing Covid-19 pandemic influences CSR, consumer ethics, and marketing philosophy. This pandemic offers great opportunities for firms to actively engage in various CSR initiatives during the crisis, and potentially catalyse a new era of CSR development in the long run."

PRE-COVID STATISTICS OF INDIA

The bottom- of-the-pyramid business in India has seen a huge development in the recent years, according to the Economic Survey for 2019-2020. Alluding to information from the World Bank, the Survey says that the quantity of new firms in the formal sector has developed by a huge 12.2 percent between 2014 and 2018, contrasted with a meager growth of 3.8 percent from 2006-2014.

"As a result, from about 70,000 new firms created in 2014, the number has grown by about 80 per cent to about 1,24,000 new firms in 2018," the survey read.

Figure 2a: Growth in new firms over time in India
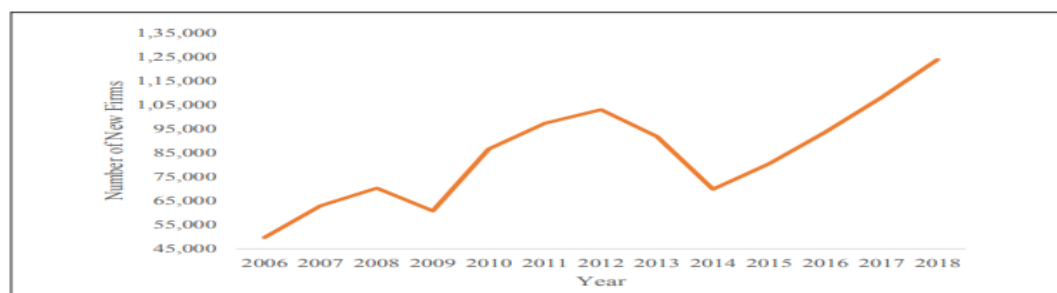
Due to this dramatic growth in new firms, India ranks third in the number of new firms created, as per the same World Bank data.

The Ministry of Corporate Affairs (MCA)-21 information base shows that new firms created in services sector was much higher as compared to manufacturing, agriculture and infrastructure.

All the more critically, the Survey features that proficiency and training in a specific region impacts innovative exercises around there. "The eastern part of India has the lowest literacy rate of about 59.6 per cent according to the census of 2011. This is also the region in which formal entrepreneurial activity is the lowest," the report states.

COVID IMPACT

During the COVID-19 crisis, new companies have continued to play a critical role for economies. Some inventive youthful firms have responded quickly and flexibly to the pandemic, and have been critical in aiding numerous nations move towards fully digital work, education, and health services, and have provided advancements in medical goods and services.

The economy gravely failed in April, when there was a complete lockdown. Even the agribusiness area, which works out in the open and might have proceeded ordinarily, was adversely impacted. Entrepreneurs in COVID-affected sectors ought to be prepared to lose 50% to 80% of their turnover. While many new businesses will fail to survive the crisis, the pandemic has also given rise to more or new entrepreneurial activity. One of the major challenges faced by the start-ups has now become sourcing revenues, which has resulted in cash flow issues, for many. Despite all the efforts by the Government, 90% of the Indian new companies come up short inside five years of their initiation according to a report by IBM Institute for Business Value and Oxford Economics.
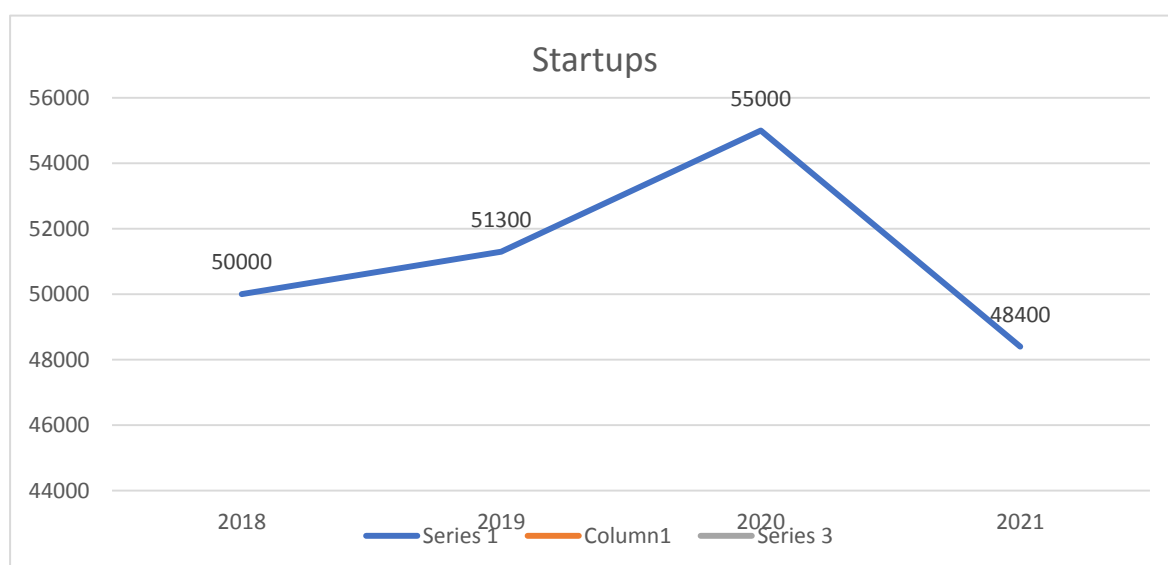
This line chart demonstrates that the India has announced approx. 50000 registered start-ups in 2018 and exponentially grow to 51300 in 2019. 2020 reports 3700 new businesses enrolled under Startup India scheme , pre COVID-19. Coronavirus has made an adverse impact on entrepreneur's business. The diagram shows the declining number of new companies.

As per FICCI, around 70% of the new businesses have been unfavorably affected by COVID-19, and 12% have shut down activities since the outbreak, as indicated by a cross country overview and around 60% of new companies said they are working with interruptions. 43% of the new businesses have already started salary cuts up till 20-40% over the period of April-June 2020.
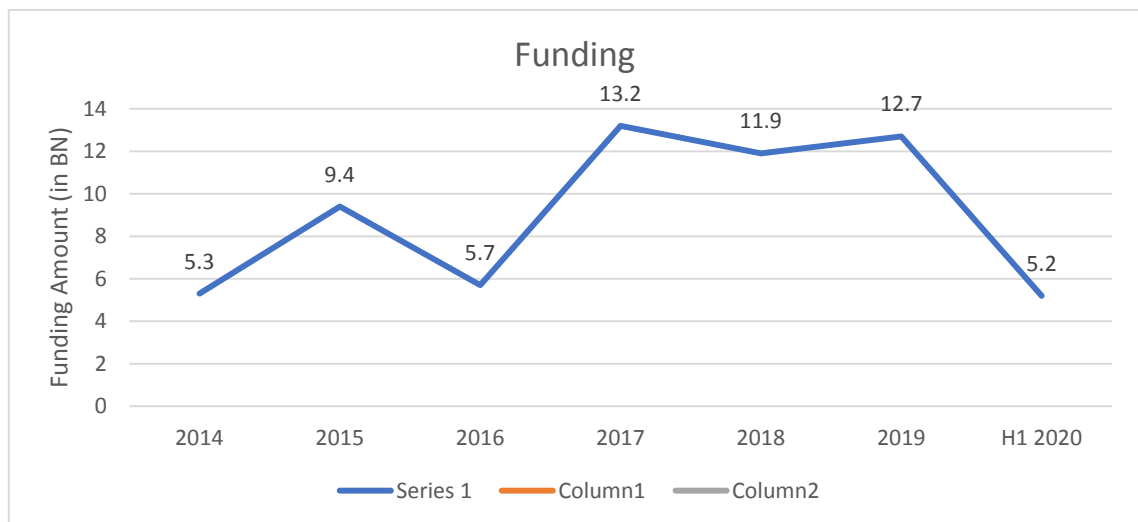
begin in the middle of sweltering summers .While the environment has made some amazing progress since 2014, going through the golden period of funding somewhere in the range of 2015 and 2017, after a couple of years of slow but mature growth, 2020 has been a year of decline.

With such huge money at play, the Indian startup ecosystem has a ton to lose because of the pandemic. It has already left large number of individuals jobless and created a liquidity emergency in numerous places. It is quite evident that investment activities in startups are hindering post the pandemic. Ivestment in 2020 has decreased around 36% post pandemic.

RESEARCH METHODOLOGY

Research methodology consisted of both primary and secondary sources.
The tool employed for generating primary data was a questionnaire which was circulated among 150 young individuals with age ranging from 15-35 years. The questionnaire was combined with a variety of questions which responded to aspects like current status, future preferences, opinions about situation of entrepreneurship after COVID etc.
The sample was collected from the young males and females from Jaipur, Rajasthan on random basis.
Secondary Data was collected through Internet, Magazine, Journals, Books etc .

ANALYSIS

With the questionnaire several aspects were analyzed. The analysis of major aspects among them is as follows:

- When asked <u>what is a better career option after the pandemic</u>, **68%** respondents said that getting self- employed is a better option.
  This clearly states that the pandemic might have affected the records of the past years but the scope of entrepreneurship is expected to grow in the coming years.
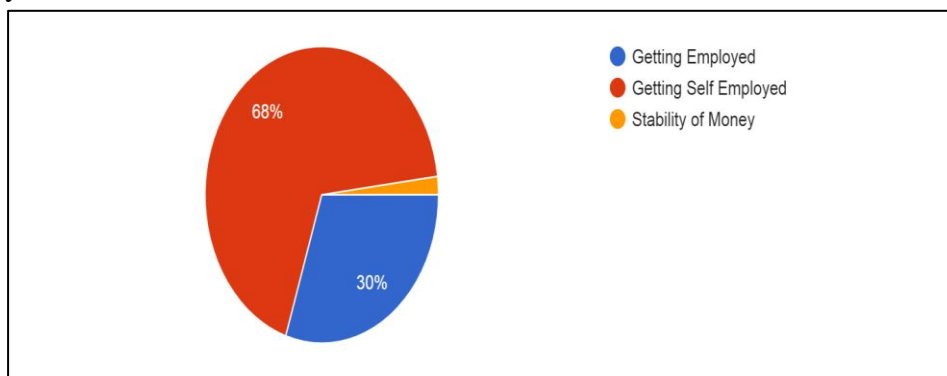
- When asked about the <u>industries they would like to set their ventures</u> in, **30%** respondents said Online Businesses, **18%** said Clothing & Manufacturing business while **16%** voted for Travel/tourism.
  This gives us a rough idea about the industries that are expected to grow and the ones which may be expected to witness less crowds in near future. It also indicates that the youth is now looking to invest in industries which are more connected with service industries.
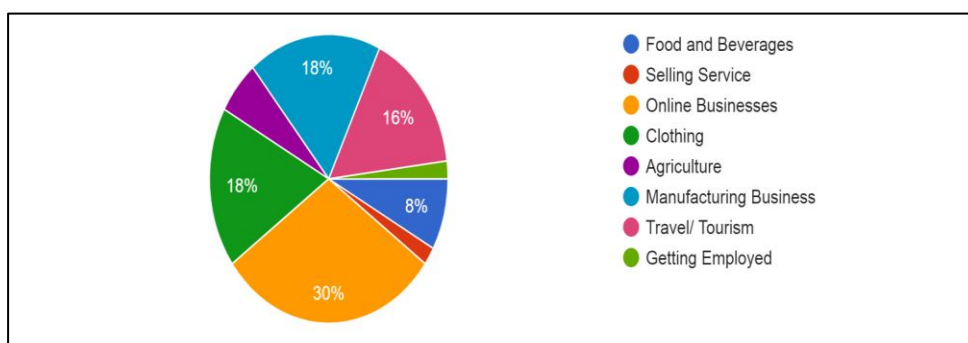
- When asked about the <u>hurdles they think will occur in the journey of entrepreneurship,</u> Competition leaded with **42%** respondents, followed by Funding with **28%** and Lack of information and knowledge with **16%.**

This gives us a fair idea of what factors might push people to be hesitant to establish their own businesses. With this information, government should come up with appropriate schemes so as to promote entrepreneurship.
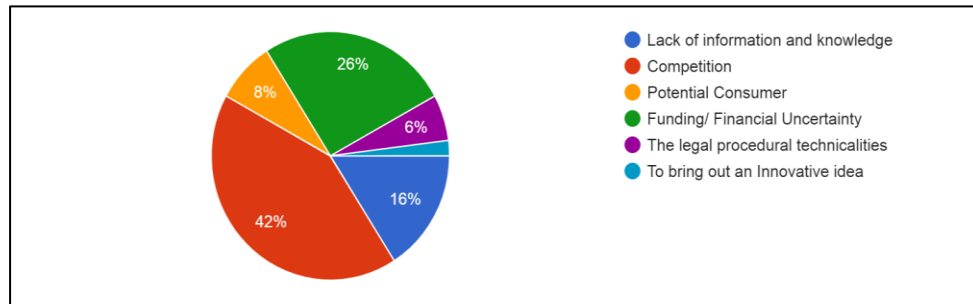
- When asked about <u>the driving factors or motives which are responsible behind their decisions of choosing their future career options</u>, we received mixed response between Stability of income and Decision making power.

  Entrepreneurship does not guarantee income **stability** whereas jobs do not guarantee **decision making authority**. This reflects that these are the two options which makes or breaks the decision for any individual as these majorly reflects the characteristics of each side respectively.
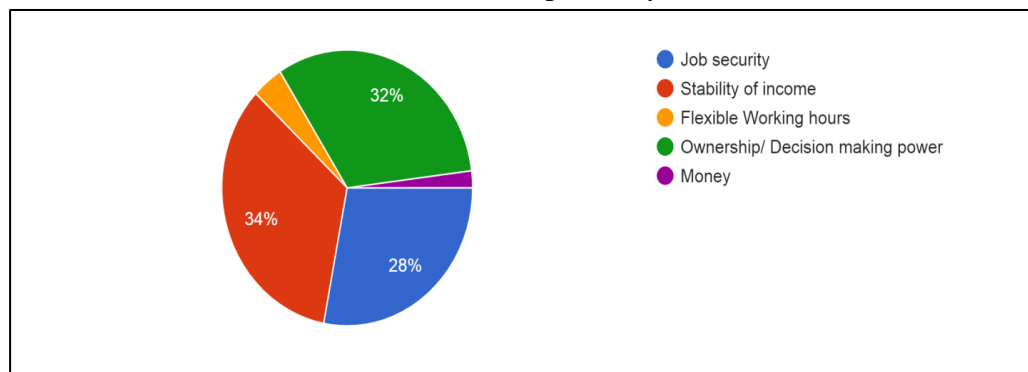
- When asked about that after <u>pandemic would entrepreneurship rise or fail</u>, **71%** were positive that it would grow.

  This confirms that pandemic was just a temporary halt in the rise of entrepreneurships in India.
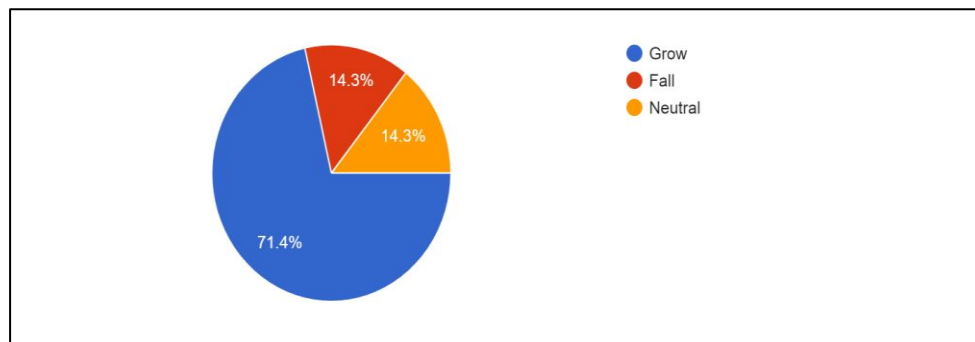
CONCLUSION

The survey revealed that a greater part of the young individuals want to choose entrepreneurship as a career because they aspire to be independent and to earn more money. Today, youth is more daring and hardworking and career oriented, and can be easily transformed if proper training and knowledge in entrepreneurship can be provided.

The young people of today aren't just worried about their benefits but at the same time is zeroing in on sensible utilization of natural resources and using environment friendly business practices. The survey included questions regarding their contribution to a safe environment to which they responded by choosing no or minimal plastic usage, creating eco-friendly products etc. They also willing suggested to carry out corporate social responsibilities as a representation of their responsibility towards the society .

The cultivation of the new breed is in our hands and we have to stand-in their requirements with their skill and entrepreneurship orientation and perception enhancement for a better India. The entrepreneurs have the ability of making a flash to change the economy which is needed for an arising economy like India. This survey and further research aims at eliciting the thoughts of present youth towards entrepreneurship and their preferences at the entry level in to entrepreneurship. The overall study shows us that Indian youth hasn't completely reached to the expectations of their involvement in entrepreneurship which is ought to be required in this present scenario. Research findings suggest more and more new entrepreneurs to be evolved from Indian youth by improving their notions about the entrepreneurship and thus abolish the problem of unemployment in India.

SUGGESTIONS

- LEGAL
  The legal provision prescribed for foundation and control on business and ventures in the nation are very complicated and unbending and they are not helpful for entrepreneurial advancement and therefore, many aspiring entrepreneurs can't distinguish themselves as one. Henceforth, it is essentially required that the law and legitimate arrangements ought to be straightforward, so as they pull in and empower the business visionaries.
- EDUCATION
  For the motivation of students, it is good to offer helpful classes, bringing successful entrepreneurs as role models on the board to speak about their journey. This will not only boost the confidence of students to become an entrepreneur but also attract other employees to start his/her own business.
- EASE OF PROCEDURE
  Adequate and proper facilities and incentives should be provided to the new entrepreneurs for establishing industries and implementing the innovations. Inclination ought to be given for new business people, in conceding licenses, giving accounts, and in import of hardware, and so forth.

Besides, the government should also assist entrepreneurs with respect to the marketing of their products.

- PUBLIC REACH

  Programmes, thoughts, and ideas relating to entrepreneurship development should be regularly published through radio, television, and other mediums of publicity.

- RESEARCH AND DEVELOPMENT

  Industries established by the government and private entrepreneurs are now laying emphasis on research and development, which has resulted in the emergence of innovations. This should be continued in order for newer entrepreneurs to emerge.

REFERENCES

- https://webstor.srmist.edu.in/web_assets/srm_mainsite/files/2018/paper-on-significance-of-entrepreneurship.pdf
- http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.831.8947&rep=rep1&type=pdf
- Agarwal, K.K .and Upadhyay, R.K. (2009), "Attitude of Youth Towards Entrepreneurship: A Case Study of Varanasi", The ICFAI University Press.
- Google
- https://www.livemint.com/Opinion/N5WosdTaG42cwoZxOHzOjO/How-to-promote-Indian-entrepreneurship.html
- https://bizztor.com/boost-entrepreneurship/
- https://www.researchgate.net/publication/298519377_Youth_entrepreneurship_in_Indian_scenario

Respondents were able to identify some strategies to cope with stress such as meditation, enough sleeping, going out with the friends and counseling. It is observed that due to the increase us of social media the young generation become self centered and only connect with the technology. It reduces the physical movement of the body and spending time with relatives and friends. All these create stress which suggestions to the young people that make objective planned systematically, use technology within limit and share your emotions with your , anxiety, irritation are more among students. It is identified that among all factors, the main causes of stress among youth are career, academics and health. Building relationships with friends and family is also a major stressor. They want to maintain the social network and they are increasing the networking with the use of technology. The next stress they are feeling is health related. The youth have to deal with a variety of issues which casts a Respondents were able to identify some strategies to cope with stress such as meditation, enough sleeping, going out with the friends and counseling. It is observed that due to the increase us of social media the young generation become self centered and only connect with the technology. It reduces the physical movement of the body and spending time with relatives and friends. All these create stress which increases the case of depression and suicide. It is necessary and suggestions to the young people that make objective planned systematically, use technology within limit and share you.

CHAPTER 20

IMPACT OF COVID-19 ON DIGITAL BANKING

ABSTRACT

The global outbreak of COVID-19 has changed the entire world certainly to a respect which are sending the shockwaves throughout the country. This outbreak has drastically changed the lives of the people where people suddenly got stuck with the turning point in an economy which was immediately accepted by the public. As a result of the fact of COVID-19 crisis there was a sudden rise in the online banking activity and similarly there was a sudden decline in the trips to brick-and-mortar branches. If we pursue a survey after analysing the post pandemic situation then we can conclude that the current pandemic has forced the various customers of the bank to adopt digital banking as an app for various transactions .COVID-19 -19 is likely to spur the widespread of revamping the bank of reducing the barriers of digital and financial literacy. In addition to managing the direct economic impact of the coronavirus, banks need to have a plan in place to protect employees and customers from its spread. Many banks are already starting to encourage remote working of some employees. Customers, who are increasingly wary of spending time in crowded public spaces, will need to have a way to conduct banking without physical interaction. By implementing completely digitized and remote customer transactions, banks can ensure that both every day and exceptional processes will be carried out with limited disruption. This paper will highlight all the aftereffects of coronavirus which highlights the digital solutions for banks. The growing popularity of neobacks and fintech are a testament to those traditional banks that choose to learn and take lessons from digital financial institutions will find themselves more prepared to compete with challenger banks both during the coronavirus pandemic and long after it is over.

Keywords: Digital Banking, Neo banks, COVID 19, Banking Sector

INTRODUCTION

Digital banking involves high levels of process automation and web-based services and may include APIs enabling cross-institutional service composition to deliver banking products and provide transactions. It provides the ability for users to access financial data through desktop, mobile and ATM services . Digital banking is the digitization (or moving online) of all the traditional banking activities and programs services that were historically only available to customers when physically inside of a bank branch. This includes activities like

- Money Deposits, Withdrawals, and Transfers
- Checking/Saving Account Management
- Applying for Financial Products
- Loan Management
- Bill Pay
- Account Services

Digital Banking and Online Banking sound similar but there are some key differences between them.
Online banking focuses on digitizing the "core" aspects of banking, but digital banking encompasses digitizing every program and activity undertaken by financial institutions and their customers.

LITRETURE REVIEW

Corona Virus started spreading up in the world from 1st December 2019. Many of the researches reacted to this Catch 22 situation in their own manner via putting forth point of views on Effect of Covid-19 on world economy , Covid-19 effect on Indian economy , How the human beings psychological become weak due to Corona Virus. Research published on January 2020 made by Pramath Kakodkar, Nagham Kaka, M N Baig. The research based on " Clinical Course and management of the Covid-19 pandemic". Due to COVID-19 pandemic how the different framework of the clinical course & management of the COVID-19 need optimization. From the social media , Misinformation passing to the people via social media research paper emphasized on what are the true guidelines for taking measures from COVID-19 ,what preventive measures suggested by Word Health Organization and how to make people aware about importance of mental health.

Research is published on June 2020 titled " Review on Economics of Covid-19", by Abel Brodeur, David Gray , Anik Islam , Suraiya Jabeen. The research paper focused on the survey of emerging and rapidly growing literature on the economic consequences of COVID-19 with respect to government response. How much deaths cases occurred due to COVID-19, How many people follow social distancing as prevention measure. How the world is changing due to this pandemic. What are the effects of COVID-19 pandemic in service sector?

Research Paper published on June 2020 on title " Covid-19 Pandemic And Lockdown Impact on India's banking sector : a systemic literature review" the paper emphasize on impact of Covid-19 pandemic on Banks, NBFC , Educational Institution , Public & Private offices, with effect of suspension of means of transportation India. The growth of digitalization of banking sector due to pandemic. What are the severe effect of COVID-19 in economy. Research Paper published on June 2020 on title " Analysis of Banking sector in India : Post Covid-19" dated September 2020 by Ashish Bagewadi & Dewang Dhingra , this paper emphasize on pre & post effect of COVID-19 on Banking sector, with emphasis on consequences of COVID-19 on environment is publishes on this research paper.

Research Paper published on June 2020 on title " A study on impact 19 on banking sector: An Indian Perspective. That highlighted upon decrease in productivity of the corporate world, Supply chain disruption, Manufacturing Hindrances & crippled health systems. Banking & Financial system suffer from losses. Increased in interest on Bank loans, reduced income of tourism, entertainment sector etc. Research Paper is based on "The Impact of COVID-19 on Financial Markets, Banking Systems, and the Overall Economy " published on June 2020.This paper emphasized on what are the effect of COVID-19 on fiscal policies, why the financial market go down ? What

are the new changes taking place in the banking policy, why the economy is slowing down? What possible changes can be taken to cure the slowing down.

OBJECTIVE OF THE STUDY:
To explore the impact of digitalization in Indian Banking.
To analyse the future trends of digital transformation in Banking.
To identify the key technologies that enable digital transformation in India.

RESEARCH METHODOLOGY:

The present study is descriptive and is based on secondary data. The data has been extract from various sources like research articles, publications from government of India, various bulletins of RBI and some authenticated websites.

Questionnaire Evaluation
Sample Size -73

Demographic Evaluation

Age Group
73 responses

- 0-14
- 15-24
- 25-50
- 50-64
- 65 and above
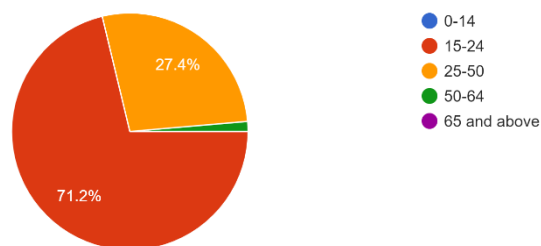
Our survey includes
52 people from the age group of 15-24 which equates to 71.2% of survey sample
20 People from the age group of 25-50 which equates to 27.4% of the survey sample
1 person responded from the age group of 50-64 which equates to 1.4% of survey sample

Gender
73 responses
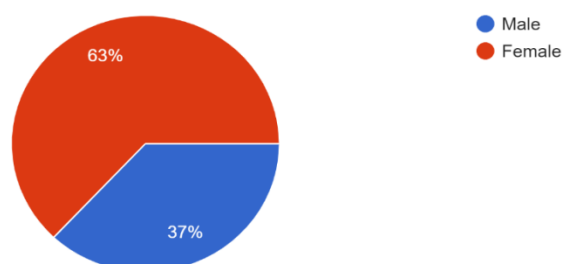
- Male
- Female

Among the people who took survey 63% of them were Males and 37% of them were females.

* Marital Status

73 responses

Among the people who took the survey 24.7% people were married and rest were Unmarried

* Occupation

73 responses

Among the people who took the survey 73% were students and rest were professionals

Q.1 How frequent do you do digital banking in Covid Scenario?

73 responses

- Daily
- 2-6 times a week
- Once a week
- 3-5 times a month
- Once a month
- Less than once a month
- b) Agree
- a) Completely Agree
- c) Can't Say

This Chart shows that around 13.7% people use digital banking daily , 23.3% use it multiple times a week, 9.6% people uses it 0nce a week and rest of them use it less than once a week

Q.2 Do you think it's unsafe to handle paper currency in pandemic situation?
73 responses
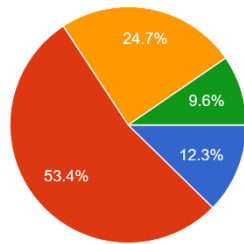
- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

24.7%
9.6%
12.3%
53.4%

Q.3 Do you think digital banking is fast?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

49.3%
43.8%

Q.3 Do you think digital banking is fast?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

49.3%
43.8%

235

Q.4 Do you think digital banking is easy?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

Q.5 Do you think that there should be training given to customers regarding digital banking?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

Q.6 Do you think banks should give safety assurance for digital banking?
73 responses
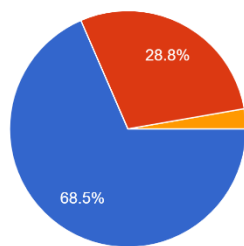
- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

Q.7 Do you thing digital banking is useful for all age groups specially in Covid Scenario?
73 responses

- a) Completely Agree
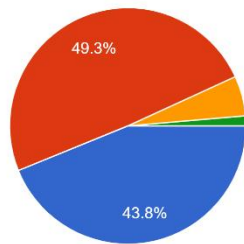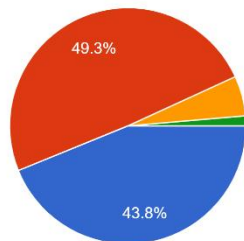- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

9.6%
17.8%
39.7%
31.5%

Q.8 Do you think digital banking is better than Non-Digital banking in Covid Scenario?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

53.4%
9.6%
32.9%
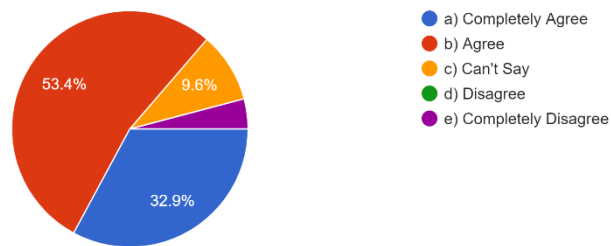
Q.9 Do you think people can easily take loans by digital banking?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

17.8%
54.8%
19.2%
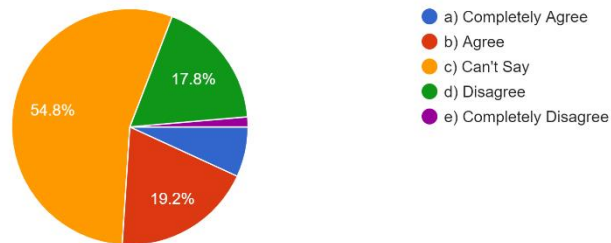
Q.10 Do you think there should be a mechanism to deal with the grievances pertaining to the digital banking?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

50.7%
42.5%

237
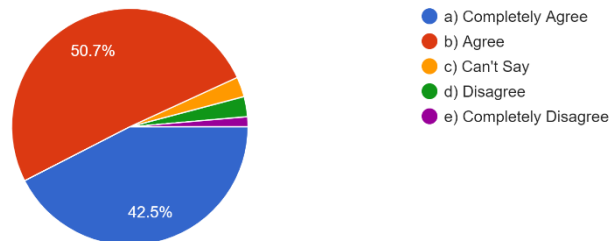
Q.11 Do you think customers have reliability on digital banking in Covid Scenerio?
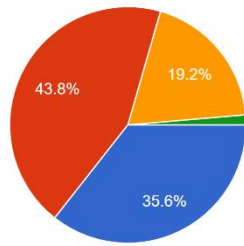73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

30.1%
13.7%
49.3%
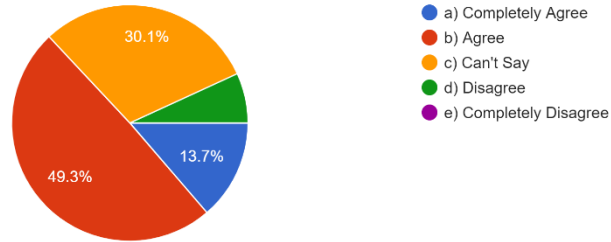
Q.12 Do you think digital banking is secure from cyber crime?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

31.5%
11%
8.2%
15.1%
34.2%
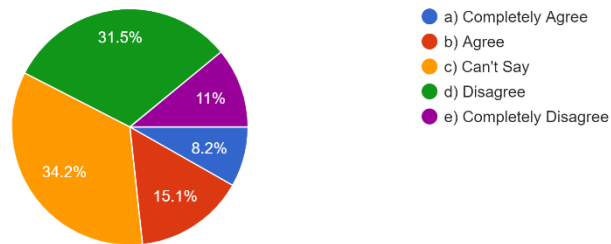
Q.13 Do you think customers need to get the training regarding digital banking specially due to Corona pandemic?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

56.2%
12.3%
27.4%
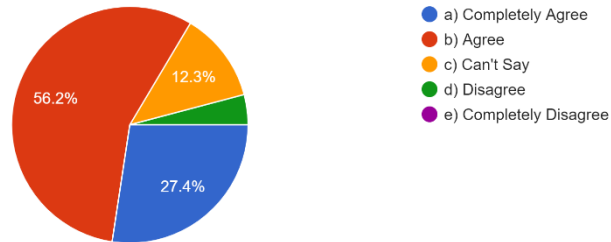
Q.14 Do you think there should be simplification in digital banking training process?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

52.1%
16.4%
30.1%
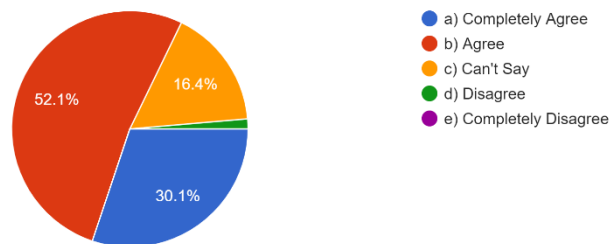
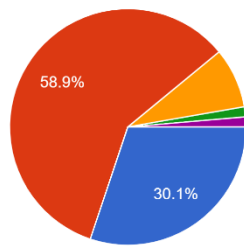Q.15 Do you think digital banking have caused job loss to private bank employees in Covid-19 Scenerio?

73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

31.5%
15.1%
13.7%
39.7%
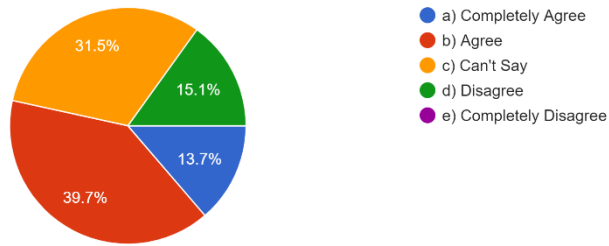
Q.16 Do you think digital banking have increased cyber crime specially in Covid-19?
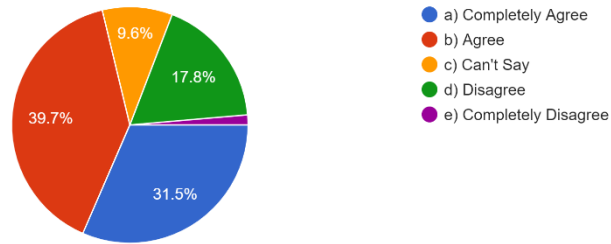
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

28.8%
15.1%
52.1%
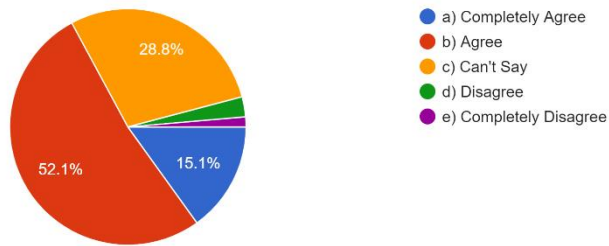
Q.17 Do you think digital banking have lead to poor foot fall in banks specially in Covid Scenerio?

73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

43.8%
11%
35.6%
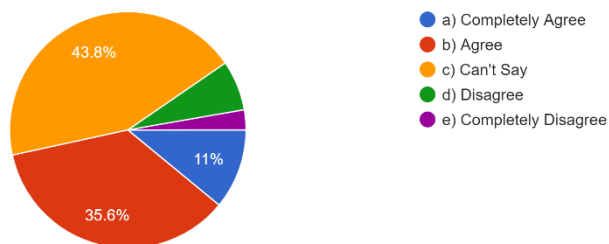
Q.18 Do you think digital banking have increased product varieties specially in Covid Scenerio?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

34.2%
47.9%
15.1%
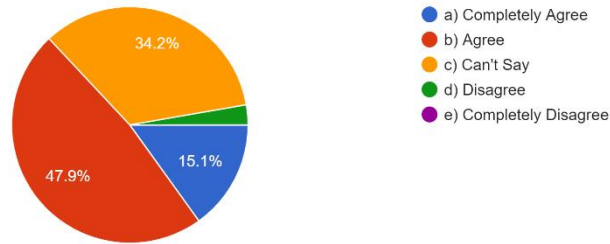
Q.19 Do you think digital banking have increased the income of private bank employees in Covid Scenario?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

57.5%
12.3%
24.7%
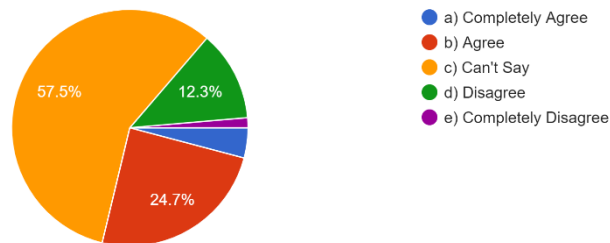
Q.20 Do you think digital banking have made people more techno friendly specially in Covid Scenario?
73 responses

- a) Completely Agree
- b) Agree
- c) Can't Say
- d) Disagree
- e) Completely Disagree

58.9%
30.1%
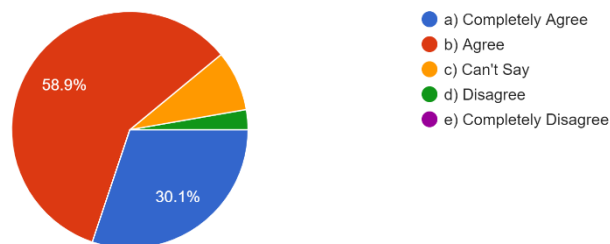
Major issues in Digitalization of the Indian Banking Sector

When it comes to digitisation and convincing people to make the switch, there are two fundamental issues to consider. The first is a matter of trust between two parties. There has been a significant amount of financial fraud in India, ranging from chit funds to scams. People who have already had their hands burned in these situations will be wary of putting their trust in a FinTech organisation or any other company in

the future. Regulations will have to consider how information is communicated and how governance is carried out in order to meet the challenges that will arise.

The second issue to address is the issue of literacy. Because a large number of people are unfamiliar with banking procedures, they are vulnerable to being defrauded, not by financial institutions, but by phishing and hacking attacks. People are clueless when it comes to protecting their money. When it comes to investing in one of these banks, the risk is that they will be held responsible for any losses incurred by the entire banking and Fintech community.

Few Key Technologies Enable Banking's Digital Transformation

Banks have harnessed potential of new-gen technologies to shift from simply offering their customers with current products to adopting more sophisticated ways of enhancing the customer experience, driving loyalty and alleviate consumers' security concerns:

(A) Cognitive Analytics - Because the banking industry has a lot of data, Cognitive Analytics is a great fit there. Cognitive systems use a mix of Predictive Analytics, Machine Learning, and Deep Learning to get valuable information from unstructured data (such as company data, industry reports, financial news). A cognitive bank is enabled by AI and cognitive computing across all business functions and processes. From account opening to product marketing, from bond and equities trading to financial advisory, a cognitive bank, at its core, possesses cognitive capabilities. By employing AI-enabled capabilities so broadly, a cognitive bank can personalize customer engagement through its ability to exploit continually deeper insights, contextual understanding and real-time learning.

Yes Bank, one of India's largest private-sector banks, was one of the first institutions to publicly announce innovation in payments using block chain and cognitive capabilities. The bank is embracing cognitive and block chain to enhance the digital experience for partners, corporate clients and developers

Augmented reality (AR), virtual reality (VR) and mixed reality along with voice response allow banks to bridge the digital and physical. These technologies offer multiple touchpoints so that customers are followed by an invisible army of "digital advisors" that guide their daily financial decision-making. Machine learning, deep learning (DL), natural language processing (NLP) has created new opportunities to provide value-added services for customers.

(B) Block chain - Block chain is already creating ripples of change in the banking sector. Many proponents believe that block chain technologies will be at the crux of next revolution of digital transformation in banking. Block chain has the potential to be a solution for banks because it is designed to help eliminate intermediaries, maintain an immutable log of transactions, and facilitate real-time transaction execution, among other things.

(C) AI-based technologies - Companies promise to disrupt the regulatory landscape by providing better solutions to the banking and financial industry's ever-increasing

compliance requirements. Artificial intelligence (AI) technologies bridge the divide between the intent of Big Data and the reality of actionable decision-making.

Multi Factor Authentication (MFA) enables secure authentication and authorization, resulting in secure access to accounts and information.

Artificial Intelligence (AI) and machine learning (ML) systems assist in the analysis of data and payment histories and in the detection of fraud.

Robotic Process Automation (RPA) bots assist banks in quickly and efficiently conducting background, credit, and fraud detection checks, flagging any indicators of risk. Also, by using advanced security features like device binding, risk-based authentication, and behavioural biometrics, we help banks fight payment fraud by reducing the risk of theft.

Future Trends of Digital Transformation in Banking

Banks have transformed at a breakneck pace over the last 18 months. It's time to look ahead and prepare for the future. Several areas on which banks must concentrate their efforts for the remainder of this year, 2022, and beyond are as follows:

To ignore Generation Z would be a mistake.

It's time for banks to spend money on marketing for Gen Z now (individuals born after 1996). It has been found that Generation Z is very involved in making financial decisions for the future so that they can have a better life now. Banks need to think about things that GenZ cares about, like global and socioeconomic issues, in order to get to know them better. Also, new tactics are needed to reach this many people, like gamification, influencers, and so on. Also, don't forget that they are always on their phones.

Implementations of customer data platforms (CDPs)

Bank marketers have a difficult time making use of integrated customer data. CDPs enable marketing teams to resolve issues and personalise product recommendations by making real-time data accessible and actionable. As a result, they are looking for ways to continuously deliver value to customers.

Self-service will keep going up.

Customers who are willing to help themselves are a good sign that a bank is getting more and more digital. Self-service Survey says that in 2022, more than 200 million people in the United States will use digital banks. If banks haven't already, they need to start investing in self-service tools now, even if they have. Those in charge of banking need to make sure that all of their employees are ready to serve customers on any platform.

Artificial intelligence is not a future technology; it is already here.

Banks must begin identifying their pain points and investment-worthy use cases in order to accelerate technological evolution. Many financial institutions have realised

that AI is a good place to start when it comes to Digital Banking Transformation. Some of India's banks are also making significant investments in artificial intelligence-enabled, digitally transformative technologies.

ICICI Bank, one of India's largest private-sector banks, is experimenting with robotics to automate a number of banking processes. Agribusiness, trade, foreign exchange, treasury management, and human resource management are among the more than 200 business processes that ICICI has automated through artificial intelligence-enabled technologies, which include facial and voice recognition, natural language processing, and machine learning.

Digital transformation is the future of banking.

The pandemic kept everyone on their toes, fearful of what might go wrong with their company. Consumers may be more convenient as a result of the pandemic, which may increase demand in the long run. The banking industry has made a significant shift to digitalization across all of its Line of Businesses as a result of the increased demand for digital services, which will likely continue for a long time after the pandemic is over. According to Economic Times, the pandemic has completely reshaped the way people execute things in their life, right from shopping & working to banking specifically. Many evolutionary changes are expected to come in the future of digital banking.

Some consumers will expect completely autonomous banking processes due to lack of time and knowledge whereas a few will still vouch for high-level involvement. Thus, the future shows banking sectors to be highly adaptive. As stated by Deloitte, the future of digital banking is placing customers at the centre of every digital strategy and banks must instrument these from today to be able to seamlessly integrate by the year 2030.

Few years down the line, banks will have to profile their consumers very carefully and closely to be able to meet the regulatory requirements as well as offer extra services which are valuable to the consumers. Data-driven solutions have already caught the attention and are the future of banking. The use of AI, AR, distributed ledger technology, and automation will further personalize the process of banking.

Conclusion

The banking landscape is evolving. The way customers manage their finances is being transformed by a new wave of technology. Banks are rethinking how they do business in order to provide a better customer experience and stay competitive, and this includes everything from social media to mobile capabilities. Observing the current situation in India, one can see that people are increasingly taking advantage of digital banking. In recent years, banks have taken a customer-centric approach. As a result of digitalization, Indian banks are now not only attracting more customers, but also providing top-notch services.

Regulatory compliance is critical to the long-term success of this new business model. Protecting all customers from cybercrime while also implementing the most advanced cybernetic values is a major challenge in today's digital age. This shift to digitalization, along with its continuation, is expected to lower the industry's overall costs by reducing the need for human labour and automating certain processes. To conclude, the future of banking is filled with digital transformation in almost every vertical, and the sooner the adaptation is implemented, the better banks will be able to compete.

References:

(n.d.). Retrieved from https://www2.deloitte.com/lk/en/pages/financial-services/articles/paradigm-shift-in-banking.html.

(n.d.). Retrieved from https://dbie.rbi.org.in/DBIE/dbie.rbi?site=statistics.

(n.d.). Retrieved from https://www.rbi.org.in/Scripts/PSIUserView.aspx?Id=7.

(n.d.). Retrieved from https://iide.co/blog/digital-transformation-banking-sector/.

(n.d.). Retrieved from https://www.ibm.com/downloads/cas/JJL8LL82.

(n.d.). Retrieved from https://www.qentelli.com/thought-leadership/insights/digital-transformation-banking.

Bamzai, K. (2021, June 27). Digital transformation in India's banking sector: What is next? The New Indian Express. Retrieved from https://www.newindianexpress.com/videos/webcast/express-expressions/2021/jun/27/digital-transformation-in-indias-banking-sector-what-is-next-109916.html

Jagtap, D. M. (2018, October). "The Impact of Digitalisation on Indian Banking Sector". International Journal of Trend in Scientific Research and Development (ijtsrd)(Special Issue), 118-122. doi:https://doi.org/10.31142/ijtsrd18688

CHAPTER 21

THE UNNOTICED CHALLENGES OF HIGHER EDUCATION DURING PANDEMIC

COVID-19 has led to various changes in life, it challenged the advancements not only in healthcare sector but it also crippled our economy. One of the many other highly affected sectors is higher education. The immediate response to the crisis was to go digital. The sudden shift to distance learning has not been easy because of the vast disparities in socio-economic backgrounds of the people and the quality of educational institutions. Digital divide further widened the gap, as the pandemic brought increased reliance on technology.

The online stage might be the best way to arrive at understudies; however computerized medium has its own difficulties. Students and educators living in far off territories are confronting inconvenience because of lack of infrastructure. The situation is more difficult for those from distant, non-metropolitan zones. Because of digital divide in India, there have been various challenges such as access to proper internet connectivity, especially for the students from rural areas, deepening the rural urban divide in higher education. Students with less access to resources to afford the required technology are at a risk of being left out. These issues existed pre-pandemic as well but now these inequalities are impacting the perseverance of students and educational institutions as they have become a mandatory requirement rather than a choice. Many steps are being taken by the central government as well as respective state governments to minimize the problems faced by students due to poor connectivity and to ensure right to high speed internet to every student. Despite the multiple efforts by the government, from distance learning courses to classes through community radio, online education still could not gather the desired response because of the undeniable barriers.

The outbreak of coronavirus has been substantially affecting the livelihood of people across the world. The unprecedented experience of 'home quarantine 'under lockdown with the uncertainty of professional and academic career has multifaceted

impacts on the mental health of both students and working class.Where the first and second year students may walk through this but the final year students are suffering the most because of the uncertainty of their exams and future. The ongoing pandemic is creating chaotic situations as countries have been reporting a sharp rise of mental health problems including anxiety, depression, etc. among the citizens. In this context, the aim of this research is to study the challenges faced by students and institutions in higher education during pandemic and provide recommendations for public policy frameworks to address the same.

Research Questions

What are the challenges to digital higher education in the times of Pandemic? What is the root cause of such challenges and what should be done to resolve them? What is the policy framework to address the challenges of digital higher education in advanced democracies? What should be the public policy framework in India on this issue considering socio-economic realities of our country?

Research Methodology

A pilot survey was conducted to find out the impact of the coronavirus pandemic on higher education. Sample size of 106 people was taken, with equal number of people from rural and urban areas, 53 each. Both the areas were targeted to get a holistic view of the situation. Students of undergraduate and post graduate level, both boys and girls were selected randomly. The survey was conducted online through Google forms, keeping in view the pandemic situation. The questionnaire included some general details, for instance, name of the respondent, area of residence (urban/rural), gender, course (UG/PG), etc.; along with 15 objective type questions (Yes/No) about the availability of resources, internet connectivity, study material, etc. and 5 subjective type questions to gain a better insight into the problem   about the major issues faced, suggestive measures, etc.

The secondary data for this study was acquired from a variety of sources like books, journals, research papers, articles from various newspapers like India Today, The Hindu, The Economic times, studies conducted by World Health Organization, reports of United Nations, etc. The research was majorly based on secondary data gathered online because of the Covid-19 restrictions. Primary data was also taken

into consideration, such as the statements of Prime Minister and Chief Ministers of various states, Government notifications, guidelines and office orders etc.

Review of Literature

Covid-19 pandemic affected almost every lateral, from economic to healthcare. It had a major impact on higher education as well. Simran Saini, wrote in an article about the impact of Covid 19 on higher education in India, which was published in a web portal on March 23, 2020. It began with the analysis of postponing of all major entrance exams like JEE, KCET, MHT CET, etc. The rate at which it was spreading led to the shutdown of educational institutions, resulting in disruption of studies. Eventually, it became a matter of concern that corona virus is highly affecting the higher education system. In US, the organizations reported to the government that the shift to remote instruction have caused massive disturbance to students as well as to the institutions. Similarly, the students looking for admissions faced hard times in India because most people from small cities and villages rely on the offline process due to lack of proper internet connectivity in their areas. Other countries have more advanced standard of education when compared to India as it is still at a developing stage. Times Higher Education conducted a survey in 2018 in which the known Global Universities had the opinion that online teaching cannot match with offline classroom teaching. Indian Education system is not yet fully equipped to handle the digital shift. There are many low income students in U.S.A. who cannot afford broadband and laptops, so digital learning is not the ideal solution. On the other hand, for a country like China that has a more centralized educational system, the shift is comparatively easier. These differences widened the gap in the quality of education across the world.[9]

Richa Chaudhary authored an article on the impact and strategies for education sector in India in the Economic Times, which was punlished on April 16, 2020. She argued that Covid 19 has impacted more than 285 million students in India with devastating economic consequences. In the beginning, only handful private institutions could adopt online teaching while on the other hand low income

---

[9]Simran Saini (Mar 23, 2020), "How will Covid-19 impact Higher Education in India",
https://www.collegedekho.com/articles/covid-19-impact-higher-education-india/

institutions did not have enough resources to access e-learning and completely shut down. The digital divide is increasing at a very fast pace that India is at a risk of losing a generation to the pandemic disruption, half of its population does not have access to internet. There is also lack of digital inclusion of students from the rural areas which is further widening the rural-urban divide. Large number of Indian students enrolls in universities overseas, especially in the worst affected countries like US, China, UK and Australia. With the persistence of situation, it can lead to large decline in demand for international higher education. It is affecting the employment rate as well. New graduates in India have feared from withdrawal of job offers from other countries due to the current situation. The rate of unemployment has increased from 8.4% to 23%.[10]

An article was published on the website of National Centre for Biotechnology Information about the socio-economic implications of the Covid 19, on April 17, 2020. It highlighted how the pandemic has ignited the fear for economic crisis. The workforce has reduced across all economic sectors due to travel restrictions and isolation. Due to shutting down of educational institutions, the need for manufacturing has also decreased while the demand for medical supplies has highly increased. Hence, the pandemic have had major socio-economic effects. It has affected all levels of education systems, from primary to tertiary. As per the reports of UNESCO, the closure of educational institutions has affected about 900 million learners across the world. The dropout rate has alarmingly increased. In the tertiary education sector, research community has been affected the most as most of their work is on hold and states have cut funding on non-Covid related topics. The conferences have moved offline; however virtual meetings are not a good substitute for informal scientific communication.[11]

---

[10] Richa Choudhary (April 16, 2020), "Covid-19 pandemic: Impact and strategies for education sector in India",

https://government.economictimes.indiatimes.com/news/education/covid-19-pandemic-impact-and-strategies-for-education-sector-in-india/75173099

[11] Maria Nicola, Zaid Alsafi, Catrin Zohrabi, Ahmeh Kerwan, Ahmed Al-Jabir, Christos Losifidis, Maliha Agha and Riaz Agha (Apr 17, 2020), "The socio-economic implications of the coronavirus pandemic (covid-19): a review",

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162753/

Assistant Regional Director of IGNOU Regional Centre, Odisha, Pranav Kumar Jena authored a paper on impact of Covid 19 on higher education in India which was published in International Journal of Advanced Education and Research on June 18, 2020. His research revolves around how internationalization has been considerably affected. In India, around 32 crore people have stopped moving to schools/colleges. The outbreak of corona virus led to destabilization of all educational activities, it has affected the assessment system severely and it delayed the recruitment process which resulted in reduction of employment opportunities. Many Indian students lost their jobs overseas and fresh graduates could not apply as there were no new government openings. It even affected the research department as the scholars could not travel due to restrictions and laboratory experiments could not be conducted. Regardless of the obstacles, the Higher Educational Institutions have taken measures to ensure continuity of teaching-learning process and research during the Covid 19 pandemic. They started conducting the orientation programmes, counseling and classes through e-conferencing tools. Researchers got time to improve their theoretical work and they could share their ideas through online platforms as well. However, virtual learning did not turn out to be ideal for the disadvantaged groups and it increased socio-economic disparities.[12]

Sameerah Saeed penned down an article on how Covid 19 has exacerbated inequality in higher education. It was published on October 24, 2020 on University World News website. It threw light on the challenges that the Covid 19 pandemic brought for the students, teachers, parents and investors. The most significant challenge was to rescue the 2019-20 academic year. According to the report of United Nations, the pandemic has acutely affected the progress worldwide; it has led to a major loss of learning. The shift to online teaching was less demanding and easier for developed countries than the ones in developing stage. Many institutions had lack of required equipment and good internet access. A large number of students could not access the study material due to poor internet penetration, especially the ones residing in rural areas. Proper infrastructure, staff, assessment process and finances were less challenging for developed countries like UK and

---

[12] Pravat Kumar Jena (Jun 18, 2020), "Impact of Covid-19 on Higher Education in India", https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3691541

other European countries. It was more problematic for Asian and Arab countries. Digital education limited the scope of earning as it lacks in providing social development skills and practical experience.[13]

The article by Gyan Pathak, published in The Leaflet on December 5, 2020 brought into view that how the shift to online learning has widened the gap between the haves and have-nots. Majority of students in the South Asian regions could not get involved in the virtual classes due to lack of internet connection. India being the most populated country of this region suffered the most. According to the reports of UN, 1.3 billion people did not have internet connection which excluded them from virtual learning. The lack of internet isolated them from learning and prevented them from competing in the modern economy. There is a fair possibility that the Indian students will lag behind the students of developed countries due to unavailability of resources. The students from rural areas are at a much more disadvantaged position than the ones living in urban areas. Digital India initiative resulted in greater digital divide between the rich and poor.[14]

Sabyasachi Basu Ray Chaudhury authored an article about the challenges for quality education in times of pandemic, published on the Observer Research Foundation's website on December 23, 2020. According to him, the quality of education has been highly diluted. Due to limited or no access to the required technology, many students are out of reach to the standard online learning. Therefore, a large number of students have stayed at home without any proper education, let alone quality, which is absolutely necessary for a sustainable better future of the country, as per the Sustainable Development Goals adopted by the United Nations in 2015. With a sharp fall in economy, dropout rate is steadily increasing due to affordability issues, the Gross Enrolment Ratio of India in higher education is 15% which is quite lower to that of other countries, due to which the New Education Policy 2020 could be hampered. In India, education is one of the areas where the uneven impact of

---

[13] Sameerah Saeed (Oct 24, 2020), "Covid-19 has exacerbated inequality in higher education", https://www.universityworldnews.com/post.php?story=20201023103200335

[14] Gyan Pathak (Dec 5, 2020), "Indian Students Suffered the Most During COVID-19 as Digital India Failed to Provide Internet Connectivity"https://www.theleaflet.in/indian-students-suffered-the-most-during-covid-19-as-digital-india-failed-to-provide-internet-connectivity/#

pandemic is more evident, it has degraded the education system which may reverse the years of progress in the country. Virtual learning has restricted development of diverse perspectives.[15]

Kapasia, Pintu Paul and Pradip Chauhan during the lock down conducted a survey in West Bengal to check the efficacy of digital learning of undergraduate and postgraduate learners. The survey was posted on 23 June 2020 and was revised in September 2020. This survey was conducted online via Google forms from 1st May to 8th May 2020. A questionnaire was sent to students through E-Mail as well as Whatsapp. Number of students who provided information was 232. During the lockdown, 37.9% students were continuing their study through textbook reading and digital leaning while 30.6% students only studied through textbooks by own efforts. Only 11.6% students reported that they had covered more than 50% percent of their syllabus. Out of 232, 181 students resorted that their economic condition will be affected by the pandemic and 178 students resorted that their low family income amidst the COVID-19 pandemic would have a negative impact on their studies. Further, 176 students were of the opinion that because of pandemic their education may discontinue. In the lock down period, 42% students reported that they were mostly suffering from stress, depression and anxiety. 32.4% were suffering from poor connectivity of the internet, 12.6 didn't have favorable environment at home for studying. It should be stated that online learning process is many a times discriminatory as students from remote areas and marginalized sections mainly denied online learning due to lack of electricity and poor internet connection. Their study concluded that there should be a uniform academic plan for institutions and also a proper Education Continuity Plan (ECP) to carry on the learning process during the pandemic. Infrastructural facilities should be developed, adequate funding in the education sector is recommended. Attempt to create a positive spade for education among the students from the vulnerable sections of the society.[16]

---

[15]Sabyasachi Basu Ray Chaudhury (Dec 23, 2020), "Challenges for quality education in times of pandemic", https://www.orfonline.org/expert-speak/challenges-quality-education-times-pandemic/

[16]Nani Gopal Kapasia, Pintu Paul, Ajivit Roy, Jay Saha, Ankita Zaveri, Rahul Mallik, Bikash Barman, Prabir Das, and Pradip Chouhan (Jun 23, 2020), "Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India",

Associate Professor of Dr. Ambedkar Institute of Technology, Bengaluru, Dr. Harsha Raju published an article on May 10th, 2020. He tried to give an overview of the Covid Pandemic and the problems faced by the Higher Educational Institutions. COVID-19 was first detected in Wuhan, China on 31 December 2019 and confirmed by World Health Organization (WHO) on 20th January 2020. The teaching fraternity adopted various online teaching and interacting platforms to carry on the learning on the digital space. Some of the applications which came in handy were Google Meet, Google Forums, Zoom, Whatsapp, E-Mail, YouTube, etc. Biggest challenge which came up was the access to good internet connectivity to every student in every part of the country from rural to urban. Students were expected to have a 4g smart phone. Another big challenge was that live streaming can only focus on theoretical concepts and without the use of laboratory and labs the practical knowledge was hard to deliver. On the other hand, the E-Learning platform gave the opportunity to the faculty to start many short term certificate courses. The teaching faculty used the lock down to upgrade their knowledge by enrolling themselves in many Faculty Development Programmes.[17] P. S. Jayaramu, former Professor of Political Science and former Dean of Faculty of Arts, Bengaluru University assessed the problems possessed by Corona and how it impacted the studies and students of Karnataka, he published this article on April 20th 2020. He stated that pandemic affected the economic and educational health of all the states. The first decision the Karnataka government took before the Central Government was to shut down college and university campuses, till April 14, which was extended later on. While Bengaluru and Mysore in their way started online teaching, the rest of the public universities could not straight away start with digital learning due to poorly equipped facilities. Even assuming that institutions and faculty had the facilities and intellectual capacities, the students complained about the lack of facilities in their rural area. The problem for science students as well as students with practical subjects arose. In absence of conducting practical classes, the conduct of online

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7308748/#:~:text=During%20the%20lockdown%20period%2C%20around,unfavorable%20study%20environment%20at%20home.

[17] Harsha Raju (May 2020), "Covid-19 Lockdown-Challenges to Higher Education",

https://www.researchgate.net/publication/341274523_Covid_-19_Lockdown-Challenges_to_Higher_Education

education would fall apart. In the case of commerce, management as well as in other technical subjects students are required to do internships as part of their course requirements. They faced this problem as the institutions were closed. The issue of placements was also a concern which needed to be addressed. The issue of conducting the remaining examinations, evaluation of answer scripts, and announcement of results, all of this required a lot of planning and good execution. Last but not least the important issue of budget allocated to higher educational institutions being reduced and transferred to areas which were more important for the government as a result of the health pandemic becoming an economic pandemic. While reduction in spending's can be justified because of the need of the hour, but in long run the much promised 6% of the GDP should be allocated to the education sector. Priority should be to encourage research on finding medical solutions to future pandemic rather than simply extending lockdowns.[18]

Economist Intelligence Unit published a report on 25th June 2020 talking about the issues faced by the countries all over the world because of the lockdown due to Corona Virus. They said Covid crisis and the lock down have affected nearly every sector of the global economy. And the worst hits are Travel & Tourism and Education. Students had to return to their home and staff had to be reduced. This shift made the external competition harder as only the prestigious institutions were likely to remain in the race. Countries whose many students go abroad for studies such as India, China may have opportunities to expand domestic institutions if private and public sector coordinate. The long term implications of the Covid Crisis could be far reaching. The economy shaken by the pandemic, some institutions may no longer be viable while others will need to rethink their business model completely.[19]

---

[18] P S Jayaramu (Apr 20, 2020), "Covid-19 and Higher Education: A pile of questions"

https://www.google.com/amp/s/www.deccanherald.com/amp/opinion/comment/covid-19-higher-education-a-pile-of-questions-827698.html

[19] The Economist Intelligence Unit (Jun 25, 2020), "Covid-19: The impact on higher education", https://www.eiu.com/n/covid-19-the-impact-on-higher-education/

Amit Joshi, Muddu Vinay and Preeti Bhaskar of ICFAI University, Dehradun made an attempt to assess the situation of education through the perspective of teachers. It was published on 24th September 2020.The study was conducted among the teachers working in the government and private universities of Uttarakhand. Interpretative Phenomenological Analysis of qualitative research methodology was used here. Data was collected from 19 teachers using a semi structured in depth interview. They found that four categories of barriers are faced by the teachers in common which were - Under Home Environment setting, Lack of basic facilities, external distractions and family interruptions. Institutions faced barriers such as budget for purchasing advanced technologies, a lot of training, a lack of technical support and a lack of clarity and direction. Teachers often faced technical difficulties and had to deal with technical glitches. The difficulties were grouped under lack of technical support which also included lack of infrastructure, unawareness of online teaching and security concerns. Their personal problems included negative attitude, lack of motivation and lack of technological knowledge. [20] Professor Kamlesh Misra, Vice-Chancellor, Rishihood University (PhD Northeastern University, Boston) wrote an article which was published in the India Today on May 12th 2020. He pointed out both positive and negative impacts of Covid-19 and lockdown on the education system. The negative impacts included restricted cross border movement; there are many countries whose universities are very largely dependent on the students who come from India and China. Their universities faced a loss because the parents didn't allow their children to go abroad until things got back to normal. Another impact was losing interest in studies, in a country like India where the backbone for E-learning was not ready and the curriculum not set converted the students into passive learners and they seemed to lose interest due to low levels of attention span. Digital divide has been created which will be hard to cover in near future. Unprepared Faculty was also an issue as the Institutions and their teachers were not fully equipped with the high end technology and with mental training to cope up so quickly to the digital platforms. Teachers found it hard to conduct classes on Zoom

---

[20] Amit Joshi, Muddu Vinay and Preeti Bhaskar (Sep 24, 2020), "Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments",https://www.emerald.com/insight/content/doi/10.1108/ITSE-06-2020-0087/full/html

calls and Google Meet. They face connectivity issues, lack of laptops and incomplete study materials. There was also change in the selection process as Universities and colleges all over the world faced the challenge of recruiting students. There was a great risk in evaluating a student; they needed to set new criteria, practices and admissions processes.

Covid brought some positive changes as well, it led to a rise in mixed learning; institutions are preparing to shift to a model of blended learning of both face to face and online teaching. Teachers have started becoming more technologically advanced and training to upgrade themselves to the level they are required to perform. It has created good opportunity for the e-learning platform companies who manage learning through websites, emails and applications such as Byju's and many more. It is leading to improvement in study material which is widely available to everyone and this way it is opening new doors for effective learning. It created an opportunity for students and teachers to cooperate in a better way and produce better results. Faculty members can compete with other institute students to enhance their learning. Also many seminars and academic meetings are held online which is creating new conferencing platform and emerging as a new business model.[21]

The faculty of Public Administration, University of Slovenia, studied the impacts of corona virus pandemic on higher education and conducted a large scale research on how students discerned the impact of pandemic in their lives. Opinions of 30,383 students were taken from 62 countries across the world. Study revealed that students were highly satisfied with the co-operation shown by teachers as well as the support staff, students learnt to adapt themselves in the rarest of the rare situations. However new way of learning affected their personal grooming but nevertheless it was the only option left as per the situation.

---

[21]Covid-19: 4 negative impacts and 4 opportunities created for education,

 https://www.google.co.in/amp/s/www.indiatoday.in/amp/education-today/featurephilia/story/covid-19-4-negative-impacts-and-4-opportunities-created-for-education-1677206-2020-05-12

Findings suggested that students from certain abnormal; circumstances like poor background, homeless students, part time workers, etc. were generally affected more as compared to the other students.[22]

A study on how colleges are helping their foreign, homeless, poor students during pandemic was published in US TODAY by Esther Ngumbi on march 17, 2020 in which the author talked about the normal routine breaks during colleges , on how students managed in past and then compared it with this sudden break due to the pandemic. Author also talked about a self-witnessed incident when colleges were called off for two months due to student riots last year, how students panicked to manage their daily living only, the problem now is far more intense and scarier. Recent trends showed that the academia is largely unprepared for anything like this, the dependency of students on campus for their daily living is so much that they are now even struggling for proper food with colleges being called off and campus shut down. On talking to the students about how to help many suggestions came out like emergency financial help from university, first hand hearing of student's consequences by the university administration and like that.[23]

---

[22] Aleksander Aristovnik, Damijana Keržič, Dejan Ravselj, Nina Tomazevic and Lan Umek (Oct 13,2020), "Impacts of Covid-19 pandemic on Life of Higher Education students: A Global Perspective"https://www.mdpi.com/2071-1050/12/20/8438

[23] Esther Ngumbi (Mar 17, 2020), "Coronavirus closings: Are colleges helping their foreign, homeless and poor students",
https://www.usatoday.com/story/opinion/2020/03/17/coronavirus-closings-can-strand-poor-foreign-homeless-college-students-column/5054621002/

A research was done by UNESCO to find out the impact of the Covid-19 lockdown on education sector around the world. Study marked some common consequences like interruption in learning, poor nutrition of students who depended on the meals that they got from their institutions, mental stress and frustration for students and teachers, etc. It also stated that guardians were highly unprepared for a situation that the pandemic brought. According to the study, these issues are also hindering the mental growth and grooming of the students. UNESCO seeks to find out the way as this scenario is becoming the new normal.[24]

Liza Ageba wrote an article on how Canadian Universities planned on evaluating the students during the pandemic, dated 27th March 2020. After WHO's announcement regarding pandemic nearly every university in the country closed and suspended in-person classes. According to the university administration online way of education has presented unprecedented challenges like technical glitches in providing study material to the students, varying networks also disrupted the flow of learning, lack of infrastructure is also presenting challenges in some aspects. How to evaluate students is a major challenge, some universities have come up with pass/fail system in lieu of grade system, students were highly unsatisfied by the move and are protested through petitions to change the way of evaluation. University administration thought of taking a final assignment instead of the final exam keeping in mind the pressure on the students. All in all universities are tried hard to capitalise on whatever they have got.[25]

Findings and Analysis

An online survey in the form of questionnaire in English and Hindi language was conducted between March 15, 2021 to March 26, 2021. The objective was to study the issues faced by students in higher education during the Covid-19 pandemic. Students studying at undergraduate and postgraduate level were targeted, from both rural and urban areas, taking equal number of males and females into consideration to get a holistic perspective.

---

[24] UNESCO, "Education: From disruption to recovery", https://en.unesco.org/covid19/educationresponse

[25] Liza Agrba (Mar 27, 2020), "How Canadian Universities are evaluating students during the coronavirus pandemic", https://www.macleans.ca/education/how-canadian-universities-are-evaluating-students-during-the-coronavirus-pandemic/

According to the results of the survey, 86.8% people have enough resources to afford infrastructure of online classes but 13.2% people face difficulty, due to which their grades suffer a big setback. Out of which, 10% belonged to rural areas. It falsifies Gyan Pathak's claim that the Indian students will lag behind the students of developed countries due to lack of availability of resources.

Do you have enough resources to afford the infrastructure of online classes?; क्या आपके पास ऑनलाइन कक्षाओं के बुनियादी ढांचे को वहन करने के लिए पर्याप्त संसाधन हैं?
106 responses

● Yes; हाँ
● No; नही
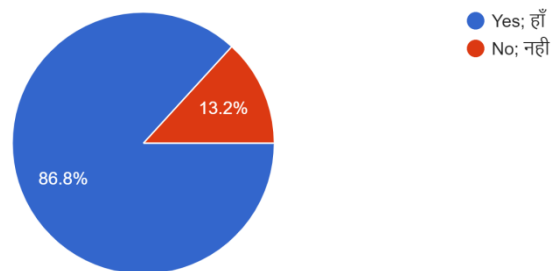
Another question was focused on finding out the availability of internet. 75.5% people responded that they have proper internet connectivity in their residence whereas 24.5% people faces regular issues and are not able to stay regular in classes due to lack of internet connectivity. Students complain of basic internet speed, not just online classes but sometimes accessing google is also an issue. Most of the students who did not have proper access to internet connection belong to rural areas; due to which the rural-urban divide is increasing and this divide will possess a big problem in the foreseeable future.

Is proper internet connectivity to attend live classes available in your residence?; क्या आपके निवास में उपलब्ध लाइव कक्षाओं में भाग लेने के लिए उचित इंटरनेट कनेक्टिविटी है?
106 responses

● Yes; हाँ
● No; नही
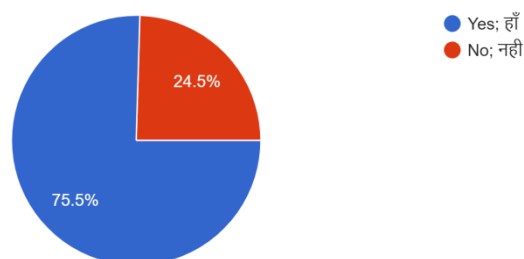
Finding a private space is a major issue for many students because they usually get interrupted by the daily chores and happenings in the house. According to the statistics, 1/4th of the Indian population lives in 1BHK home. 76.4% people have private space available to them without any disturbances whereas 23.6% people reported that they did not have favorable environment. 15% belongs to the rural area whereas the remaining to urban areas. They complain of the irregular disturbing noises from the kitchen, other family members talking on cell phones or watching television, traffic noises, etc., all these issues doesn't allow them to converge their attention towards self-studying.

According to the statistics, 1/4th of the Indian population lives in 1BHK home. Is private space available to you for studies without any disturbanc...ा किसी रूकावट की पढ़ाई के लिए निजी स्थान उपलब्ध है?
106 responses

- Yes; हाँ
- No; नही

23.6%

76.4%
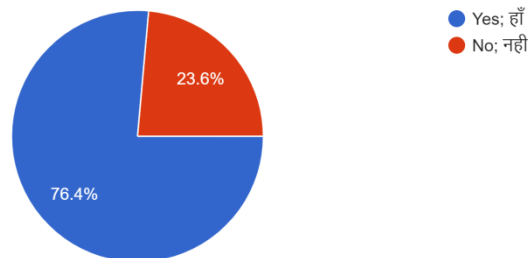
27.4% people responded that the shift to online learning was stressful for them whereas the rest easily coped up with the new changes that the pandemic brought with itself. Major issues as stated by the respondents were lack of interaction, increased screen time, less interactive sessions, inability to understand practical concepts properly, getting stuck with household chores during class hours and some technical issues.

Was the shift to online modes of education stressful for you?; क्या शिक्षा के ऑनलाइन माध्यमों में परिवर्तन आपके लिए तनावपूर्ण था?
106 responses

- Yes; हाँ
- No; नही

27.4%

72.6%
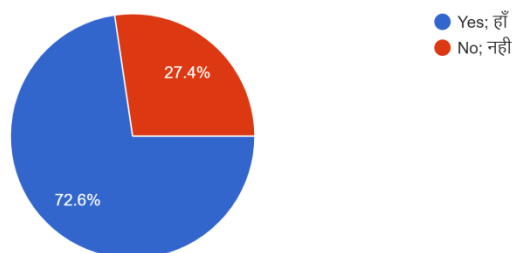
Online platforms became a major hindrance in teaching practical concepts because they require experiments to be done in person and field work. A good briefing and supervision of an instructor is indeed very important to learn practical and technical concepts. 76.4% people responded that they are not able to understand practical concepts online. The findings support Mr. P.S. Jayaram's argument that problem for science students as well as students with practical subjects arose. In absence of conducting practical classes, the conduct of online education fell apart to a major extent.

Are you able to understand the practical concepts online?; क्या आप व्यावहारिक अवधारणाओं को ऑनलाइन समझने में सक्षम हैं?

106 responses
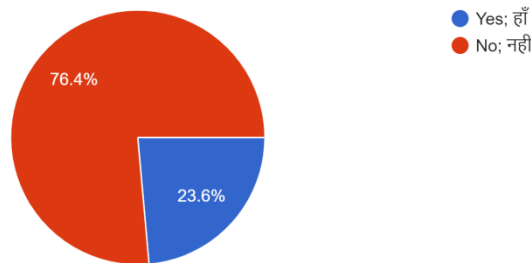
Finding the study material online is another issue faced by the students, during the time of pandemic, libraries remained shut and hardcopies of books were in shortage, Internet cannot educate students the way teachers can through their self-made handwritten notes provided during the lectures in classrooms. 46.2% people reported the lack of availability of study material online whereas 53.8% people had no problem in this regard. As Ms. Sameerah Saeed argued that a large number of students could not access the study material due to poor internet penetration, especially the ones residing in rural areas, the finding verifies her claim.

Is proper study material available online?; क्या उचित अध्ययन सामग्री ऑनलाइन उपलब्ध है?

106 responses
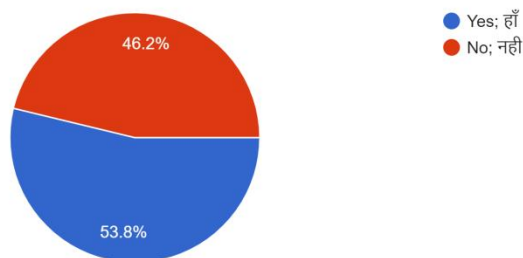
The covid-19 pandemic restricted peer group learning and exposure. Peer group learning plays an important role in the learning experience as well as in terms of life skills; students tend to perform better when studying along with their peers. They learn life skills and compete with each other and perform better. 69.8% people responded that peer group learning was not possible for them in online mode of education whereas the rest 30.2% people managed to do so.

Was peer group learning possible for you in the online mode of education?; क्या शिक्षा के ऑनलाइन मोड में आपके लिए सहपाठियों के साथ/ग्रुप में पढ़ाई संभव थी?

106 responses

- Yes; हाँ
- No; नही

69.8%

30.2%
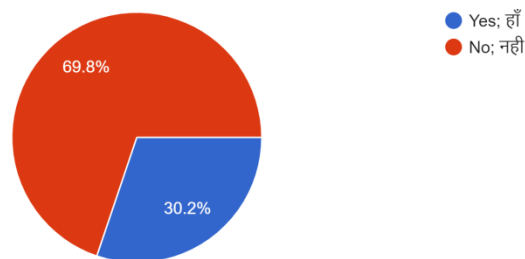
78.3% people believe that online mode of education cannot replace classroom teaching in future because the exposure and experiences they get in the physical learning is far better in comparison with online classes. Whereas 21.7% people show the hope of development in the ways of teaching in the foreseeable future based on the new online teaching pattern. They believe that by bringing some changes in the E-learning, the exposure and the quality of learning will improve and students and teachers both will benefit with it in the long run.

Do you think that online mode of teaching can successfully replace classroom teaching in future?; क्या आपको लगता है कि शिक्षा का ऑनलाइन मोड भविष्य में कक्षा में प्रशिक्षण का सफलतापूर्वक स्थान ले सकता है?

106 responses

- Yes; हाँ
- No; नही

78.3%

21.7%
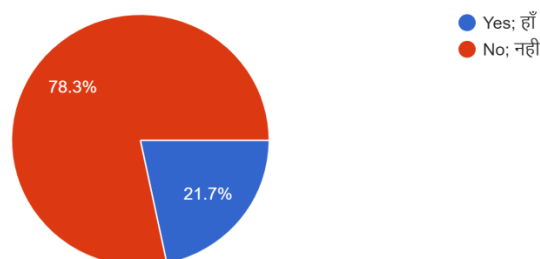
The overall results of the survey showed that on a scale of 1-5 (1 being least satisfied and 5 being highly satisfied), only 1.9% people were fully satisfied with the online teaching practices. Whereas 41.5% people are less satisfied. They complain of many obstacles faced by them in the digital learning method such as Internet connectivity, less interaction, no doubt clearing, less study material availability, no teachers and lecture notes available, no peer learning, disturbances at home, etc.

How satisfied you are with the online teaching learning practices?; ऑनलाइन शैक्षिक आचार से आप कितने संतुष्ट हैं?

106 responses

Suggestions

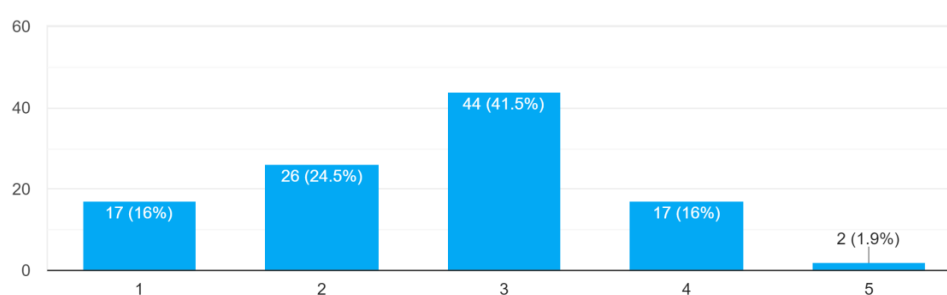Public policy frameworks can be adopted in India taking into consideration the successful policies from different countries of the world. Various countries have opted different measures to deal with the issues faced by students. For instance, China has provided resources to learners from under privileged background along with data packages and telecommunication subsidies. This initiate can be opted to ensure continuance of studies in rural areas.

In France, printed assignments are provided to students who do not have access to computers or internet. As not having access to proper internet and resources is one of the major issues, Government can partner up with the post office to deliver working sheets and other study material at home. Private institutions should prioritize ensuring availability of study material online.

United Arab Emirates created a hotline for students and teachers to deal with technical problems. A lot of teachers lack technical knowledge; creation of such hotline in India can ease the disruption and help in decreasing the digital divide.

In Washington, United States, schools ensured equitable access to all students, similarly that should be followed in the case of India as well to keep a check on the growing rural-urban divide.

Conclusion-

As the shift to online teaching was sudden, most of the institutions and students were unprepared and lacked resources. The study shows that the major challenges to digital higher education have been lack of technical infrastructure, accessibility and academic incompetency. Under-developed digital infrastructure was a major hurdle for students residing in rural areas, along with low internet connectivity and steady flow of electricity. Many students and teachers also lacked familiarity with digital technology. The Covid-19 pandemic brought into light the digital divide between government and private institutions. To tackle with this issue, Punjab government took the initiative of distributing smart phones to students.

Lack of technological knowledge was one of the major issues that need to be resolved. The current condition should be utilized to improve India's future and appropriate measures should be taken, for instance, government should ensure training sessions for teachers and students, especially in rural areas, to make digital learning efficient.

Not all learners have access to the required resources and the digital knowledge among them varies from one institution to another. There is wide disparity amongst people with higher income who can afford access to technology that ensures continuance of learning. The Covid-19 pandemic had major socio-economic implications, addressing the widening socio-economic equalities has become the need of the hour, prioritizing them would lead to equity in the educational sector and would eventually add to India's overall development.

Public policy framework in India should aim at providing access to quality education to both rural and urban areas. Equity needs to be ensured in digital learning with special emphasis on remote areas.

References

Sabyasachi Basu Ray Chaudhury (Dec 23,2020), "Challenges for quality education in the times of pandemic", https://www.orfonline.org/expert-speak/challenges-quality-education-times-pandemic/

Gyan Pathak (Dec 5, 2020), "Indian Students Suffered the Most During COVID-19 as Digital India Failed to Provide Internet Connectivity", https://www.theleaflet.in/indian-students-suffered-the-most-during-covid-19-as-digital-india-failed-to-provide-internet-connectivity/#

Richa Choudhary (April 16, 2020), "Covid-19 pandemic: Impact and strategies for education sector in India",
https://government.economictimes.indiatimes.com/news/education/covid-19-pandemic-impact-and-strategies-for-education-sector-in-india/75173099

Sameerah Saeed (Oct 24, 2020), "Covid-19 has exacerbated inequality in higher education",
https://www.universityworldnews.com/post.php?story=20201023103200335

Maria Nicola, Zaid Alsafi, Catrin Zohrabi, Ahmeh Kerwan, Ahmed Al-Jabir, Christos Losifidis, Maliha Agha and Riaz Agha (Apr 17, 2020), "The socio-economic implications of the coronavirus pandemic (covid-19): a review",
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7162753/

Pravat Kumar Jena (Jun 18, 2020), "Impact of Covid-19 on Higher Education in India",
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3691541

Simran Saini (Mar 23, 2020), "How will Covid-19 impact Higher Education in India",
https://www.collegedekho.com/articles/covid-19-impact-higher-education-india/

International Association of Universities (May 2020), The Impact of Covid-19 on Higher Education around the World, France
https://www.iau-aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf

Lokanath Mishra, Tushar Gupta and Abha Shree (2020), "Online teaching-learning in higher education during lockdown period of Covid-19 pandemic",
https://www.sciencedirect.com/science/article/pii/S2666374020300121

Covid-19 impact: 4 major challenges faced by students of rural India,

https://www.indiatoday.in/education-today/featurephilia/story/covid-19-impact-4-major-challenges-faced-by-students-of-rural-india-1709294-2020-08-10

Covid-19 deepens digital divide: How to upgrade rural education system in India, https://www.indiatoday.in/education-today/featurephilia/story/covid-19-deepens-digital-divide-how-to-upgrade-rural-education-system-in-india-1720376-2020-09-14

How Covid-19 is hastening the need for education's digital transformation, https://www.indiatoday.in/education-today/featurephilia/story/how-covid-19-is-hastening-the-need-for-education-s-digital-transformation-1708474-2020-08-07

Upamanyu Das (Nov 17, 2020), "How did rural India learn during lockdown, https://idronline.org/aser2020-covid-education-in-rural-india-during-lockdown/

Dr Brigitta Rabe, Professor Emilia Del Bono, Dr Laura Fumagalli and Dr Angus Holford (oct 28,2020),"Mind the Gap: Educational Inequalities during Covid-19", https://www.iser.essex.ac.uk/research/projects/mind-the-gap-educational-inequalities-during-covid-19

Pasi Sahlberg (Oct 31, 2020), "Does the pandemic help us make education more equitable",
https://link.springer.com/article/10.1007/s10671-020-09284-4

Indian National Commission for Cooperation with UNESCO Response to Covid-19, https://www.education.gov.in/sites/upload_files/mhrd/files/inccu_0.pdf

Harsha Raju (May 2020), "Covid-19 Lockdown-Challenges to Higher Education", https://www.researchgate.net/publication/341274523_Covid_-19_Lockdown-Challenges_to_Higher_Education

P S Jayaramu (Apr 20, 2020), "Covid-19 and Higher Education: A pile of questions"
https://www.deccanherald.com/opinion/comment/covid-19-higher-education-a-pile-of-questions-827698.html

The Economist Intelligence Unit (Jun 25, 2020), "Covid-19: The impact on higher education", https://www.eiu.com/n/covid-19-the-impact-on-higher-education/

Amit Joshi, Muddu Vinay and Preeti Bhaskar (Sep 24, 2020), "Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments", https://www.emerald.com/insight/content/doi/10.1108/ITSE-06-2020-0087/full/html

Covid-19: 4 negative impacts and 4 opportunities created for education,

https://www.indiatoday.in/education-today/featurephilia/story/covid-19-4-negative-impacts-and-4-opportunities-created-for-education-1677206-2020-05-12

Aleksander Aristovnik, Damijana Keržič, Dejan Ravselj, Nina Tomazevic and Lan Umek (Oct 13,2020), "Impacts of Covid-19 pandemic on Life of Higher Education students: A Global Perspective", https://www.mdpi.com/2071-1050/12/20/8438

UNESCO, "Education: From disruption to recovery",

https://en.unesco.org/covid19/educationresponse

Liza Agrba (Mar 27, 2020), "How Canadian Universities are evaluating students during the coronavirus pandemic", https://www.macleans.ca/education/how-canadian-universities-are-evaluating-students-during-the-coronavirus-pandemic/

Esther Ngumbi (Mar 17, 2020), "Coronavirus closings: Are colleges helping their foreign, homeless and poor students",

https://www.usatoday.com/story/opinion/2020/03/17/coronavirus-closings-can-strand-poor-foreign-homeless-college-students-column/5054621002/

Gwang-Chol Chang and Satoko Yano (Mar 24, 2020), "How are countries addressing the Covid-19 challenges in education? A snapshot of policy measures",

https://gemreportunesco.wordpress.com/2020/03/24/how-are-countries-addressing-the-covid-19-challenges-in-education-a-snapshot-of-policy-measures/

Jyoti Bania and Ishani Banerjee, "Impact of Covid-19 Pandemic on Higher Education: A Critical Review",

http://www.guninetwork.org/files/guni_impact_of_covid_19_pandemic_on_higher_education_a_critical_review_india.pdf

Anwesha Sarkar (Jun 18,2020), "Online classes during lockdown in Bengal",

https://www.dalitcamera.com/online-classes-during-lockdown-in-bengal/

Academic Impact, United Nations (May 4, 2020), "Covid-19 and Higher Education: Learning to unlearn to Create Education for the Future",

https://academicimpact.un.org/content/covid-19-and-higher-education-learning-unlearn-create-education-future

Zaryab Shafi (Aug 19, 2020), "Impact of Covid-19 on Higher Education in India",

https://timesofindia.indiatimes.com/readersblog/lifekibaat/impact-of-covid-19-on-higher-education-in-india-24819/

Appendix-

The Unnoticed Challenges of Higher Education during Pandemic

Questionnaire

1. Name
2. College
3. Course- Under graduate/ post graduate
4. Email Id
5. Gender- Female/male/other
6. Which area do you reside in? – urban/rural

Yes/no

1. Do you have enough resources to afford the infrastructure of online classes?
2. Is proper internet connectivity to attend live classes available in your residence?
3. According to the statistics, 1/4th of the Indian population lives in 1BHK home. Is private space available to you for studies without any disturbance?
4. Was the shift to online modes of education stressful for you?
5. Are you able to understand the practical concepts online?
6. Is proper study material available online?
7. Are you able to focus on studies properly in the online class or does the household chores gets you caught up in them during class hours?
8. Was peer group learning possible for you in the online mode of education?
9. Do you think that online mode of teaching can successfully replace classroom teaching in future?
10. How satisfied you are with the online teaching learning practices?

Subjective type

1. What were the major issues that you faced during the shift from offline to online class?
2. Which policy of the government you liked and disliked the most regarding online education? Do you have any suggestions to offer for the public policy framework on online education in India?

3. What suggestive measures would you like to give to improve the quality of education provided in online teaching?

4. Did you face any kind of inferiority complex in this shift to online learning? (Due to lack of availability of resources, Digital Divide or any other reason)

Were you able to concentrate on your studies properly? If no, then what kind of issues did you face in this regard?

महामारी के दौरान उच्च शिक्षा की अज्ञात चुनौतियां

प्रश्नावली

नाम
कॉलेज
कोर्स– स्नातक/स्नातकोत्तर
ईमेल आईडी
लिंग– महिला/पुरुष/अन्य
आप किस क्षेत्र में निवास करते हैं? – शहरी/ग्रामीण

हाँ/नही

क्या आपके पास ऑनलाइन कक्षाओं के बुनियादी ढांचे को वहन करने के लिए पर्याप्त संसाधन हैं?

क्या आपके निवास में उपलब्ध लाइव कक्षाओं में भाग लेने के लिए उचित इंटरनेट कनेक्टिविटी है?

आंकड़ों के अनुसार, 1BHK के घर में 1/4 भारतीय आबादी रहती है। क्या आपके पास बिना किसी रूकावट की पढ़ाई के लिए निजी स्थान उपलब्ध है?

क्या शिक्षा के ऑनलाइन माध्यमों में परिवर्तन आपके लिए तनावपूर्ण था?

क्या आप व्यावहारिक अवधारणाओं को ऑनलाइन समझने में सक्षम हैं?

क्या उचित अध्ययन सामग्री ऑनलाइन उपलब्ध है?

क्या आप ऑनलाइन क्लास में पढ़ाई पर ठीक से ध्यान केंद्रित कर पा रहे हैं या क्लास के दौरान घर के कामों में आप फंस जाते हैं?

क्या शिक्षा के ऑनलाइन मोड में आपके लिए सहपाठियों के साथ/ग्रुप में पढ़ाई संभव थी?

क्या आपको लगता है कि शिक्षा का ऑनलाइन मोड भविष्य में कक्षा में प्रशिक्षण का सफलतापूर्वक स्थान ले सकता है?

ऑनलाइन शैक्षिक आचार से आप कितने संतुष्ट हैं?

व्यक्तिपरक प्रश्न

ऑफलाइन से ऑनलाइन क्लास में शिफ्ट होने के दौरान आपको किन प्रमुख कठिनाइयों का सामना करना पड़ा?

ऑनलाइन शिक्षा के संबंध में सरकार की कौन सी नीति आपको सबसे ज्यादा पसंद और नापसंद है?

क्या आपके पास ऑनलाइन शिक्षा पर सार्वजनिक राष्ट्रनीति के ढांचे के लिए कोई सुझाव है?

ऑनलाइन शिक्षण में प्रदान की जाने वाली शिक्षा की गुणवत्ता में सुधार के लिए आप क्या सुझाव देना चाहेंगे?

क्या आपने ऑनलाइन शिक्षा में किसी तरह की हीन भावना का सामना किया? (संसाधनों की उपलब्धता की कमी, डिजिटल असमानता या किसी अन्य कारण से)

क्या आप अपनी पढ़ाई पर ठीक से ध्यान केंद्रित करने में सक्षम थे? यदि नहीं, तो इस संबंध में आपको किस तरह की कठिनाइयों का सामना करना पड़ा?

CHAPTER - 22
CONSUMER ATTITUDES AND PURCHASE INTENTIONS TOWARDS PPE KITS: POSTCOVID-19 PANDEMIC SCENARIO

ABSTRACT

For the past one year, the world has been suffering from novel corona virus. Millions of lives have been lost and therefore, the fear of the virus transmission is quite evident among populations across the world. People have been taking all the necessary precautions to stay safe. These precautions majorly involve the use of masks, protective suits, gloves and sanitizers. These restrictive measures have helped us fight the pandemic but on the other hand, the increased use of these PPE kits and other plastic products like fresh packaging material for consumer goods has given rise to a new environmental pandemic for us. Most of these face masks, protective suits, sanitizer bottles, gloves etc. are made with single use plastics. These plastics are piling up and leading to environmental degradation on a large scale.

A two-fold problem has taken shape as the recycling programmes in many countries have been shut down due to the fear of virus transmission. Thus, the pandemic has led to a drastic increase in the usage of single use plastics as consumers fear the infection. Another major problem lies in the fact that a large proportion of these consumers have no clue about the proper disposal of the used PPE kits. Therefore, there is a need to raise awareness about the repercussions of the increased usage of PPE kits and other single use plastic based medical waste as well as the packaging material. There is also a need to work on establishing a proper disposal and recycling channel for these plastic materials so that they do not get accumulated in the environment and give rise to greenhouse gases, further aggravating the problem.

This study aimed to study consumer attitudes towards the purchase of PPE kits based on their fear of getting infected with COVID 19. It also sought to measure their awareness about PPE kitsand their attitudes towards its proper disposal. Above all, the study focused on the rise in the demand of single use plastics after the COVID 19 pandemic. It was conducted with a combination of secondary and primary data analysis.

INTRODUCTION

Covid-19 has been gravely affecting the world. COVID-19 (Novel Coronavirus-19) is a new strain of coronavirus (a large family of viruses) that had not been diagnosed in human beings before (Adhikari et al., 2020). The first case of this strain was recorded in Wuhan, China, in December 2019, and has subsequently been professed as an

outbreak by the World Health Organization (WHO). It is the cause of an outbreak of a respiratory infection that can spread from person to person. Due to its origin in the viruses' family, it can cause numerous symptoms like lung infection, pneumonia, fever, and difficulty in breathing (WMHC, 2020). According to CDC.GOV/COVID-19, some common symptoms of COVID-19 are fever, cough and shortness of breath. The WHO used the term novel coronavirus to describe the strain that affected the lower respiratory tract of patients with pneumonia (Li et al., 2020). The WHO declared that the official name of the 2019 novel coronavirus is coronavirus disease (COVID-19) (WHO, 2020, Novel Coronavirus–China).

Populations across the world have all been taking the necessary precautions to keep ourselves safe and combat the pandemic. These precautions majorly involve the increased usage of hand sanitizers, masks and PPE kits. Many countries across the world have successfully controlled the virus spread but amidst all these dedicated efforts of going back to our normal life, we have caused a significant impact on our natural surroundings. The increased usage of single use plastics in the form of sanitizer bottles, masks and PPE kits has caused a sudden and significant increase in the plastic waste generation across the world. When after a few days of the lockdown, talks were surfacing that the nature is healing, the following months made it worse for our environment. Due to their fear of contracting the virus, people have been using single use plastic based products indiscriminately which is leading to a sharp rise in the plastic waste generation and its accumulation in our environment.

According to an ongoing survey on plastic usage since May 2020, by a Mumbai-based environmental social enterprise, Earth5R, it was found that while there was a considerable fall in the generation of single-use recyclable plastics till September, there was a spike in the use of multilayer packaging. Conclusively, it noted a 47% rise in the consumption of single-use plastics in Mumbai, Bengaluru, Delhi and Pune, as stated by their founder Saurabh Gupta.

People have been able to find eco-friendly alternatives of face masks but the continued usage of protective equipment like body suits, gloves, sanitizer bottles, increased plastic packaging for consumer goods, which visibly doesn't have a natural alternative is posing a major threat in the form of plastic waste generation. The material which was regarded as a slow poison for our nature is surprisingly being referred to as the nest precautionary tool now.

During the COVID-19 pandemic, the role of plastics was highlighted as a saviour but when it comes to its rightful disposal, we have been walking far behind. As a matter of fact, on one hand where PPE kits have been made mandatory for use in many countries to combat the virus and stop its transmission, it inappropriate disposal is raising the environmental alarm.

Studying the impact of changes in common human behaviour towards single use plastic products, caused due to COVID-19, we tried to inspect the protective equipment purchase attitudes and intentions of Indian individuals. Both the WHO and the US Centres for Disease Control and Prevention (CDC) have advised mandatory mask usage for people taking care of those infected with Covid-19. Masks could cut the caretakers' risk of viral infection by 60% to 80%. But the indiscriminate usage and inappropriate disposal of protective equipment as well as plastics like sanitizer bottles is taking our world one step closer to environmental degradation. We have tried to study the various priority-based attitudes of individuals in a psychological and analytical manner in order to find conclusions and deeply study the impact of COVID-19 on our natural surroundings.

LITERATURE REVIEW

We have studied literature in the form of reports and research material from various organisations. All the evidence from the literature highlighted the fact that increased plastic usage during the COVID-19 pandemic for precautionary equipment has been showing grave impacts on our environment.

Over the past several decades leading up to 2020, many U.S. cities and states worked to reduce waste generated in the form of single use plastics from disposable objects such as straws, utensils, coffee cups, beverage bottles and plastic bags. Policies varied but included bans on Styrofoam, plastic bags and straws, along with taxes and fees on bottles and cups. Social norms around plastic waste have evolved quickly in the past several years. Pre-COVID-19, "Bring your own" tote bags, mugs and other food ware had become part of daily life for many consumers. Just before COVID-19 lockdowns began in March 2020, the New Jersey senate adopted a bill that would have made the state the first to ban all single-use bags made of either paper or plastic. COVID-19 shutdowns drastically changed all of this.

The fear of getting infected with the virus spread like wildfire and in just a few weeks, plastic bags returned to grocery stores in states that had recently banned them. Even before lockdowns were official, restaurants and cafes started refusing personal reusable items such as coffee mugs, reverting to plastic cups and lids, wrapped straws and condiment packets being carried by their customers, said an article by Smithsonian magazine.

According to an article by The Hindu, the war against the use of plastic has come to halt due to the pandemic. We have instead, started using plastic in huge amounts, calling it the safest material right now as the demand for masks, gloves and PPE suits rises. According to estimates by the WHO, every month the world needs 89 million plastic medical masks, 76 million plastic examination masks and 1.6 million plastic protective goggles.

As per the report by Chinese consultancy Media Research, the total production of masks in China is expected to exceed 100 billion in 2020, while according to another consultancy, Frost & Sullivan, the United States generated an entire year's worth of medical waste in just two months at the peak of the pandemic.

According to a study published by PMC, there was a drastic increase in medical waste in different parts of the world, such as in Catalonia, Spain, and in China, with an increment of 350% and 370%, respectively. The indiscriminate increase in medical waste is overloading the capacity of each country or municipality, to manage/treat it adequately.

Not only the plastic waste generation has increased but also a twofold problem has taken shape due to closure of recycling programmes in many countries. The report highlighted how the recycling programs have been stopped by several states in the U.S., as authorities have been concerned about the risk of COVID-19 transmission in recycling centres, thus priorities are being shifted to both incineration and land filling. Such a reduction in waste recycling is divergent from the goals of circular economy and sustainable development, and even contributing to plastic waste pollution. In most of the cases, PPE will likely end up discarded without precautionary measures, along with empty bottles of hand sanitizer and organic solid wastes in regular municipal solid waste, or worse, littered in the environment.

The demand for plastics increased in the last one year not only for the production of PPE kits and sanitising equipment but also, in the form of packaging material. The report indicated that the demand for plastics was expected to increase by 40% in packaging and 17% in other applications, including medical uses. Due to Safety concerns related to shopping in supermarkets during COVID-19, consumers and providers demanded for fresh-food packaged in plastic containers (to avoid food contamination and to extend shelf-life), and for the use of single-use plastic food packaging and plastic bags to carry groceries.

When we talk about the risks the virus has imposed on human populations worldwide, we forget to mention the environmental degradation that is being caused from our precautionary measures. With medical and municipal solid waste (MSW) which is generated, being considered as potentially infectious during COVID-19 pandemic, incineration and land filling are being prioritised over recycling, which will eventually result in a deterioration of air quality in a medium- to long-term. Green House Gases, such as CO_2 and CH_4, are released in significant amounts during plastic waste decomposition in landfills and also when the plastic waste is burnt. For instance, in United Kingdom, the carbon footprint of MSW incineration is − 0.179 t CO_2 eq./t MSW while that from land filling is 0.395 t CO_2 eq./t MSW. Open burning of plastics waste can also release many other hazardous chemicals such as

heavy metals, dioxins, PCBs, dioxins and furans, which are associated to health risks allied to respiratory disorders. Air pollution is one of the major environmental threats to public health, and it is responsible for 6 million deaths worldwide.

Shibu Nair, India Coordinator at Global Alliance for Incinerator Alternatives (GAIA) says single-use products are "extending and amplifying the risk of Covid". For example, a tea-stall vendor using steel or glass tumblers will reuse them after a thorough wash in soap and hot water. "If the same vendor uses plastic-coated paper cups, chances of the virus spreading from one cup to the remaining waste it is dumped in and then to the workers handling the trash is higher," says Nair, who was featured in the 2019 documentary, *The Story of Plastic*. Moreover, the virus stays on plastic surfaces for more than 72 hours, which makes single-use gloves and masks more prone to spreading the disease, says Dinesh Raj Bandela, Deputy Programme Manager, Environmental Governance at Centre for Science and Environment.

According to a report by Reuters, most companies express their shared concerns about the increase in plastic waste and are supporting efforts to reduce it. However, their investments in these efforts are a mere fraction of those going into making new plastic, Reuters found.

Reuters surveyed 12 of the largest oil and chemicals firms globally – BASF, Chevron, Dow, Exxon, Formosa Plastics, INEOS, LG Chem, LyondellBasell, Mitsubishi Chemical, SABIC, Shell and Sinopec. Only a handful of them gave details of how much they are investing in waste reduction. Most claimed that they channel their efforts through a group called the Alliance to End Plastic Waste, which was also backed by consumer goods companies, and which has pledged $1.5 billion over the next five years on that effort. Its 47 members, most of whom are in the plastics industry, had combined annual revenue of almost $2.5 trillion last year, according toa Reuters tally of company results. In total, commitments by the Alliance and the companies surveyed amounted to less than $2 billion over five years, or $400 million a year, the Reuters survey found. That's a fraction of their sales.

Since the corona virus came into being, recyclers across the world told Reuters about their businesses have shrunk, by more than 20% in Europe, by 50% in parts of Asia and as much as 60% for some firms in the United States. In March, PLASTICS wrote to the U.S. Department of Health and Human Services, calling for a rollback on the ban on plastic bag on health and precautionary grounds. It argued that plastic bags are safer because germs live longer on reusable bags and other substances. Researchers led by the U.S. National Institute of Allergy and Infectious Diseases, a U.S. government agency, found later that month that the corona virus was still active on plastic after 72 hours, as compared with up to 24 hours on cardboard and copper.

Researchers and news agencies worldwide have been raising concerns over the increasing environmental degradation due to monumentally increasing plastic

consumption by consumers worldwide. There is an immediate need to work on the disposal and recycling patterns of single use plastics in order to keep the planet safe.

RESEARCH METHODOLOGY

Following the COVID-19 outbreak, this study was performed to see how consumers felt about PPE kits and how likely they were to buy them. The study found that as fear of COVID-19 has grown among populations worldwide, their attitudes about using PPE kits have shifted. This study also reveals that while consumers are aware of the negative effects of single-use plastic on the environment, they do not properly dispose the kits.

RESEARCH OBJECTIVES

a) To estimate the fear of virus transmission among the consumers

b) To analyse the change in consumer attitudes towards the purchase of PPE kits afterCOVID 19

c) To measure the awareness of consumers regarding the proper usage and disposal of PPEkits

d) To estimate consumer awareness regarding the environmental impacts of increased usageof PPE kits

DATA COLLECTION

We collected the primary data by preparing a questionnaire and got it filled by the respondents with the help of a Google Form. We were able to collect the responses from 80 people belongingto various age groups and professional backgrounds. In this study we have use 5 point Likert scale: 1- Strongly disagree, 2- Disagree, 3- Not Sure, 4 Agree, and 5- Strongly agree.

DATA ANALYSIS

The questionnaire consisted of questions, which not only seek information about the buying habits of the respondents regarding the PPE kits but also seeks to analyse their psychological behaviour towards the markets during the pandemic. The questionnaire also aimed to measure the certainty of awareness among the respondents regarding the repercussions of rising usage of single use plastics during the pandemic.
The demographics of the respondents were as follows-

Table 1.1 Demographic Analysis

Particular	Responses
Gender	
Male	33
Female	46
Prefer not to say	1
Age	
0-18	15
19-25	57
26-35	8
36-45	0
46-55	0
56 and above	0
Educational qualification	
Below matriculation	0
Higher secondary	27
Graduate	38
Post graduate	14
Professional	1
Occupation	
Private sector	5
Government sector	1
Business	1
Student	70
Freelancer	1
NGO	1
Fashion stylist	1
Income Level	
0 – 2,50,000	67
2,50,001- 5,00,000	4
5,00,001 – 10,00,000	6
Above 10,00,000	3

Q2. I know what is exactly a PPE kit?

Table 1.2

Scale of responses	No. of responses
Strongly Disagree	0
Disagree	1
Not sure	9
Agree	22
Strongly Agree	48

Figure 1.1
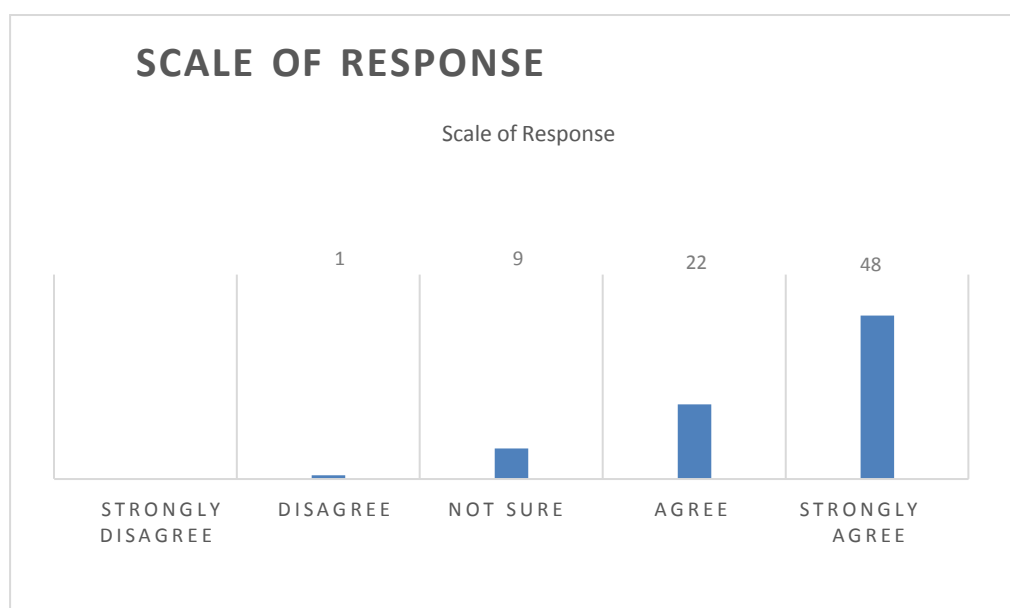
Out of the 80 people surveyed 48(60%) of the people had perfect knowledge of what exactly a PPE kit was while 22 (27.5%) and 9 (11.3%) had certain knowledge about what is a PPE kit. The lack of proper knowledge among the consumers can be taken as a reason for the indiscriminate usage and disposal of PPE kits. When people lack proper knowledge of the material which is used to make protective equipment, they use it indiscriminately.

Q3. What was the most frequently used item of PPE kit?

Table 1.3

| Item	Responses
Body gowns/ safety gowns	33
Disposable masks	66
Disposable gloves	41
Disposable face shield	22

Figure 1.2

From the survey we got to know that the most used PPE kit item were the disposable masks (66 responses), followed by disposable gloves (41 responses), followed by body gowns (33 responses) and then by face shields (22 responses) . Disposable masks have become an item of daily use for populations across the world and it is a major contributor to plastic waste generation.

Q4. How frequently do you prefer to wear the PPE kit while moving out of your home?

Table 1.4

Frequency	Responses
Not frequently	53
Often	9
Mostly	6
Regularly	12

Figure 1.3

Frequency

66% · 15% · 8% · 11%

Not frequently · Often · Mostly
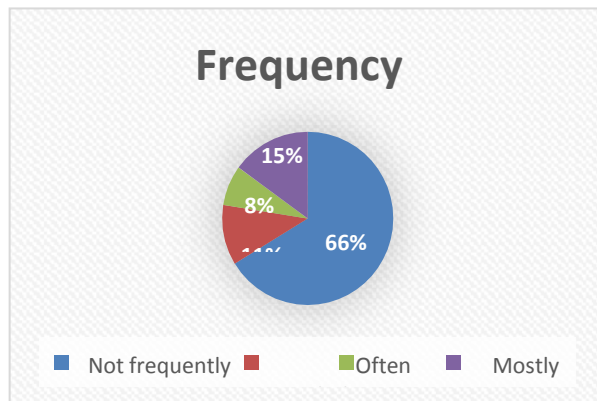
66% of the respondents did not prefer wearing the PPE kits regularly, 15% preferred it regularly. Since most of the respondents were students, it can be noted that the closure of higher educational institutions restricted their movement to some extents which is why the demand for PPE kits on their end were not made on a regular basis.

Q5. I am aware that the PPE kits are only good for one use.

Table 1.5

Scale of responses	No. of responses
Strongly Disagree	1
Disagree	4
Not Sure	11
Agree	17
Strongly Agree	47

Figure 1.4

Scale of Responses

1% · 5% · 59% · 21%

Strongly Disagree · Disagree · Not Sure
Agree · Strongly Agree
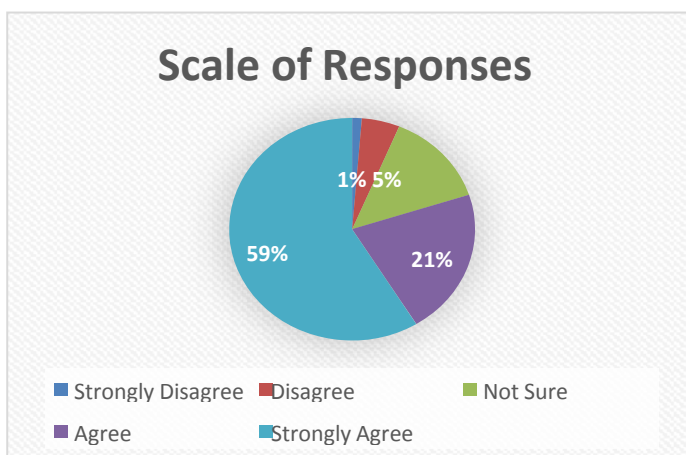
A majority of 58.8% respondents were well aware of the single use nature of PPE kits and taking a note of the opinions of the respondents towards buying PPE kits in the future, 35% of the people were of the mixed opinion, while 20% strongly believed in buying the PPE kits while 12.5% didn't believe in buying PPE kits. With a certainty of a considerable percentage of people buying PPE kits in the future knowing the single use nature of the same, there is a change which needs to be brought in consumer attitudes about the disposal of protective equipment in a proper manner so that it doesn't pile up as plastic waste in the surroundings.

Q6. Do you ever worry about you future health?

Table 1.6

Scale of responses	No. of responses
Strongly Disagree	6
Disagree	6
Not Sure	10
Agree	18
Strongly Agree	40

Figure 1.5
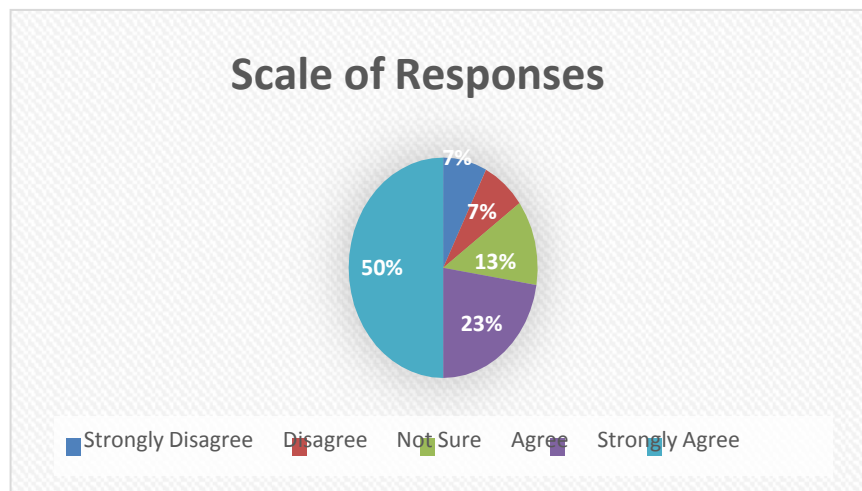
A majority of respondents have been worried about the impact COVID 19 will have on their body, especially the respiratory system but they are quite neutral in their attitudes towards buying PPE kits. This can be accounted to their lack of knowledge about a PPE kit.

Q7. I am aware that single use PPE kit adds to the plastic pollution.

Table 1.7

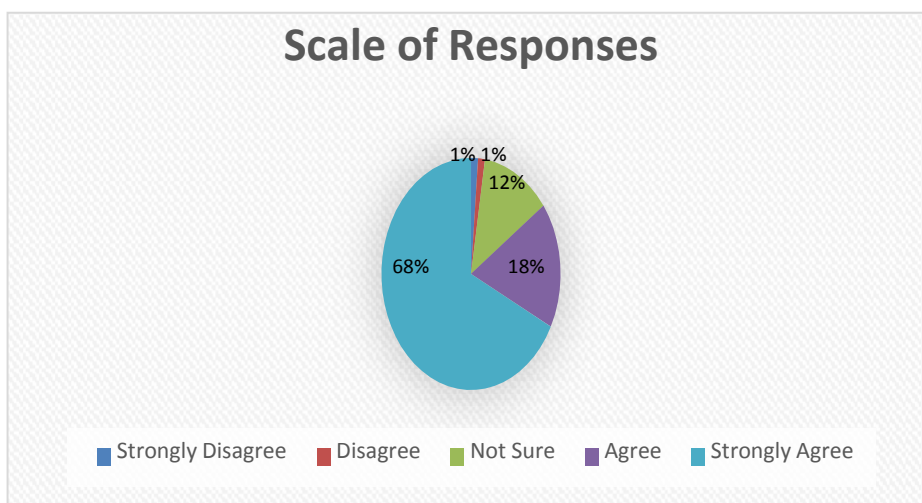| Scale of responses	No. of responses
Strongly Disagree	1
Disagree	1
Not Sure	10
Agree	14
Strongly agree	54

Figure 1.6

A majority of respondents were aware of the environmental repercussions which the increased usage of PPE kits imposed. Yet, there were a considerable number of respondents who preferred buying single use protective equipment.

Q8. How often do you dispose your PPE kit properly after use.Table 1.8

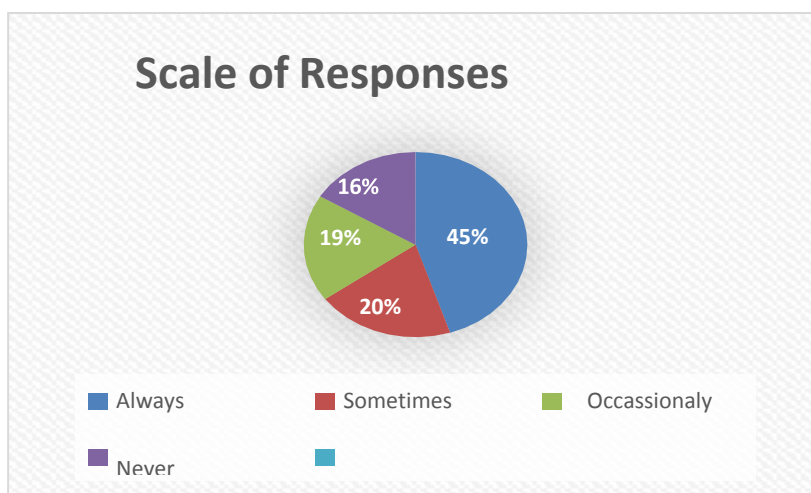| Scale of responses	No. of responses
Always	36
Sometimes	16
Occasionally	15
Never	13

Figure 1.7

A majority of 45% respondents claimed that they disposed the protective equipment properly after its usage which is a positive indication on the consumer end. But the remaining consumers who did not dispose it properly need to adopt sound waste management practices.

Summing up the data analysis, it could be seen that a majority of the respondents did not have proper knowledge of PPE kits which is why they still lacked proper information on its usage and disposal which was a major factor behind the rising plastic pollution. A majority of the respondents had a neutral outlook towards buying PPE kits in the future due to lack of proper knowledge but they were also aware of the impacts of single use plastics in the form of protective equipment on the natural surroundings. A considerable part of the responding faculty had the opinion that the PPE kits were much more essential for the frontline workers in our country than an ordinary citizen. We should rather look for reusable alternatives which are nature friendly and cost friendly too. Therefore, on one hand, where consumers were aware of the environmental repercussions of the increased plastic generation, they are also buying protective equipment due to the fear of contracting the virus. The problem under serious consideration appeared to be the proper disposal and recycling of the used protective equipment so that it does not litter the surroundings and generate poisonous chemical fumes.

CONCLUSION

Analysing the findings from the secondary data and primary data, we came to the conclusion that the consumption and generation of plastics has been on the rise from the past few months due to the fear of the COVID 19 virus transmission. There has been a rise in the demand for single use plastics in the form of precautionary equipment (PPE kits) as well as for packaging material due to the increased safety concerns of the consumers in the market. The consumers are still sensing a threat from the virus and are therefore; continuously using single use plastics like PPE kits, sanitizer bottles, plastic bags etc. but the underlying problem of their proper disposal remains intact. If an alternative is not found in the near future, all the efforts to decrease plastic pollution by countries across the world will go in vain. There is a need to establish plastic waste generation limits and its proper disposal guidelines.

Thereafter, the governments need to adopt sound recycling measures in order to prevent these plastics to pile up in the surroundings and generate poisonous gases.

It will take consistent efforts from populations across the world to fight COVID 19 sustainably so that we are left with a world worth residing in.

REFERENCES

1. Patrício Silva A.L., Prata J.C., Walker T.R., Duarte A.C., Ouyang W., Barcelò D., Rocha-Santos T. Increased plastic pollution due to COVID-19 pandemic: Challenges and recommendations. *Chem. Eng. J.* 2021;405 doi: 10.1016/j.cej.2020.126683.

2. Duer, J. (2020, June 24). The Plastic Pandemic. Project Syndicate https://www.project-syndicate.org/commentary/covid19-single-use-plastic-waste-by- jacob-duer-2020-06

3. Adlakha, N., (2020, August 04) Single use, dangerous misuse: On the war against plastic during COVID-19. The Hindu. https://www.thehindu.com/sci-tech/energy-and- environment/on-the-war-against-single-use-plastic-during-covid-19/article32266293.ece

4. Brock, J., (2020, October 05). COVID-19 has hit plastic recycling, just as big oil firms are investing hundreds of billions of dollars to make a new plastic. These investments massively exceed the industry's spending to tackle plastic waste. Reuters Investigates. https://www.reuters.com/investigates/special-report/health-coronavirus-plastic-recycling/

5. Aravind, I., (2020, October 24). Another Pandemic: Indi's fight against single-use plastic falls victim to COVID. The Economic Times. https://economictimes.indiatimes.com/news/politics-and-nation/another-pandemic-indias- fight-against-single-use-plastic-falls-victim-to-covid/articleshow/78848847.cms

6. Heiges, J., and O'Neil, K., (2020, July 15). COVID-19 Has Resurrected Single-Use Plastic- Are They Back to Stay? . Smithsonian Magazine . https://www.smithsonianmag.com/science-nature/single-use-plastic-covid-180975312/

7.   Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L. and Tong, Y. (2020), "Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia", New England Journal of Medicine, Vol. 382 No. 13, doi: 10.1056/NEJMoa2001316.

8. Adhikari, S.P., Meng, S., Wu, Y., Mao, Y., Ye, R., Wang, Q., Sun, C., Sylvia, S., Rozelle, S., Raat, H. And Zhou, H. (2020), "Epidemiology, causes, clinical manifestation and diagnosis, prevention and control of coronavirus disease (COVID 19) during the early outbreak period: a scoping review", Infectious Diseases of Poverty, Vol. 9 No. 1, pp. 1-12,

doi: [10.1186/s40249-020-00646-x](10.1186/s40249-020-00646-x)

9. Islam SD, Mamun MA and Bodrud-doza M(2020) Perception and attitudes towards PPE-related waste disposal amid COVID-19 in Bangladesh: An exploratory study. Front. Public Health 8:699. doi: 10.3389/fpubh.2020.592345

10. Shah, N., Kalwar, SK., and Soomro, BA., (2020). Early COVID-19 outbreak, individuals' mask attitudes and purchase intentions: a cohesive care. Journal of Science and Technology Policy Management., Vol. ahead –of-print No. ahead-of –print. https://doi.org/10.1108/JSTPM-05-2020-0082

11. de Sousa, Fabiula D.B. (2020). Pros and Cons of Plastic during the COVID-19 Pandemic. *Recycling.* Vol 5 (4):27 https://doi.org/10.3390/recycling5040027

Questionnaire

Consumer Attitudes and Purchase Intentions Towards PPE Kits: Post COVID-19 Pandemic Scenario

Best wishes for the day! Please complete the following questionnaire to assist us in completing our research project, which aims to examine the fear of corona lead to rise in consumption ofPPE kits which resulted in increase in use of single use plastic by Indian household. There are a few simple questions on the questionnaire. Please fill the attached questionnaire. We assure you that this information will be usedonly for research purposes and your identity will be kept anonymous.

** PPE kit refers to disposable masks, disposable body gowns, disposable gloves and disposable face shields.

*Required

1. Gender *
   a) Male
   b) Female
   c) Prefer not to say

2. Age*
   a) 0-18
   b) 19-25
   c) 26-35
   d) 36-45
   e) 46-55
   f) 55 and above

3. Education Qualification*
   a) Below Matriculation
   b) Higher Secondary
   c) Graduate
   d) Post Graduate
   e) Professional
4. Occupation*
   a) Private sector
   b) Government Sector
   c) Business
   d) Student
   e) Other
5. Income*
   a) 0-2,50,000
   b) 2,50,001 to 5,00,000
   c) 5,00,001 to 10,00,000
   d) Above 10,00,000
6. I know exactly what is a PPE kit?*
7. What was the most frequently used item/s from the PPE kit?*
   a) Body gowns/ safety gowns
   b) Disposable masks
   c) Disposable gloves
   d) Disposable Face shield
8. How frequently do you prefer to wear the PPE kit while moving out of your home?*
   a) Not frequently
   b) Often
   c) Mostly
   d) Regularly
9. I certainly want to buy PPE kit in coming future.
*Strongly Disagree 1 2 3 4 5 Strongly Agree

10. I'm aware that the PPE kits are only good for one use.
*Strongly Disagree 1 2 3 4 5 Strongly Agree

11. I am afraid I will get infected of COVID-19.
*Strongly Disagree 1 2 3 4 5 Strongly Agree

12. I am afraid I will develop lung problem.
* Strongly Disagree 1 2 3 4 5 Strongly Agree

13. I often worry that Covid-19 would cause me prolonged illness.
   *Strongly Disagree 1 2 3 4 5 Strongly Agree

14. Do you ever worry about your future health?
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

15. I am scared that covid-19 could affect my body.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

16. I'm worried that I'll be more susceptible to infection.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

17. I am scared of getting infected with COVID -19 in a public place
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

18. I am aware that I am making a mistake by not wearing PPE Kit in public
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

19. I prefer the idea of buying PPE kits.
    * Strongly Disagree 1 2 3 4 5 Strongly Agree

20. It is a great idea to buy PPE kit.
    * Strongly Disagree 1 2 3 4 5 Strongly Agree

21. I have a positive attitude towards buying PPE kit.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

22. I will make every effort to purchase PPE kit because of Covid-19.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

23. I am aware that single use PPE kit adds to the plastic pollution.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

24. I am aware that PPE kit affects the environment.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

25. I intend to purchase PPE kit because of COVID-19.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

26. I am worried about the environmental impact the PPE kit will have.
    *Strongly Disagree 1 2 3 4 5 Strongly Agree

27. How often do you dispose your PPE kit properly after use.
    *Always 1 2 3 4 5 Never

28. Is there anything else you'd like to share about PPE kits during the pandemic?